

SUGAR-350-12W-830



Light Output Ratio:	100.0%	
Luminaire Power:	13.24 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.30	fine grid method.

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-15

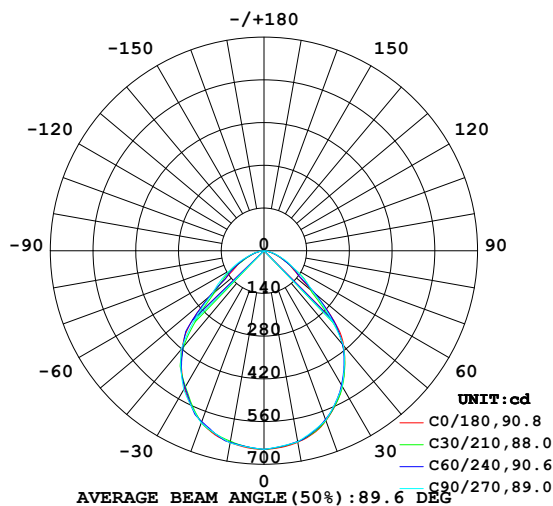
V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINAIRE PHOTOMETRIC TEST REPORT**

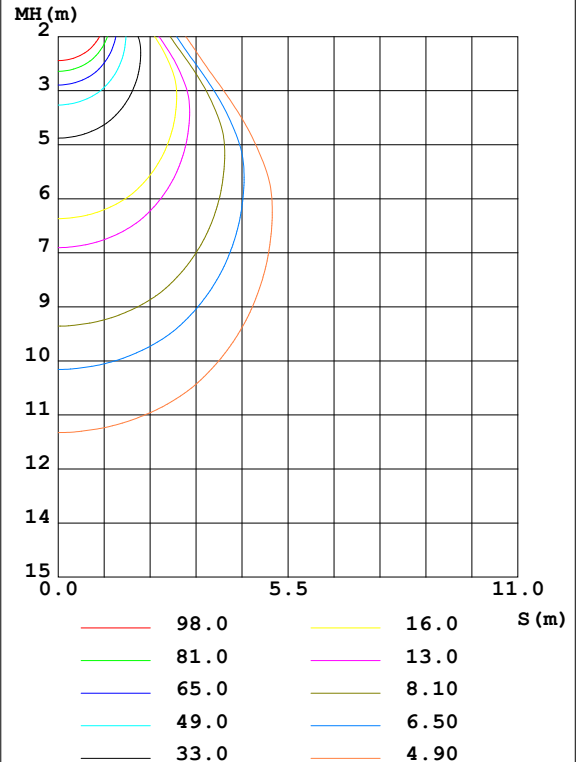
Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm		
NAME: SUGAR-350-12W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 350mm*H105mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 97.45 lm/W			
MODEL	OSRAM-3000K	I <sub>max</sub> (cd)	650.8	S/MH (C0/180)	1.19
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	1.20
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1290.0	$\eta$ UP,DN (C0-180)	0.0,49.2
NOMINAL FLUX (lm)	1289.95	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.0,50.8
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-15

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	637.2	634.7	635.7	632.7	638.4	636.1	639.6	637.1	0- 10	61.26	61.26	4.75,4.75
20	592.8	590.7	591.6	585.8	598.7	592.7	600.8	596.8	10- 20	174.3	235.6	18.3,18.3
30	511.4	510.4	512.4	510.3	520.3	520.0	525.7	519.3	20- 30	256.4	492.1	38.1,38.1
40	406.3	400.2	405.8	409.8	416.9	417.6	423.0	418.4	30- 40	290.9	783.0	60.7,60.7
50	207.8	203.9	208.5	237.9	232.0	223.2	223.1	240.3	40- 50	247.5	1030	79.9,79.9
60	101.4	100.6	109.8	111.1	106.5	121.9	130.7	113.9	50- 60	145.0	1175	91.1,91.1
70	44.85	47.40	51.28	49.34	50.62	49.11	57.33	52.91	60- 70	77.84	1253	97.2,97.2
80	9.540	11.27	11.85	11.92	13.36	15.22	15.81	13.57	70- 80	33.20	1286	99.7,99.7
90	0.1069	0	0	0	0.2010	0	0	0	80- 90	3.530	1290	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 920.07 lm

%lum = 71.3%

%lamp = 71.3%

Conical surface Flux(120deg): 1175.4 lm

%lum = 91.1%

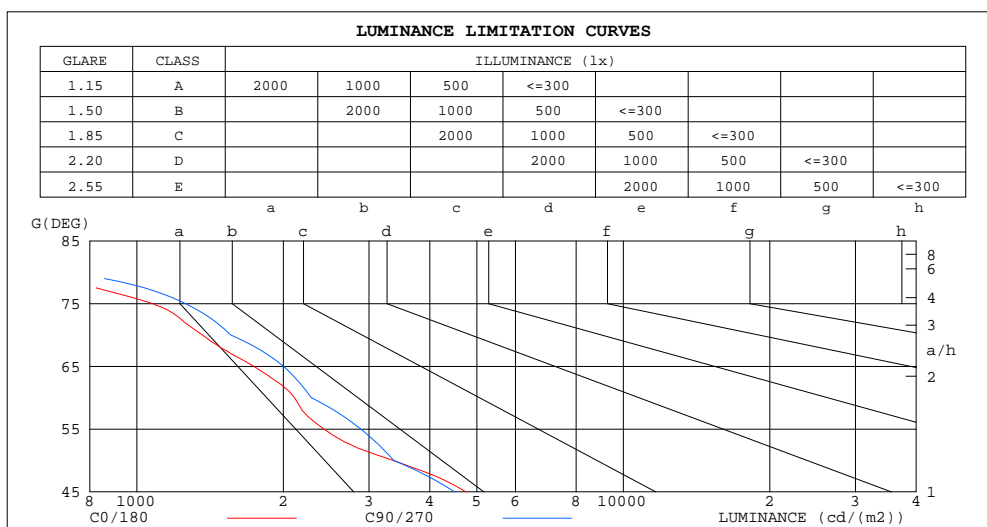
%lamp = 91.1%

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-15

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### LUMINANCE LIMITATION CURVES

Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm		
NAME: SUGAR-350-12W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 350mm*H105mm	
MFR.: NEKO LIGHTING AG		



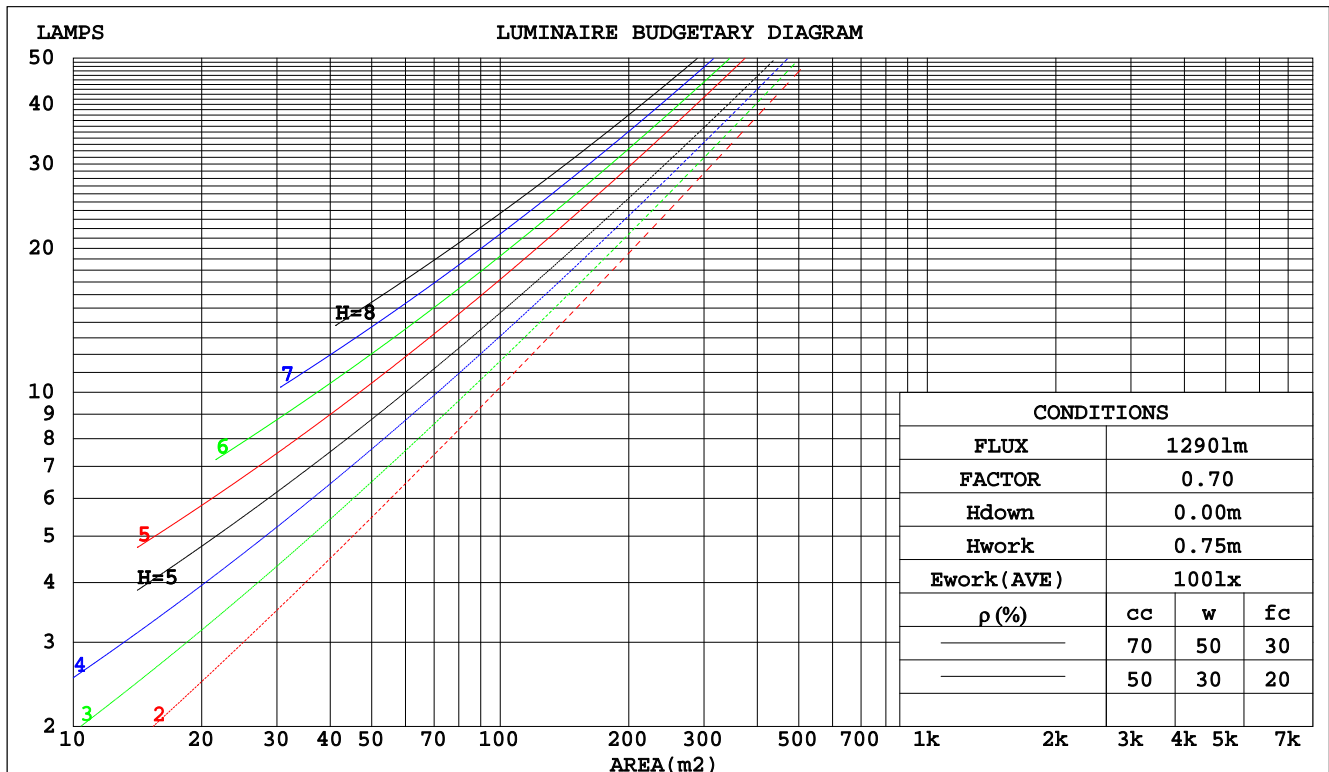
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Temperature:25.3DEG  
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Humidity:56%  
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Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm		
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SPEC.:3000K	DIM.: $\phi$ 350mm*H105mm	
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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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.94	.92	.90	.88
2.0	.96	.90	.86	.94	.89	.85	.91	.87	.83	.88	.84	.81	.85	.82	.79	.77
3.0	.86	.79	.74	.85	.78	.73	.82	.76	.72	.79	.75	.71	.77	.73	.70	.68
4.0	.78	.70	.64	.77	.70	.64	.74	.68	.63	.72	.67	.62	.70	.65	.62	.60
5.0	.71	.63	.57	.69	.62	.57	.67	.61	.56	.66	.60	.55	.64	.59	.55	.53
6.0	.64	.56	.51	.63	.56	.50	.62	.55	.50	.60	.54	.50	.59	.53	.49	.47
7.0	.59	.51	.45	.58	.51	.45	.57	.50	.45	.55	.49	.45	.54	.49	.44	.43
8.0	.54	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.40	.50	.44	.40	.39
9.0	.50	.42	.37	.49	.42	.37	.48	.42	.37	.47	.41	.37	.46	.41	.37	.35
10.0	.46	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.34	.43	.38	.34	.32



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V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

## WEC AND CCEC

Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm		
NAME: SUGAR-350-12W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 350mm*H105mm	
MFR.: NEKO LIGHTING AG		

$\rho_{cc}$	80%			70%			50%			30%			10%			0	
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
$\rho_{fc}$	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.245	.139	.044	.238	.136	.043	.225	.129	.041	.213	.123	.039	.202	.117	.038		
2.0	.238	.130	.040	.232	.128	.039	.221	.123	.038	.210	.118	.037	.201	.114	.036		
3.0	.226	.120	.036	.221	.118	.036	.211	.114	.035	.202	.111	.034	.193	.107	.033		
4.0	.213	.111	.033	.208	.109	.032	.200	.106	.032	.192	.103	.031	.184	.100	.030		
5.0	.200	.102	.030	.196	.101	.029	.189	.098	.029	.181	.096	.028	.175	.093	.028		
6.0	.189	.095	.027	.185	.093	.027	.178	.091	.027	.172	.089	.026	.166	.087	.026		
7.0	.178	.088	.025	.174	.087	.025	.168	.085	.025	.163	.083	.024	.157	.082	.024		
8.0	.168	.082	.023	.165	.081	.023	.159	.080	.023	.154	.078	.023	.149	.077	.022		
9.0	.159	.077	.021	.156	.076	.021	.151	.075	.021	.147	.073	.021	.142	.072	.021		
10.0	.150	.072	.020	.148	.072	.020	.144	.070	.020	.139	.069	.020	.135	.068	.020		

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.176	.157	.140	.150	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.105	.141	.114	.090	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.156	.114	.081	.134	.098	.070	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.148	.100	.064	.127	.087	.055	.087	.060	.039	.050	.035	.023	.016	.012	.008	
5.0	.141	.089	.052	.121	.077	.045	.083	.054	.032	.048	.032	.019	.016	.010	.006	
6.0	.134	.081	.043	.115	.070	.037	.079	.049	.026	.046	.029	.016	.015	.009	.005	
7.0	.127	.074	.036	.110	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.072	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.116	.063	.027	.100	.055	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.066	.036	.015	.039	.021	.009	.013	.007	.003	

$H(\beta)$  Range:-90 - 90DEG  
 $H(\beta)$  Interval: 1.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Myles  
 Test Date:2019-04-15

$V(B)$  Range:-80 - 80DEG  
 $V(B)$  Interval: 5.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:56%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

## UGR(Unified Glare Rating) Table

Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm										
NAME: SUGAR-350-12W-830					TYPE:Ceiling light			SERIAL No.:		
SPEC.:3000K					DIM.: $\phi$ 350mm*H105mm					
MFR.: NEKO LIGHTING AG										
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	14.7	16.1	15.0	16.2	16.4	14.8	16.2	15.1	16.4	16.5
3H	15.2	16.4	15.5	16.6	16.8	15.4	16.6	15.6	16.8	17.0
4H	15.3	16.5	15.6	16.7	16.9	15.5	16.7	15.8	16.9	17.1
6H	15.3	16.4	15.6	16.6	16.9	15.5	16.6	15.9	16.9	17.1
8H	15.3	16.3	15.6	16.6	16.9	15.5	16.5	15.8	16.8	17.1
12H	15.2	16.2	15.6	16.5	16.8	15.5	16.5	15.8	16.7	17.0
4H 2H	14.9	16.1	15.2	16.3	16.5	15.0	16.1	15.3	16.4	16.6
3H	15.5	16.5	15.8	16.8	17.1	15.6	16.6	16.0	16.9	17.2
4H	15.7	16.6	16.1	16.9	17.2	15.8	16.7	16.2	17.1	17.4
6H	15.8	16.6	16.2	16.9	17.3	15.9	16.7	16.3	17.1	17.4
8H	15.7	16.5	16.1	16.8	17.2	15.9	16.6	16.3	17.0	17.4
12H	15.7	16.4	16.1	16.7	17.1	15.9	16.5	16.3	16.9	17.3
8H 4H	15.7	16.5	16.1	16.8	17.2	15.9	16.6	16.3	16.9	17.3
6H	15.8	16.4	16.3	16.8	17.3	16.0	16.6	16.4	17.0	17.4
8H	15.8	16.3	16.3	16.8	17.2	16.0	16.5	16.4	16.9	17.4
12H	15.8	16.2	16.3	16.7	17.1	15.9	16.4	16.4	16.8	17.3
12H 4H	15.7	16.4	16.1	16.7	17.1	15.8	16.5	16.2	16.9	17.3
6H	15.8	16.3	16.3	16.8	17.2	15.9	16.5	16.4	16.9	17.3
8H	15.8	16.2	16.3	16.7	17.2	15.9	16.4	16.4	16.8	17.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.9 / - 1.1					+ 0.8 / - 0.9				
1.5H	+ 0.7 / - 1.0					+ 0.7 / - 1.1				
2.0H	+ 2.3 / - 1.6					+ 2.1 / - 1.6				

CIE Pub.117, 1290 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 0.9$ )

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-15

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm		
NAME: SUGAR-350-12W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 350mm*H105mm	
MFR.: NEKO LIGHTING AG		

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) $k(RI) \times RCR = 5$									
$k = 0.60$	67	57	51	66	57	51	65	56	51	45
0.80	77	67	61	76	67	61	74	66	60	55
1.00	85	76	70	84	75	69	82	76	69	63
1.25	91	83	77	90	82	77	87	81	76	70
1.50	95	88	82	94	87	82	91	85	81	74
2.00	101	94	89	99	93	88	96	91	87	80
2.50	104	98	93	102	96	92	98	94	90	83
3.00	106	101	97	105	100	96	101	97	94	86
4.00	110	105	102	107	103	100	103	100	98	89
5.00	111	108	105	109	106	103	105	102	100	91
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

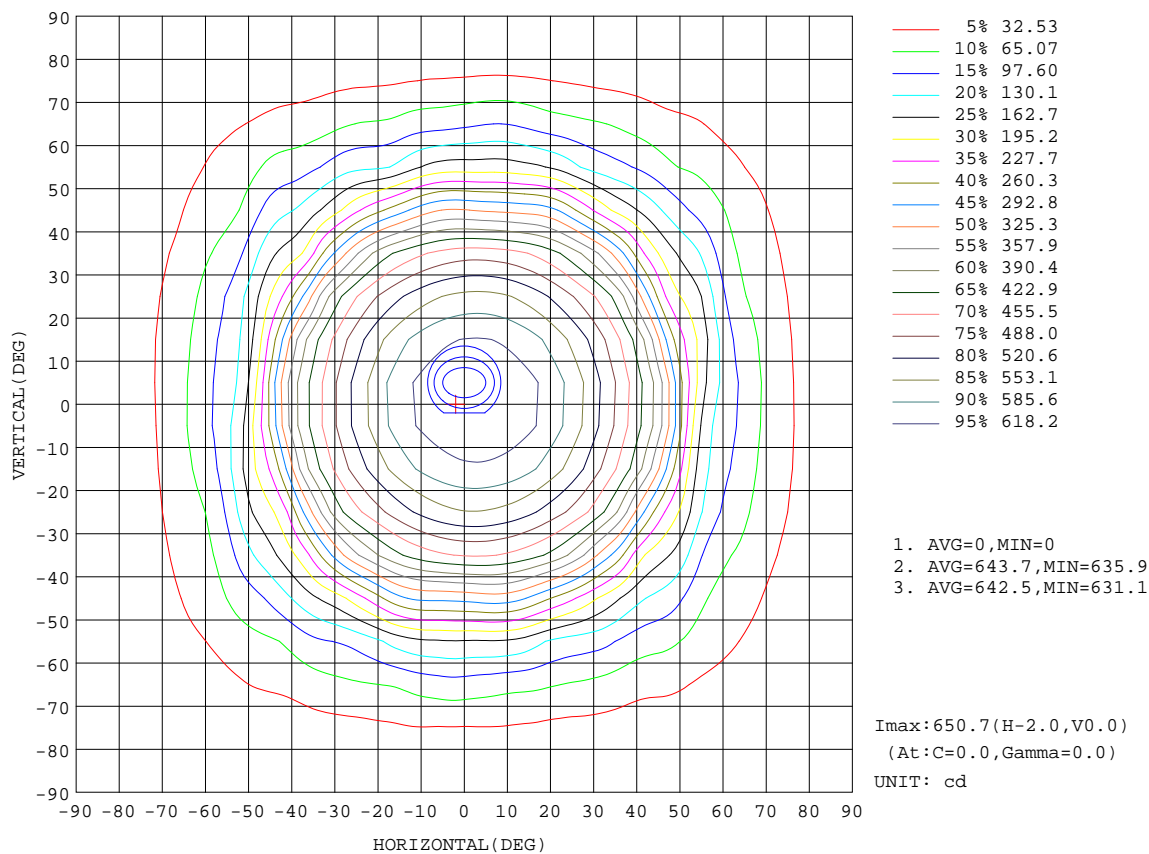
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ISOCANDELA DIAGRAM

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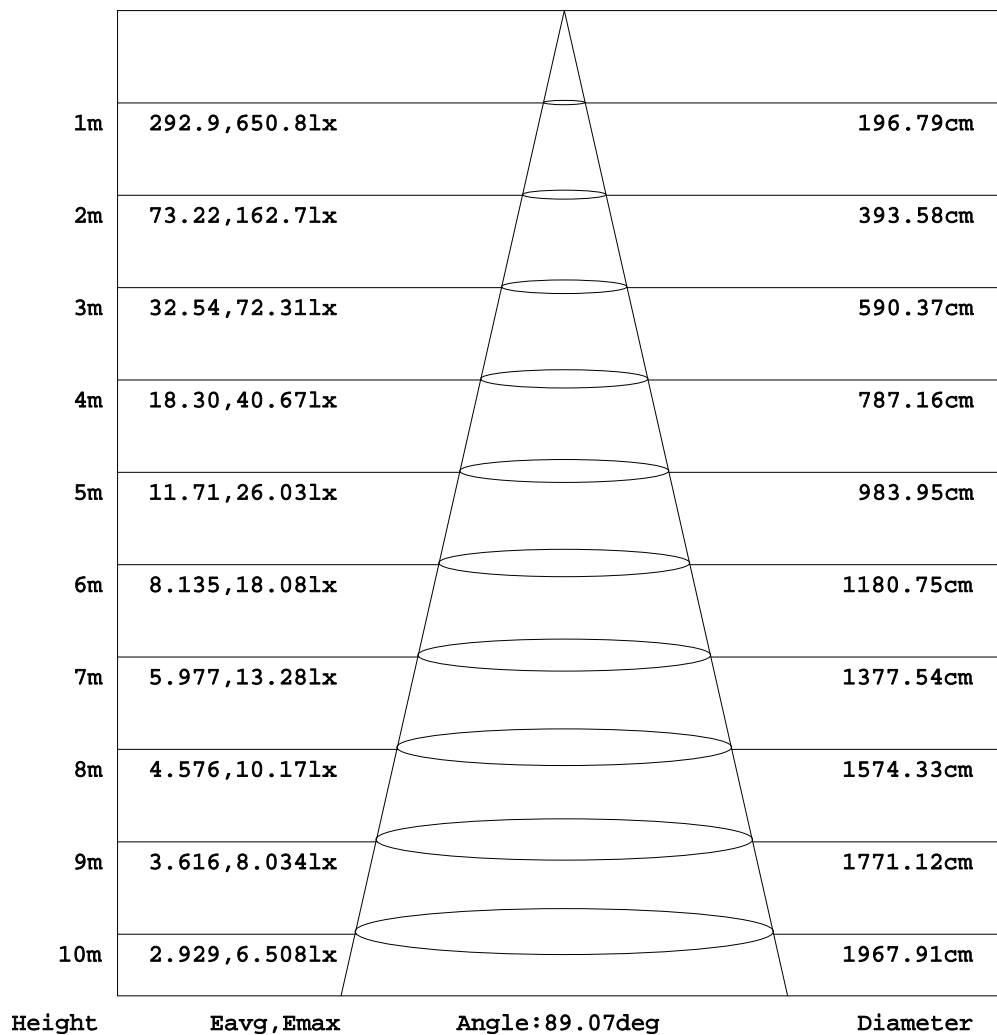
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**AAI Figure**

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NAME: SUGAR-350-12W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 350mm*H105mm	
MFR.: NEKO LIGHTING AG		

Flux out:920.1 lm



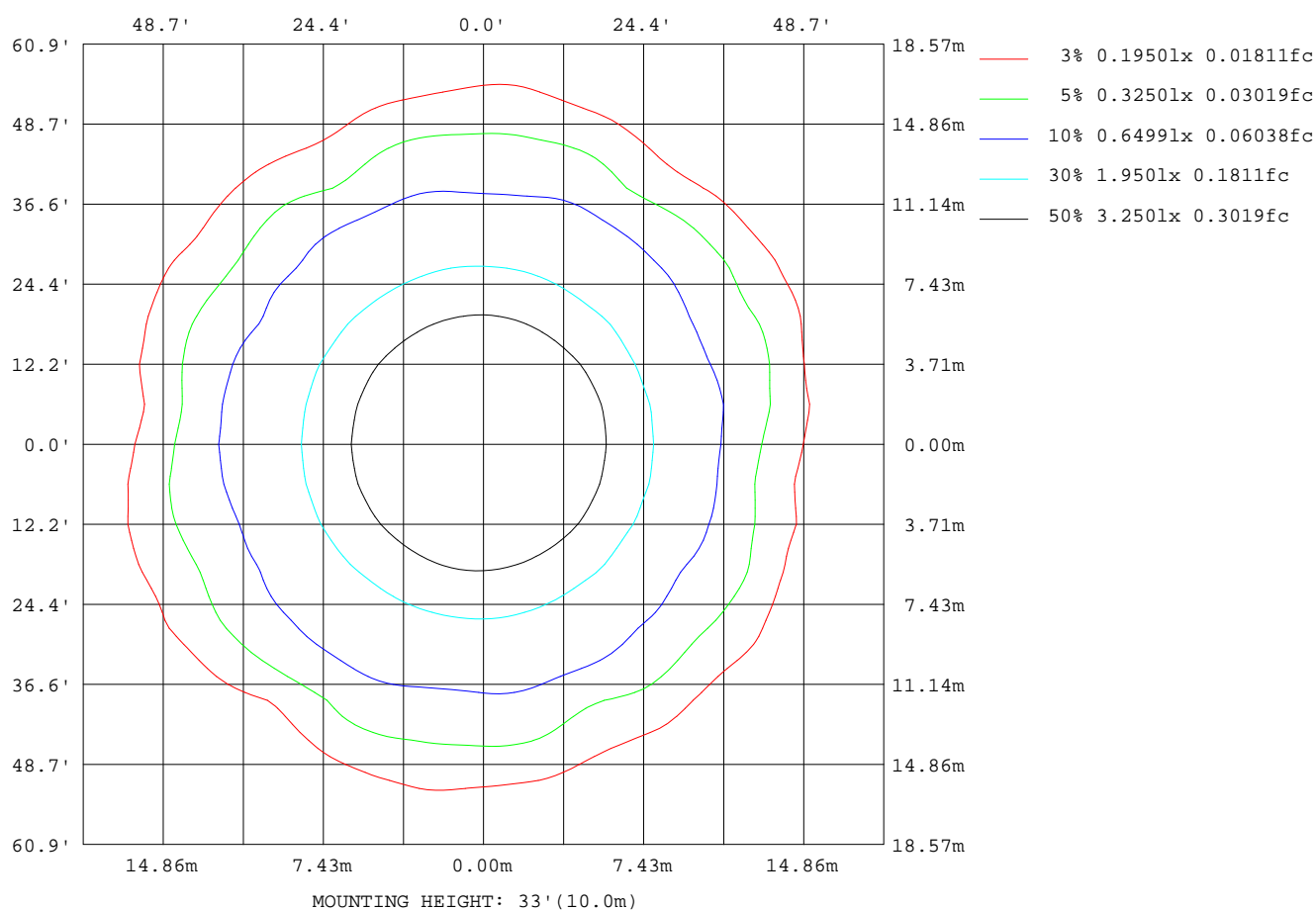
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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**ISOLUX DIAGRAM**

Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm		
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Remarks:

### LED Avg.L Report

Test:U:220.9V I:0.0623A P:13.24W PF:0.9622 Freq:49.90Hz Lamp Flux:1289.95x1 lm		
NAME: SUGAR-350-12W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 350mm*H105mm	
MFR.: NEKO LIGHTING AG		

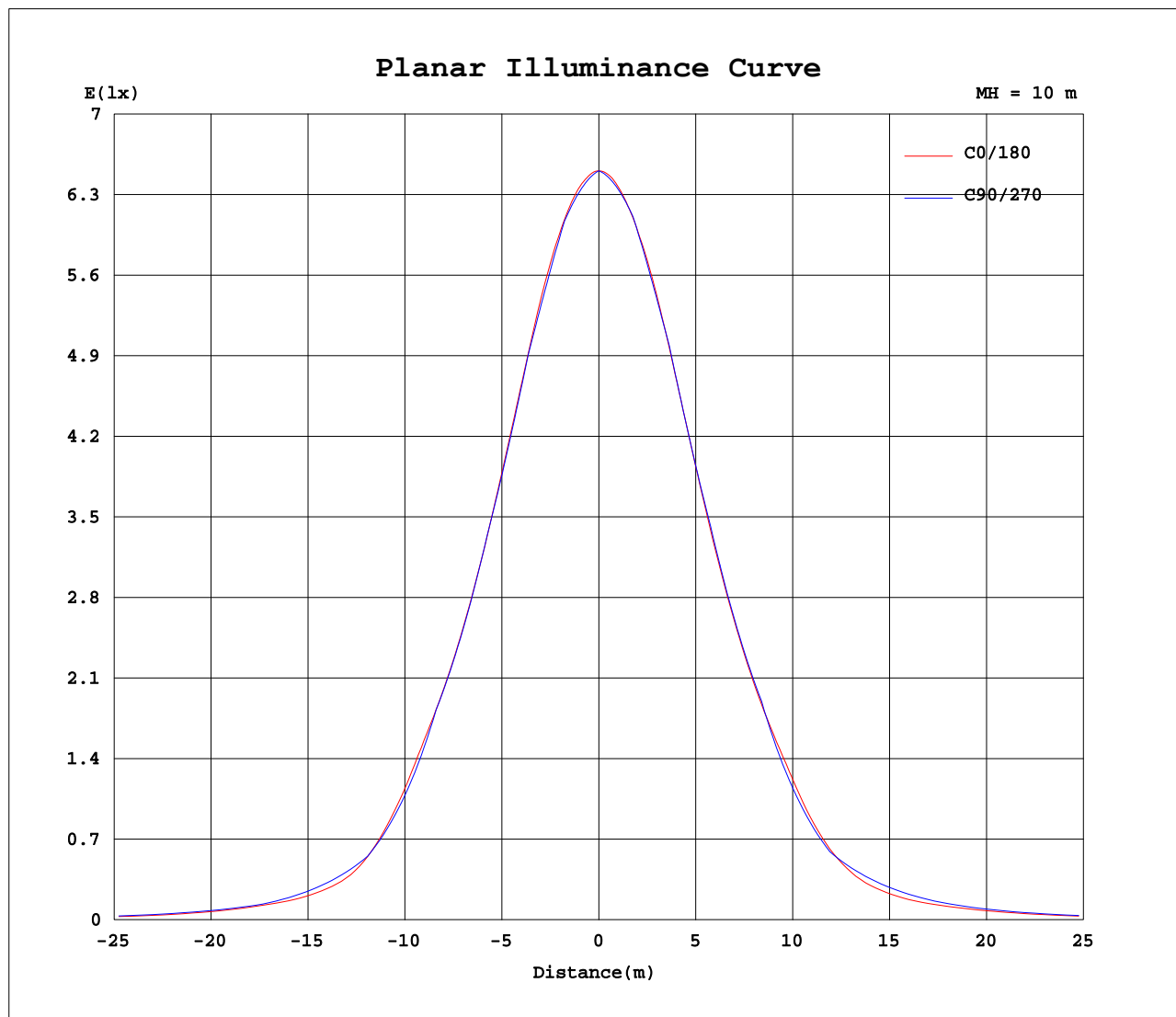
AvgL	cd/m2
L_0~180 (65) av	1851
L_0~180 (75) av	1175
L_0~180 (85) av	71
L_90~270 (65) av	2142
L_90~270 (75) av	1355
L_90~270 (85) av	0
L_45 (65) av	1862
L_45 (75) av	1189
L_45 (85) av	197

Standard: GB/T 29293-2012

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-15

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-15

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:





V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks: