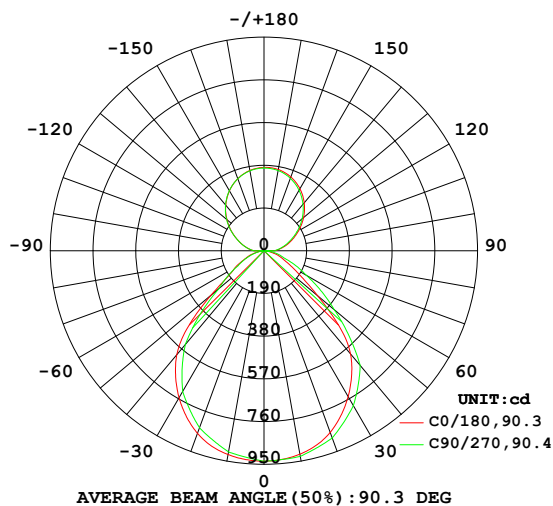


LUMINAIRE PHOTOMETRIC TEST REPORT

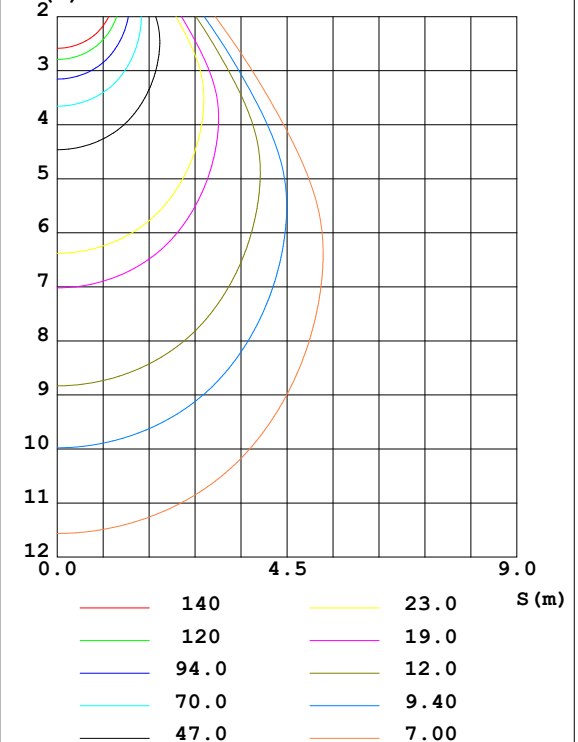
Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 99.18 lm/W			
MODEL	OSRAM-3000K	I _{max} (cd)	935.9	S/MH (C0/180)	1.20
NOMINAL POWER (W)	31	LOR (%)	100.0	S/MH (C90/270)	1.16
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	3016.7	η UP,DN (C0-180)	18.9,33.2
NOMINAL FLUX (lm)	3016.71	CIE CLASS	SEMI-D.	η UP,DN (C180-360)	18.9,29.0
LAMPS INSIDE	1	η up (%)	37.8	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220.0	η down (%)	62.2	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

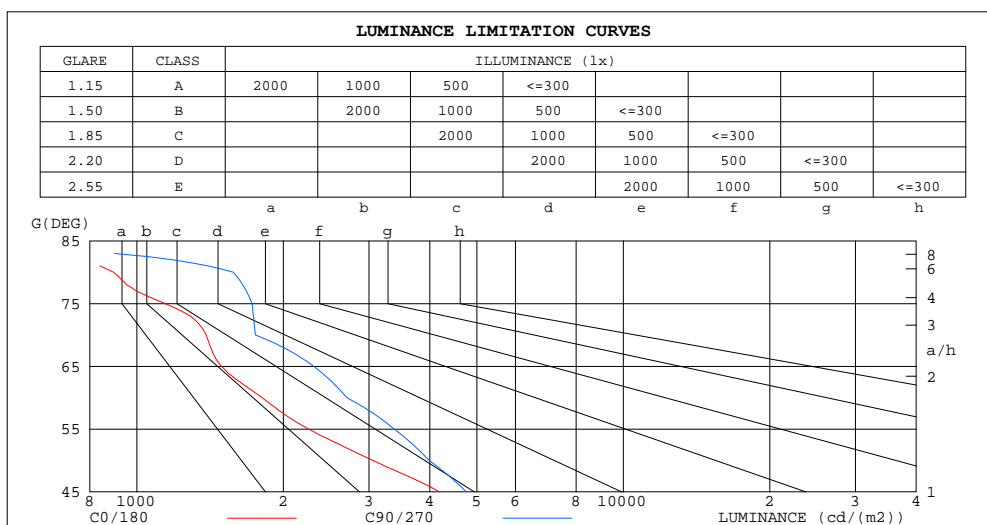
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
10	918.8	923.0	928.5	922.5	920.6	907.0	908.5	909.2	0- 10	88.24	88.24	2.93,2.93
20	860.1	877.7	886.6	870.4	864.6	835.3	838.4	842.5	10- 20	251.8	340.0	11.3,11.3
30	748.7	781.8	795.4	775.2	755.3	727.2	723.4	723.5	20- 30	372.9	712.9	23.6,23.6
40	598.5	647.0	665.5	636.7	603.5	562.6	544.8	555.8	30- 40	424.9	1138	37.7,37.7
50	312.1	369.3	407.5	380.3	307.3	281.9	260.1	254.4	40- 50	357.6	1495	49.6,49.6
60	143.8	200.6	214.7	172.0	146.2	139.8	133.0	128.3	50- 60	206.5	1702	56.4,56.4
70	75.45	95.93	95.26	85.65	75.81	68.28	66.19	64.66	60- 70	110.7	1813	60.1,60.1
80	24.72	43.74	43.57	36.31	25.22	16.83	12.58	16.42	70- 80	54.46	1867	61.9,61.9
90	47.84	32.45	44.96	43.31	43.43	41.93	44.00	46.69	80- 90	9.868	1877	62.2,62.2
100	83.75	67.36	78.73	77.45	76.89	76.03	77.24	81.55	90-100	64.20	1941	64.3,64.3
110	128.2	117.2	119.6	116.5	116.0	115.1	116.4	122.8	100-110	102.6	2044	67.7,67.7
120	177.6	172.9	169.2	164.3	163.6	162.3	164.9	173.0	110-120	141.2	2185	72.4,72.4
130	230.0	225.4	221.5	216.4	215.4	213.8	217.3	225.5	120-130	174.0	2359	78.2,78.2
140	278.7	273.7	270.2	265.6	264.9	262.9	266.5	274.4	130-140	189.4	2548	84.5,84.5
150	319.6	314.5	311.8	308.0	307.8	305.2	308.9	315.7	140-150	182.2	2731	90.5,90.5
160	349.8	344.9	343.3	341.0	341.4	338.2	341.2	346.4	150-160	151.3	2882	95.5,95.5
170	367.1	362.8	362.5	361.8	362.9	359.4	361.5	365.0	160-170	99.98	2982	98.8,98.8
180	370.8	370.8	370.8	370.8	370.8	370.8	370.8	370.8	170-180	34.89	3017	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	252	0
80	895	1578
75	1142	1726
70	1388	1752
65	1492	2309
60	1809	2702
55	2254	3382
50	3055	3988
45	4192	4758

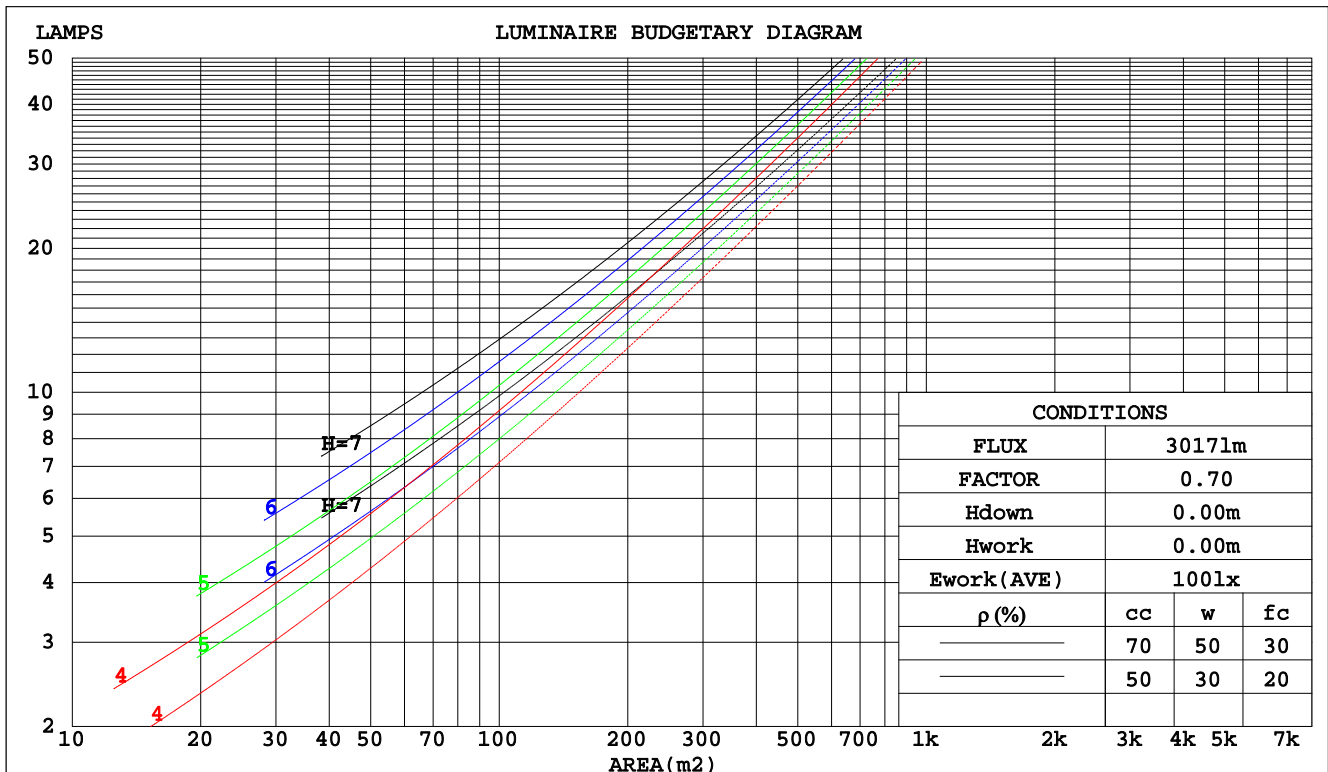
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 γ Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.10	1.10	1.10	1.03	1.03	1.03	.90	.90	.90	.78	.78	.78	.67	.67	.67	.62
1.0	.98	.94	.91	.92	.89	.86	.81	.79	.77	.71	.69	.68	.61	.60	.59	.55
2.0	.87	.81	.76	.82	.77	.73	.72	.69	.65	.64	.61	.58	.56	.54	.52	.48
3.0	.77	.71	.65	.73	.67	.62	.65	.60	.56	.57	.54	.51	.50	.48	.45	.42
4.0	.69	.62	.56	.66	.59	.54	.58	.53	.49	.52	.48	.45	.46	.43	.40	.37
5.0	.62	.55	.49	.59	.52	.47	.53	.47	.43	.47	.43	.39	.42	.38	.36	.33
6.0	.56	.49	.43	.54	.47	.42	.48	.42	.38	.43	.38	.35	.38	.35	.32	.29
7.0	.51	.44	.38	.49	.42	.37	.44	.38	.34	.39	.35	.31	.35	.32	.29	.26
8.0	.47	.39	.34	.45	.38	.33	.40	.35	.31	.36	.32	.28	.32	.29	.26	.24
9.0	.43	.36	.31	.41	.34	.30	.37	.32	.28	.34	.29	.26	.30	.26	.24	.22
10.0	.40	.33	.28	.38	.31	.27	.34	.29	.25	.31	.27	.23	.28	.24	.22	.20



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

WEC AND CCEC

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: φ450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.:φ450mm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.252	.143	.045	.234	.133	.042	.199	.114	.036	.168	.097	.031	.139	.080	.026		
2.0	.239	.131	.040	.222	.122	.038	.191	.106	.033	.162	.091	.029	.136	.077	.024		
3.0	.224	.119	.036	.209	.112	.034	.181	.098	.030	.154	.085	.026	.130	.072	.022		
4.0	.209	.109	.032	.196	.102	.030	.170	.090	.027	.146	.078	.024	.123	.067	.020		
5.0	.196	.100	.029	.183	.094	.027	.160	.083	.024	.138	.073	.022	.117	.062	.019		
6.0	.184	.092	.026	.172	.087	.025	.150	.077	.022	.130	.068	.020	.111	.058	.017		
7.0	.173	.085	.024	.162	.081	.023	.142	.072	.021	.123	.063	.018	.105	.055	.016		
8.0	.163	.079	.022	.153	.075	.021	.134	.067	.019	.116	.059	.017	.100	.051	.015		
9.0	.153	.074	.021	.144	.070	.020	.127	.063	.018	.110	.055	.016	.095	.048	.014		
10.0	.145	.070	.019	.137	.066	.018	.120	.059	.017	.105	.052	.015	.090	.045	.013		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.478	.478	.478	.409	.409	.409	.279	.279	.279	.160	.160	.160	.051	.051	.051	
1.0	.467	.447	.429	.399	.384	.369	.273	.264	.255	.157	.153	.149	.050	.049	.048	
2.0	.457	.424	.397	.392	.365	.343	.268	.253	.239	.155	.147	.140	.050	.048	.046	
3.0	.449	.408	.375	.385	.352	.325	.264	.244	.228	.153	.143	.134	.049	.046	.044	
4.0	.442	.395	.359	.379	.341	.312	.261	.238	.220	.151	.139	.130	.049	.045	.043	
5.0	.435	.385	.348	.374	.333	.303	.258	.233	.214	.149	.137	.127	.048	.045	.042	
6.0	.429	.377	.340	.369	.327	.296	.254	.229	.210	.148	.135	.125	.048	.044	.041	
7.0	.423	.371	.334	.364	.322	.291	.252	.225	.207	.146	.133	.123	.047	.043	.041	
8.0	.418	.366	.330	.360	.317	.288	.249	.223	.204	.145	.131	.122	.047	.043	.040	
9.0	.413	.361	.326	.355	.313	.285	.246	.220	.202	.143	.130	.121	.046	.043	.040	
10.0	.408	.357	.324	.351	.310	.282	.244	.218	.201	.142	.129	.120	.046	.042	.040	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm											
NAME: SUGAR 450-U-29W-830					TYPE:Ceiling light			WEIGHT:0.2			
SPEC.:3000K					DIM.: φ450mm*H78mm			SERIAL No.:			
MFR.: NEKO LIGHTING AG					SUR.:φ450mm			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H		9.6	10.6	10.4	11.3	12.2	10.9	11.8	11.6	12.5	13.4
	3H	10.0	10.8	10.7	11.6	12.5	11.3	12.1	12.0	12.9	13.8
	4H	10.1	10.9	10.9	11.7	12.6	11.4	12.2	12.2	13.0	13.9
	6H	10.2	10.9	10.9	11.7	12.6	11.5	12.3	12.3	13.1	14.0
	8H	10.1	10.8	10.9	11.6	12.6	11.5	12.3	12.3	13.0	14.0
	12H	10.1	10.7	10.9	11.5	12.5	11.5	12.2	12.3	13.0	13.9
4H	2H	9.8	10.6	10.6	11.4	12.3	10.8	11.7	11.6	12.4	13.3
	3H	10.3	11.0	11.2	11.8	12.8	11.4	12.1	12.2	12.9	13.9
	4H	10.6	11.2	11.4	12.0	13.0	11.7	12.3	12.5	13.1	14.1
	6H	10.7	11.2	11.6	12.1	13.1	11.9	12.4	12.8	13.3	14.3
	8H	10.7	11.2	11.6	12.0	13.1	11.9	12.4	12.8	13.3	14.4
	12H	10.6	11.1	11.5	12.0	13.0	11.9	12.3	12.8	13.2	14.3
8H	4H	10.6	11.1	11.5	12.0	13.1	11.7	12.2	12.5	13.0	14.1
	6H	10.9	11.3	11.8	12.2	13.3	12.0	12.4	12.9	13.3	14.4
	8H	10.9	11.3	11.9	12.2	13.3	12.1	12.4	13.0	13.3	14.5
	12H	10.9	11.2	11.8	12.1	13.3	12.0	12.3	13.0	13.2	14.4
12H	4H	10.6	11.1	11.5	11.9	13.0	11.6	12.0	12.5	12.9	14.0
	6H	10.9	11.2	11.8	12.1	13.3	12.0	12.3	12.9	13.2	14.4
	8H	11.0	11.3	11.9	12.2	13.3	12.1	12.4	13.0	13.3	14.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.8 / - 0.8					+ 0.4 / - 0.4					
1.5H	+ 0.5 / - 0.8					+ 0.4 / - 0.4					
2.0H	+ 1.8 / - 1.5					+ 1.2 / - 1.5					

CIE Pub.117, 3017 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.8$)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

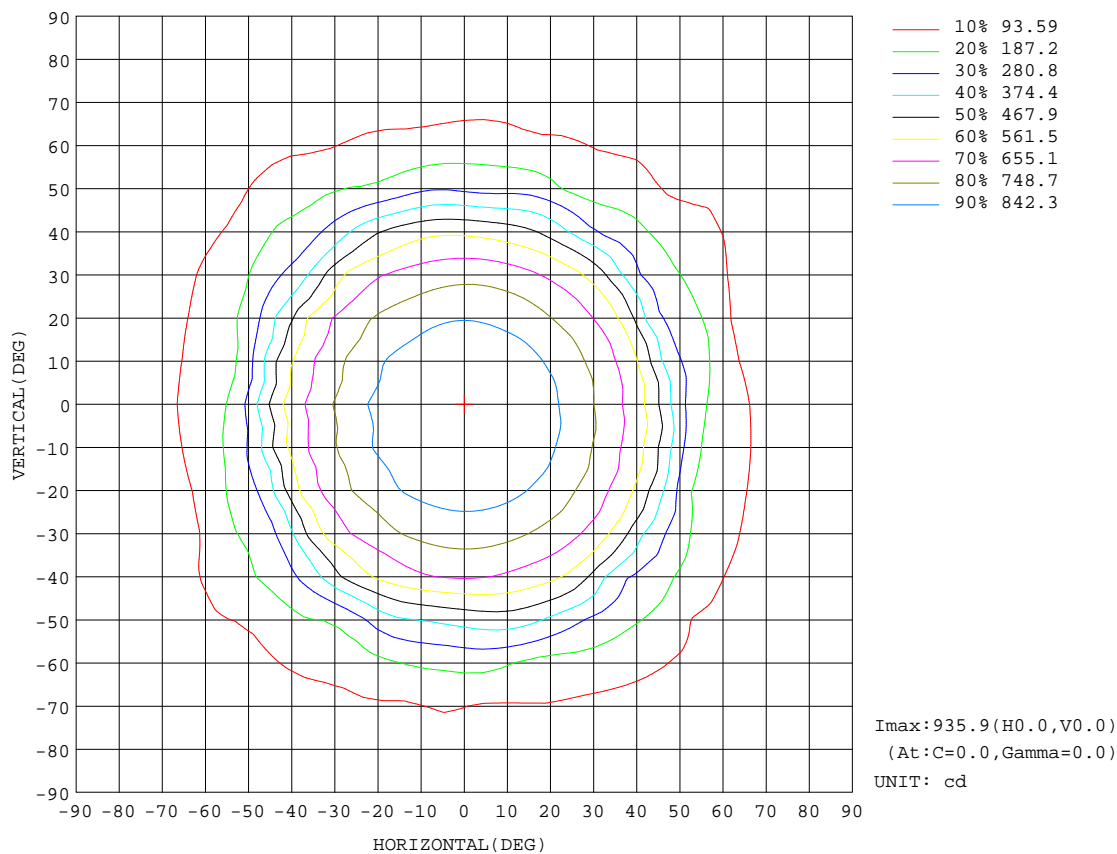
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	53	43	37	51	42	36	47	39	35	28
0.80	62	52	45	60	50	44	55	47	42	34
1.00	70	60	53	67	58	52	61	55	49	39
1.25	76	67	60	73	64	58	66	59	55	43
1.50	81	72	65	77	69	63	70	63	59	46
2.00	87	79	73	83	76	70	74	69	65	50
2.50	91	84	78	86	80	75	77	72	68	52
3.00	94	87	82	89	83	78	79	75	71	53
4.00	98	92	88	92	87	83	82	78	75	55
5.00	100	95	91	94	90	87	83	80	78	57
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

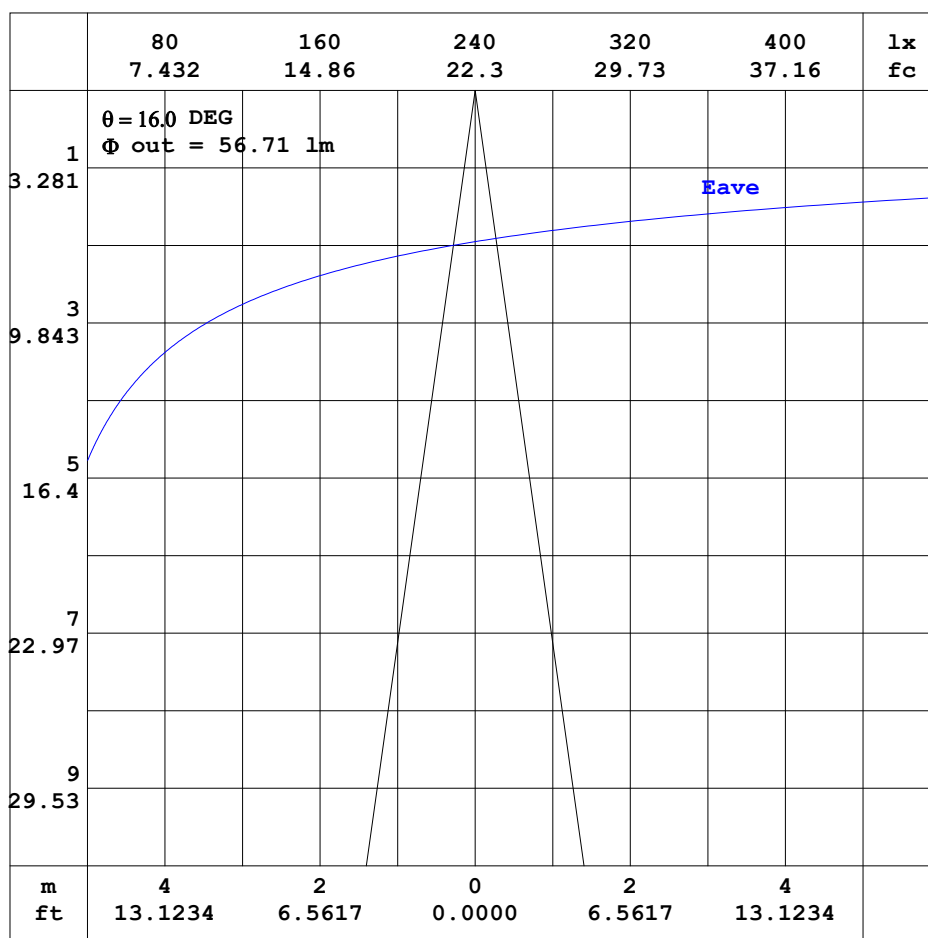


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

AAI CURVES

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:



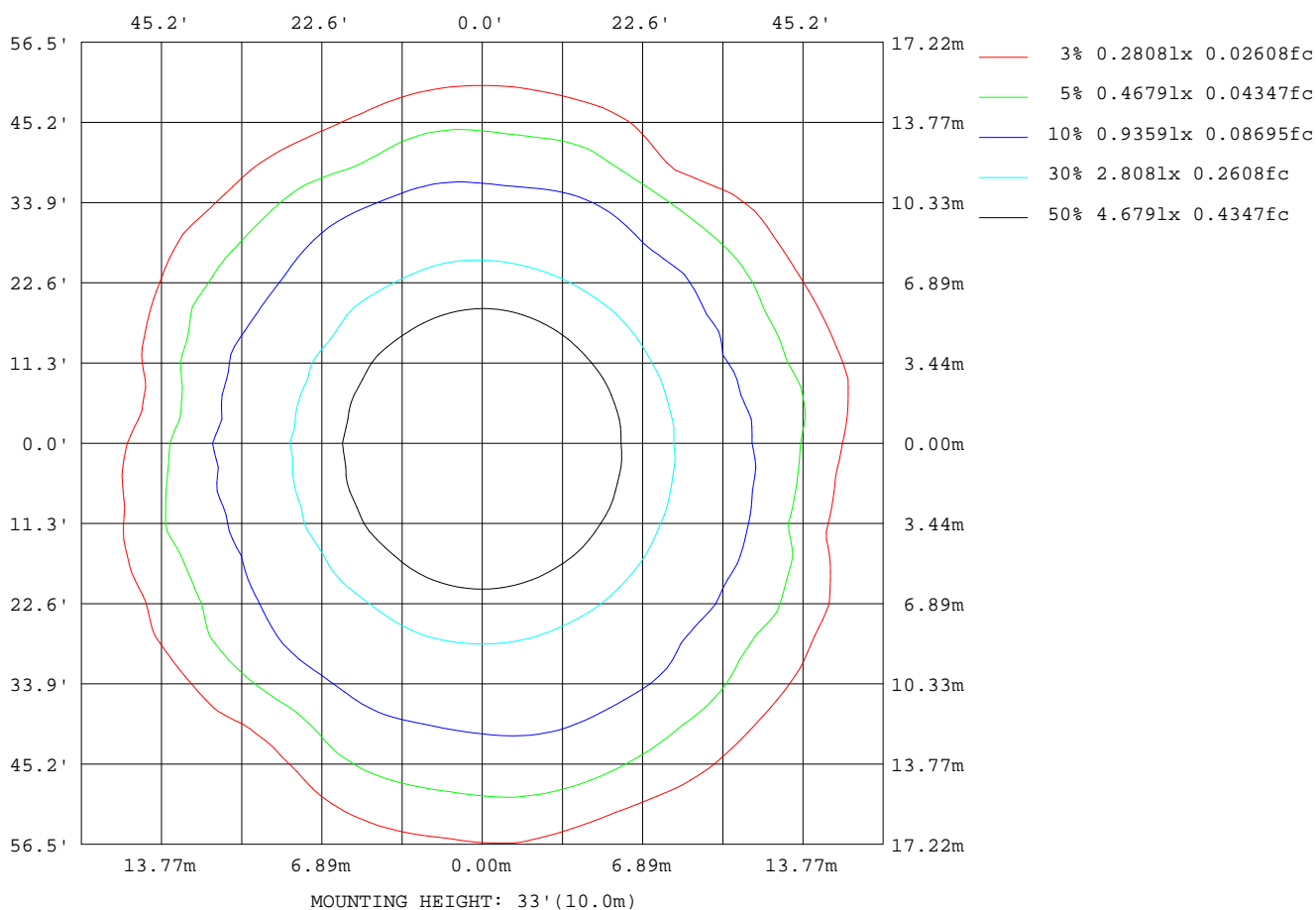
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

ISOLUX DIAGRAM

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

LED Avg.L Report

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: φ450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.:φ450mm	Shielding Angle:

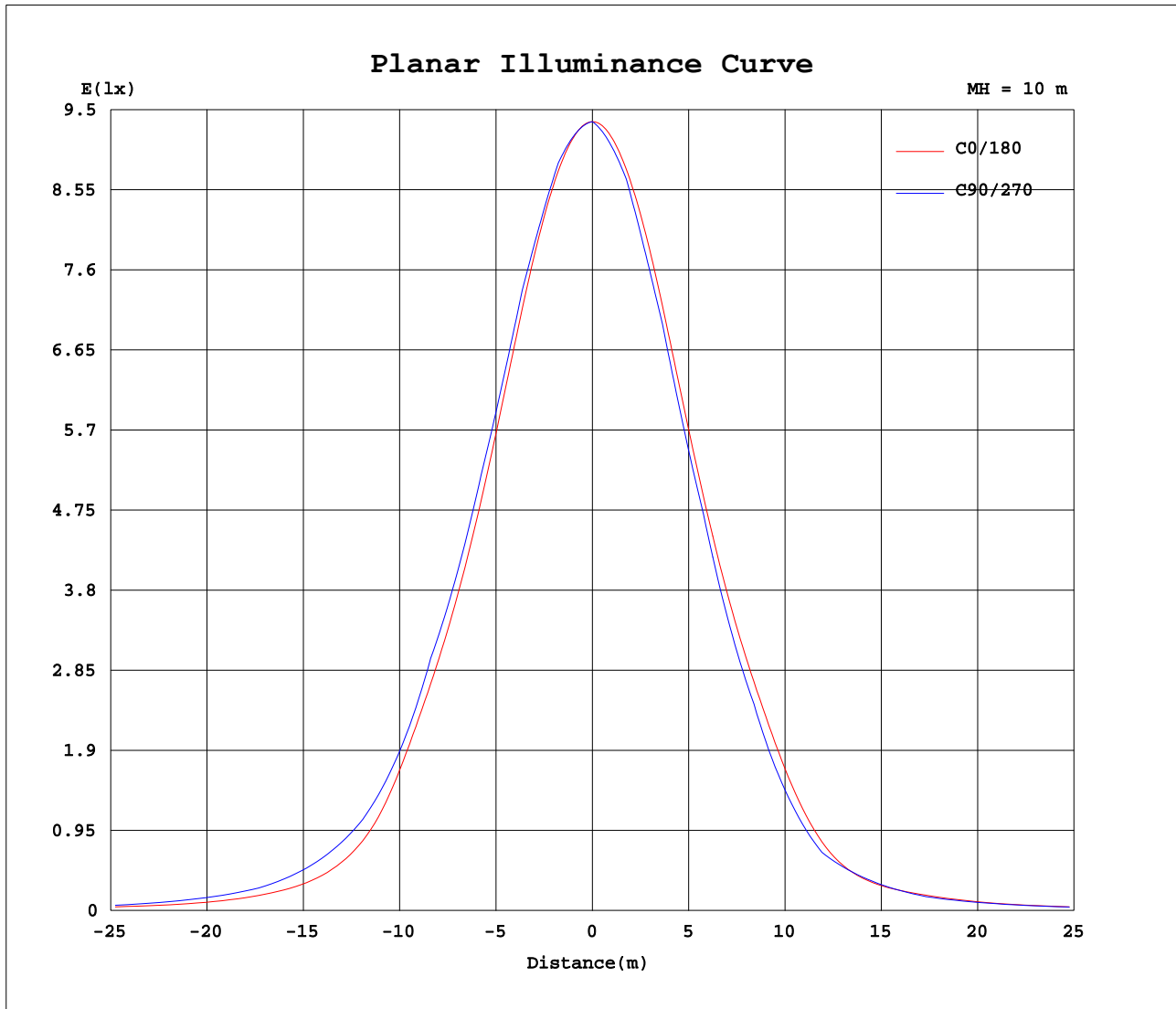
AvgL	cd/m2
L_0~180 (65) av	1524
L_0~180 (75) av	1158
L_0~180 (85) av	262
L_90~270 (65) av	1890
L_90~270 (75) av	1343
L_90~270 (85) av	0
L_45 (65) av	1689
L_45 (75) av	1275
L_45 (85) av	432

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: Jason Long
Test Date: 2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 5.850m [K=1.7094]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

Table--1

UNIT: cd

γ (DEG) \ C (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936
5	931	931	931	931	931	931	931	931	932	932	932	932	932	932	932	932	932	932	932
10	919	919	919	920	920	921	922	922	922	923	924	924	925	926	927	927	928	928	929
15	896	897	898	900	902	902	903	905	906	906	906	907	907	907	907	908	908	908	908
20	860	863	866	870	870	872	874	875	876	878	878	879	880	881	883	884	885	886	887
25	809	814	821	821	822	826	830	835	834	835	837	839	839	840	841	841	841	841	841
30	749	756	762	762	765	772	776	776	779	782	785	787	787	787	789	790	792	794	795
35	679	690	693	692	702	707	707	713	720	722	722	723	723	724	726	728	730	731	730
40	599	613	611	617	627	625	633	642	644	647	649	652	651	651	653	656	661	664	665
45	471	506	494	518	512	520	524	529	532	541	548	560	561	557	556	554	550	542	535
50	312	336	333	352	363	376	365	382	371	369	413	433	433	434	438	442	436	422	407
55	206	198	198	192	241	253	270	252	256	280	292	290	296	308	318	325	325	320	308
60	144	139	135	145	161	178	184	199	200	201	205	210	207	198	193	199	209	218	215
65	100	106	107	113	117	115	120	128	145	139	134	133	135	130	131	139	147	153	155
70	75.5	75.3	74.7	79.5	82.5	80.9	82.7	92.7	95.5	95.9	96.3	96.4	95.3	95.9	96.9	93.2	88.3	85.8	95.3
75	47.0	52.1	52.7	52.5	56.0	59.8	66.5	65.6	67.2	70.3	70.6	63.9	63.4	67.9	69.7	65.9	63.7	64.0	71.0
80	24.7	27.5	29.8	31.1	31.5	35.1	34.2	38.4	41.6	43.7	42.2	39.8	40.8	43.0	44.1	42.0	41.1	41.4	43.6
85	3.48	6.00	6.71	8.18	11.0	11.1	12.6	13.9	13.0	11.4	8.66	6.76	5.28	3.93	2.61	1.42	0.62	0.16	0.00
90	47.8	40.5	35.1	31.6	30.9	31.4	32.6	32.5	32.5	32.5	32.5	32.9	33.8	35.7	0.00	0.00	42.3	43.8	45.0
95	63.3	58.8	55.2	52.7	51.6	51.1	51.0	50.1	49.3	48.6	47.9	47.6	47.9	49.4	51.5	53.9	56.4	58.8	60.7
100	83.7	79.2	75.5	72.7	71.3	70.5	70.0	69.0	68.2	67.4	66.2	65.6	65.6	67.8	70.6	73.5	75.7	77.5	78.7
105	106	103	99.9	97.6	96.0	94.6	93.5	92.1	90.9	89.9	89.2	89.1	89.7	92.1	94.9	97.5	98.3	98.5	98.3
110	128	126	123	122	120	119	119	118	118	117	116	115	115	117	119	120	120	120	120
115	152	151	150	149	146	144	142	141	140	140	141	143	145	145	145	144	144	144	144
120	178	177	176	176	175	175	175	174	173	173	173	173	173	172	171	170	170	170	169
125	204	203	202	202	202	202	201	201	200	199	199	199	199	198	197	196	196	196	195
130	230	229	228	228	228	228	227	227	226	225	225	225	225	224	223	222	222	222	221
135	255	254	253	253	253	252	252	252	251	250	250	250	250	249	248	247	247	247	246
140	279	278	277	276	276	276	276	275	274	274	274	273	273	273	272	271	271	270	270
145	300	299	298	297	297	297	297	296	296	295	295	295	295	294	293	293	292	292	292
150	320	318	317	316	316	316	316	315	315	314	314	314	314	314	313	312	312	312	312
155	336	334	333	332	332	332	332	332	331	331	331	331	331	330	330	329	329	329	329
160	350	348	347	346	346	346	346	346	345	345	345	345	345	344	344	344	343	343	343
165	360	358	357	356	356	356	356	356	356	356	356	356	356	355	355	355	355	355	355
170	367	365	364	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	362
175	371	369	367	366	366	366	367	367	367	367	367	367	367	367	367	367	367	367	367
180	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

Table--2

UNIT: cd

C (DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936
5	932	932	932	932	931	931	931	931	931	931	931	931	931	931	931	931	932	932	931
10	929	928	928	928	927	926	925	924	923	921	920	918	918	918	918	919	920	921	917
15	907	907	907	906	906	906	906	907	908	909	905	902	898	895	895	896	897	900	894
20	887	886	885	884	881	879	875	872	870	871	872	875	870	864	858	858	860	865	856
25	840	839	838	838	837	837	838	838	832	826	820	821	824	822	812	805	809	815	803
30	795	794	791	787	783	779	774	773	775	780	773	763	760	764	759	746	747	755	740
35	729	727	724	721	719	719	720	712	705	703	708	710	695	689	697	681	675	685	666
40	665	662	658	652	644	635	629	629	637	632	616	614	627	601	603	604	586	604	574
45	530	529	532	538	541	546	545	527	507	507	509	468	466	473	440	478	437	476	425
50	398	394	398	405	399	383	378	384	380	356	332	318	297	302	301	313	291	307	263
55	300	297	298	295	278	245	224	236	246	251	251	226	220	222	236	215	203	189	165
60	208	209	208	202	190	170	159	163	172	171	166	176	165	166	149	143	146	146	129
65	154	149	143	140	133	123	120	122	121	113	104	110	120	110	95.3	92.2	98.9	104	100.0
70	103	95.7	87.6	93.0	92.6	85.8	85.1	87.5	85.6	83.5	83.1	84.1	88.6	82.1	77.2	75.1	75.1	75.8	67.6
75	73.8	66.9	61.6	64.6	62.7	57.7	57.3	60.9	60.3	57.9	60.0	59.9	56.0	55.2	54.5	51.0	48.4	48.3	46.6
80	45.9	44.3	40.4	40.3	38.5	36.4	36.3	36.8	36.3	34.0	36.9	40.7	34.0	35.6	32.7	27.0	25.1	25.2	21.3
85	0.17	0.67	1.36	2.39	3.50	4.76	6.29	7.88	9.93	10.7	11.8	11.6	9.26	8.36	7.50	4.74	1.79	3.76	1.08
90	45.2	45.1	0.00	0.00	44.1	43.7	43.5	43.4	43.3	43.3	43.3	43.4	43.5	43.6	43.7	43.7	43.6	43.4	42.9
95	61.1	60.9	60.4	60.4	60.3	60.2	60.1	59.9	59.8	59.8	59.9	60.0	59.9	59.8	59.7	59.7	59.8	59.7	59.3
100	78.9	78.6	78.1	78.0	77.9	77.8	77.7	77.6	77.4	77.4	77.4	77.3	77.2	77.0	76.9	76.9	77.0	76.9	76.4
105	98.1	97.7	97.3	97.1	96.8	96.7	96.5	96.4	96.3	96.2	96.0	95.9	95.8	95.7	95.6	95.7	95.7	95.6	95.1
110	119	119	118	118	118	117	117	117	116	116	116	116	116	116	116	116	116	116	115
115	143	142	141	141	141	141	140	139	139	139	139	139	139	139	138	138	138	139	138
120	168	168	167	167	167	166	166	165	164	164	164	164	164	163	163	163	163	164	163
125	195	194	193	193	193	192	192	191	190	190	190	190	190	189	189	189	189	190	189
130	221	220	219	219	219	218	218	217	216	216	216	216	216	215	215	215	215	215	214
135	246	245	244	244	244	244	243	242	242	242	242	241	241	241	240	240	241	241	240
140	269	269	268	268	268	267	267	266	266	266	266	266	265	265	264	265	265	265	264
145	291	291	290	290	290	290	289	288	288	288	288	288	287	287	287	287	288	288	286
150	311	311	310	310	310	310	309	308	308	308	308	308	308	307	307	307	308	308	307
155	328	328	327	327	327	327	327	326	326	326	326	326	326	325	325	326	326	326	325
160	343	342	342	342	342	342	342	341	341	341	341	341	341	341	341	341	341	341	340
165	354	354	354	353	353	353	353	353	353	353	353	353	353	353	353	353	354	354	352
170	362	362	362	362	362	362	362	362	362	362	362	362	362	362	362	363	363	363	362
175	367	367	367	367	367	367	367	367	367	367	367	367	368	368	368	368	369	369	367
180	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: φ450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.:φ450mm	Shielding Angle:

Table--3

UNIT: cd

C (DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936
5	930	928	927	926	925	925	924	923	923	923	922	922	922	922	922	922	922	922	922
10	915	912	910	908	907	907	907	907	907	907	908	908	908	908	908	908	908	908	908
15	889	885	883	883	884	885	886	883	880	877	875	874	873	873	873	873	873	874	874
20	849	845	846	849	850	844	839	835	834	834	835	836	837	837	838	838	838	838	838
25	794	796	800	798	791	786	787	789	791	787	783	780	778	778	778	779	781	782	782
30	733	739	738	729	728	734	736	727	720	716	716	716	717	719	721	722	723	724	723
35	664	672	658	658	668	658	649	650	653	654	644	638	636	635	635	635	634	634	634
40	581	571	560	580	549	535	553	563	549	541	541	544	548	552	552	549	545	540	536
45	452	420	435	417	393	396	401	401	412	426	431	424	419	419	418	413	405	399	400
50	278	285	301	291	282	272	275	282	289	291	286	276	274	280	283	275	260	252	260
55	165	193	193	212	207	212	201	196	199	193	182	179	183	193	199	201	197	195	194
60	127	129	139	132	145	146	145	140	138	135	133	132	130	127	125	127	133	137	132
65	99.4	99.3	94.8	91.1	93.0	101	103	99.0	90.5	85.7	90.3	94.2	94.1	91.2	91.8	94.9	98.8	101	98.1
70	62.3	63.0	68.0	71.7	67.9	68.9	71.0	68.3	62.8	60.1	62.2	64.2	63.4	61.3	63.3	66.0	66.2	65.2	64.7
75	44.2	40.7	42.7	42.6	43.8	43.9	44.9	41.4	37.8	37.3	37.2	37.5	36.9	35.9	36.7	38.8	39.5	38.7	38.9
80	20.3	19.6	20.4	19.4	21.7	21.4	19.2	16.8	14.5	13.6	12.9	12.3	11.7	11.8	11.6	12.5	12.6	12.1	13.5
85	1.84	1.18	2.54	2.17	0.29	0.24	0.56	1.01	1.23	1.18	1.03	0.79	0.56	0.36	0.17	0.05	0.00	0.05	0.19
90	42.4	41.9	41.8	41.8	41.8	41.8	41.9	41.9	41.9	41.9	42.1	42.5	42.9	43.4	43.6	43.8	44.0	44.3	44.6
95	58.8	58.4	58.2	58.2	58.3	58.4	58.6	58.8	58.8	58.8	58.8	59.0	59.2	59.5	59.6	59.7	59.9	60.1	60.4
100	75.9	75.5	75.5	75.6	75.8	75.9	76.0	76.0	76.1	76.2	76.3	76.5	76.6	76.8	76.9	77.1	77.2	77.5	77.9
105	94.6	94.1	94.2	94.3	94.6	94.7	94.7	94.8	94.8	94.9	95.0	95.2	95.4	95.6	95.7	95.8	96.0	96.3	96.8
110	115	114	114	114	115	115	115	115	115	115	115	115	115	116	116	116	116	117	118
115	138	137	136	136	136	137	137	138	137	137	137	138	138	139	139	139	139	140	141
120	162	161	161	161	161	161	162	162	162	162	162	163	164	164	164	165	165	166	167
125	187	186	186	186	187	187	188	188	188	188	188	189	190	190	191	191	191	192	193
130	213	212	212	212	212	213	213	214	214	214	214	215	215	216	217	217	217	218	219
135	238	237	237	237	237	238	238	239	239	239	239	240	241	242	242	242	243	244	245
140	262	261	261	261	261	262	262	263	263	263	263	264	265	266	266	266	267	267	269
145	285	284	283	283	284	284	285	285	285	285	285	286	287	288	288	288	289	290	291
150	305	304	304	304	304	304	305	305	305	306	306	306	307	308	308	308	309	310	311
155	323	322	321	321	322	322	323	323	323	323	323	324	325	325	326	326	326	327	328
160	339	337	337	337	337	337	338	338	338	338	339	339	340	340	341	341	341	342	343
165	351	349	349	349	349	350	350	350	350	351	351	351	352	352	352	353	353	353	354
170	360	359	358	358	359	359	359	359	359	360	360	360	360	361	361	361	361	362	362
175	366	364	364	364	364	365	365	365	365	365	365	366	366	366	366	366	366	367	367
180	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.1V I:0.1382A P:30.42W PF:0.9131 Freq:49.90Hz Lamp Flux:3016.71x1 lm		
NAME: SUGAR 450-U-29W-830	TYPE:Ceiling light	WEIGHT:0.2
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

Table--4

UNIT: cd

C (DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	936	936	936	936	936	936	936	936	936	936	936	936	936	936	936				
5	923	923	923	923	924	924	925	925	926	926	927	928	929	929	930				
10	908	908	908	908	908	909	909	910	911	912	913	913	914	916	917				
15	875	876	877	878	880	882	884	886	886	887	888	891	892	892	894				
20	837	836	836	837	838	840	843	844	846	848	850	852	856	857	858				
25	783	783	783	784	785	786	787	791	796	796	799	801	806	810	809				
30	722	721	720	720	723	723	724	725	729	736	740	742	745	751	750				
35	634	635	637	641	647	648	652	656	657	662	670	675	675	681	684				
40	534	533	534	535	538	543	556	560	566	567	567	580	584	591	604				
45	408	415	415	406	394	397	414	419	405	416	414	400	437	433	476				
50	277	288	288	282	272	259	254	282	285	267	276	264	278	291	317				
55	197	196	185	164	152	169	188	196	198	202	198	205	209	227	225				
60	125	126	130	125	117	121	128	131	136	132	144	148	156	149	144				
65	91.3	88.5	91.2	89.6	86.1	88.5	94.2	89.4	79.7	92.9	105	111	93.6	81.8	88.8				
70	64.8	62.9	62.4	61.1	62.0	63.2	64.7	67.2	66.3	71.2	72.8	74.8	73.8	74.8	77.0				
75	39.1	37.8	37.0	35.7	38.2	38.0	37.8	42.9	46.7	45.0	47.3	46.4	50.8	49.0	48.2				
80	12.8	12.5	13.6	13.6	14.8	15.7	16.4	19.5	22.8	24.8	24.1	25.9	29.3	30.1	29.6				
85	0.38	0.61	0.94	1.16	1.38	1.54	1.58	1.24	0.61	0.33	3.08	4.73	2.77	3.83	5.55				
90	44.9	45.0	45.2	45.4	45.8	46.2	46.7	47.1	47.6	48.0	48.8	49.5	49.8	49.6	48.9				
95	60.8	61.0	61.2	61.5	62.1	62.7	63.3	63.7	64.1	64.6	65.5	66.2	66.6	66.1	65.0				
100	78.3	78.7	79.1	79.6	80.3	80.9	81.6	82.2	82.8	83.3	84.1	84.7	85.1	85.0	84.5				
105	97.3	97.9	98.5	99.1	99.8	101	101	102	103	103	104	105	105	106	106				
110	118	119	120	120	121	122	123	124	124	125	126	127	127	128	128				
115	142	142	143	144	145	146	147	148	148	149	150	151	152	152	152				
120	168	168	169	170	171	172	173	174	174	175	176	177	178	178	178				
125	194	195	195	196	197	198	199	200	200	201	202	203	204	204	204				
130	220	221	221	222	223	224	225	226	227	227	228	229	230	230	230				
135	246	246	247	247	249	250	251	251	252	252	253	254	255	255	255				
140	270	270	271	271	272	273	274	275	275	276	277	278	278	279	279				
145	292	292	293	293	294	295	296	297	297	298	298	299	300	300	300				
150	312	312	312	313	314	315	316	316	317	317	318	318	319	319	320				
155	329	329	330	330	331	332	332	333	333	334	334	335	336	336	336				
160	343	344	344	345	345	346	346	347	347	348	348	349	349	349	350				
165	355	355	355	356	356	357	357	357	358	358	359	359	360	360	360				
170	363	363	363	364	364	365	365	365	365	365	366	366	367	367	367				
175	367	368	368	368	368	368	369	369	369	369	370	370	370	370	371				
180	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371				

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-11-14

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.850m [K=1.7094]
Remarks: