

**SUGAR-600-38W-840**



Light Output Ratio:	100.0%	
Luminaire Power:	40.51 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:2019-01-05

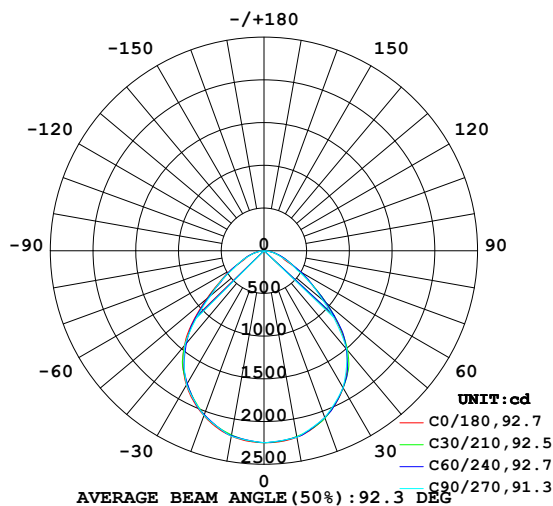
V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINAIRE PHOTOMETRIC TEST REPORT**

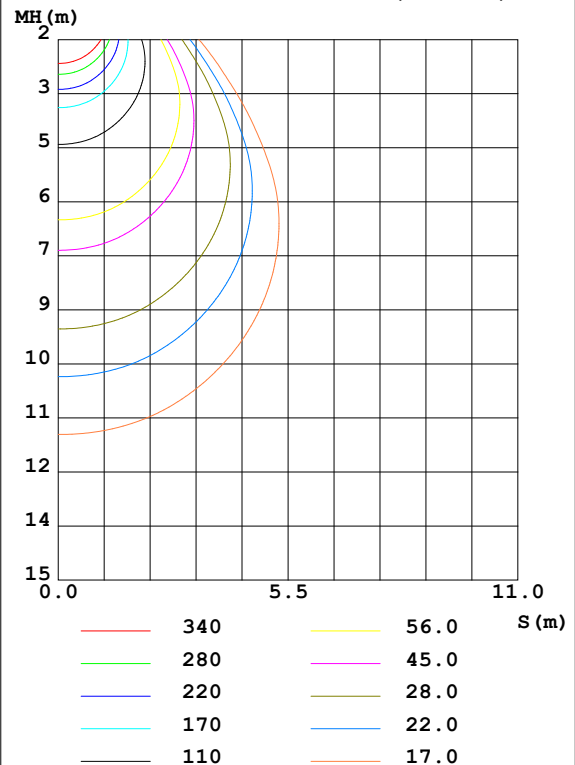
Test:U:220.9V I:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
NAME: SUGAR-600-38W-840	TYPE:Ceiling light	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 600mm*H105mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 116.28 lm/W			
MODEL	OSRAM-4000K	I <sub>max</sub> (cd)	2247	S/MH (C0/180)	1.21
NOMINAL POWER (W)	38	LOR (%)	100.0	S/MH (C90/270)	1.20
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	4710.7	$\eta$ UP, DN (C0-180)	0.0, 50.9
NOMINAL FLUX (lm)	4710.73	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 49.1
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:2019-01-05

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	2217	2210	2217	2200	2204	2190	2206	2202	0- 10	212.1	212.1	4.5,4.5
20	2082	2076	2079	2054	2055	2038	2054	2058	10- 20	604.2	816.4	17.3,17.3
30	1853	1853	1851	1821	1816	1798	1814	1821	20- 30	899.2	1716	36.4,36.4
40	1499	1520	1511	1467	1450	1433	1443	1463	30- 40	1038	2753	58.4,58.4
50	939.9	963.9	893.0	849.5	879.0	854.4	810.2	811.8	40- 50	905.6	3659	77.7,77.7
60	484.7	484.7	442.9	426.9	444.9	436.0	404.0	417.3	50- 60	562.8	4222	89.6,89.6
70	228.6	229.2	211.7	204.2	214.0	201.0	197.1	198.3	60- 70	308.5	4530	96.2,96.2
80	93.91	98.24	90.12	82.79	78.27	73.38	67.79	75.07	70- 80	153.8	4684	99.4,99.4
90	0.4963	0	0	0	0.8485	0	0	0	80- 90	26.86	4711	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): 3245.1 lm

%lum = 68.9%

%lamp = 68.9%

Conical surface Flux(120deg): 4221.6 lm

%lum = 89.6%

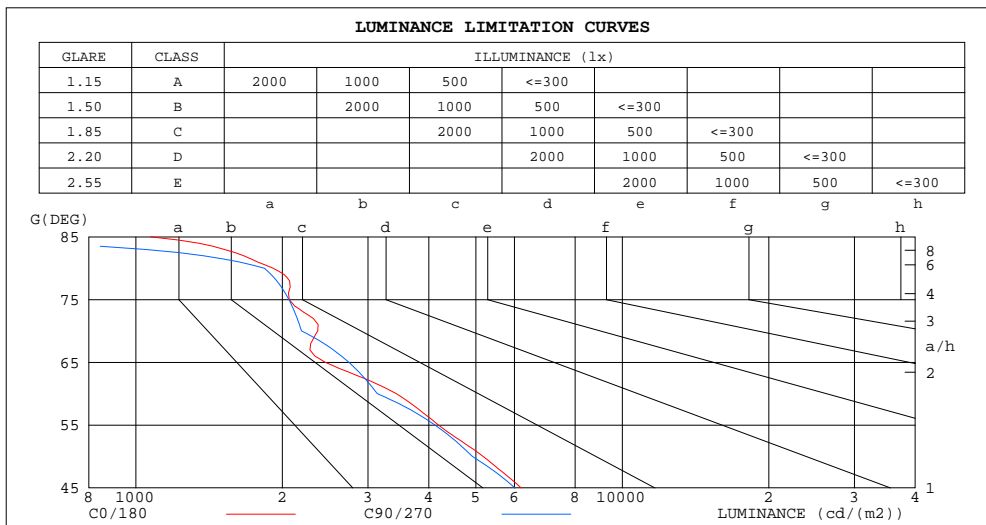
%lamp = 89.6%

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-01-05

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:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
NAME: SUGAR-600-38W-840	TYPE:Ceiling light	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 600mm*H105mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(°)	C0/180	C90/270
85	1072	0
80	1914	1837
75	2067	2063
70	2365	2190
65	2451	2741
60	3430	3135
55	4186	4121
50	5174	4916
45	6193	6016

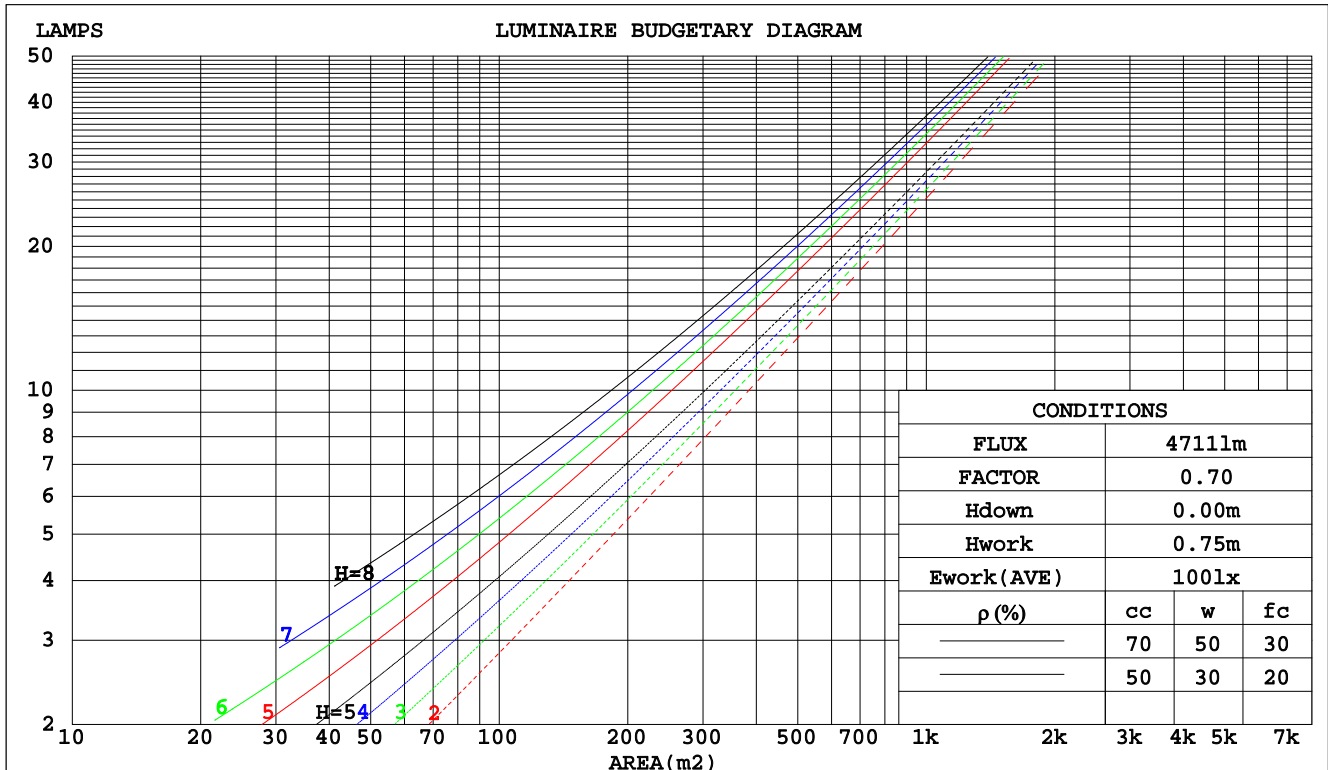
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Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-01-05

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:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:220.9V I:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
NAME: SUGAR-600-38W-840	TYPE:Ceiling light	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 600mm*H105mm	
MFR.: NEKO LIGHTING AG		

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	.00
1.0	1.07	1.03	1.00	1.05	1.01	.98	1.00	.98	.95	.97	.94	.92	.93	.91	.90	.88
2.0	.95	.89	.85	.93	.88	.84	.90	.86	.82	.87	.83	.80	.84	.81	.78	.76
3.0	.85	.78	.73	.84	.77	.72	.81	.75	.71	.78	.74	.70	.76	.72	.68	.66
4.0	.77	.69	.63	.75	.68	.63	.73	.67	.62	.71	.65	.61	.69	.64	.60	.58
5.0	.69	.61	.55	.68	.61	.55	.66	.60	.55	.64	.59	.54	.63	.58	.54	.52
6.0	.63	.55	.49	.62	.55	.49	.61	.54	.49	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.49	.44	.55	.49	.44	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.52	.45	.40	.51	.44	.39	.50	.44	.39	.49	.43	.39	.37
9.0	.49	.41	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34
10.0	.45	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.33	.42	.37	.33	.31



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-01-05

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:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
NAME: SUGAR-600-38W-840	TYPE:Ceiling light	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 600mm*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	.254	.145	.046	.247	.141	.045	.234	.135	.043	.223	.128	.041	.212	.123	.040		
2.0	.246	.135	.041	.240	.132	.041	.228	.127	.039	.218	.122	.038	.208	.118	.037		
3.0	.232	.123	.037	.227	.121	.037	.217	.118	.036	.208	.114	.035	.199	.110	.034		
4.0	.218	.113	.033	.213	.112	.033	.205	.108	.032	.196	.105	.032	.189	.103	.031		
5.0	.204	.104	.030	.200	.103	.030	.193	.100	.030	.185	.098	.029	.179	.096	.029		
6.0	.192	.096	.028	.188	.095	.027	.182	.093	.027	.175	.091	.027	.169	.089	.026		
7.0	.181	.089	.025	.177	.088	.025	.171	.087	.025	.166	.085	.025	.160	.083	.024		
8.0	.170	.083	.023	.167	.082	.023	.162	.081	.023	.157	.079	.023	.152	.078	.023		
9.0	.161	.078	.022	.158	.077	.022	.153	.076	.021	.149	.075	.021	.144	.073	.021		
10.0	.152	.073	.020	.150	.072	.020	.146	.071	.020	.141	.070	.020	.137	.069	.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	.139	.151	.134	.119	.103	.092	.083	.059	.054	.048	.019	.017	.016	
2.0	.166	.132	.104	.142	.114	.090	.097	.079	.062	.056	.046	.037	.018	.015	.012	
3.0	.157	.114	.080	.135	.098	.069	.093	.068	.048	.053	.040	.029	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.039	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.077	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006	
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.015	.015	.009	.005	
7.0	.129	.074	.036	.111	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.123	.068	.031	.106	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.117	.063	.027	.101	.055	.023	.070	.039	.017	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.096	.051	.021	.067	.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:2019-01-05

$V(B)$  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:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm										
NAME: SUGAR-600-38W-840					TYPE:Ceiling light			SERIAL No.:		
SPEC.:4000K					DIM.: $\phi$ 600mm*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	12.1	13.4	12.3	13.6	13.8	12.0	13.4	12.3	13.6	13.8
3H	12.6	13.9	12.9	14.1	14.3	12.6	13.9	12.9	14.1	14.3
4H	12.9	14.0	13.2	14.3	14.5	12.9	14.0	13.2	14.3	14.5
6H	13.0	14.1	13.4	14.4	14.7	13.0	14.1	13.3	14.4	14.7
8H	13.1	14.1	13.4	14.4	14.7	13.0	14.1	13.4	14.4	14.7
12H	13.1	14.1	13.4	14.4	14.6	13.0	14.0	13.3	14.3	14.6
4H 2H	12.3	13.5	12.6	13.7	14.0	12.3	13.5	12.6	13.7	13.9
3H	13.0	14.1	13.4	14.3	14.6	13.1	14.1	13.4	14.4	14.7
4H	13.4	14.3	13.8	14.6	15.0	13.4	14.3	13.8	14.7	15.0
6H	13.7	14.5	14.1	14.8	15.2	13.7	14.5	14.1	14.9	15.2
8H	13.7	14.5	14.1	14.8	15.2	13.7	14.5	14.2	14.9	15.2
12H	13.7	14.4	14.1	14.8	15.2	13.7	14.4	14.1	14.8	15.2
8H 4H	13.5	14.3	13.9	14.6	15.0	13.5	14.3	13.9	14.7	15.0
6H	13.9	14.5	14.3	14.9	15.3	13.9	14.6	14.4	15.0	15.4
8H	14.0	14.5	14.4	15.0	15.4	14.0	14.6	14.5	15.0	15.5
12H	14.0	14.5	14.5	14.9	15.4	14.0	14.5	14.5	14.9	15.4
12H 4H	13.5	14.2	13.9	14.6	15.0	13.5	14.2	14.0	14.6	15.0
6H	13.9	14.5	14.4	14.9	15.3	14.0	14.5	14.4	14.9	15.4
8H	14.0	14.5	14.5	15.0	15.4	14.1	14.5	14.6	15.0	15.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.6					+ 0.5 / - 0.5				
1.5H	+ 0.3 / - 0.3					+ 0.3 / - 0.4				
2.0H	+ 1.3 / - 1.0					+ 1.2 / - 1.1				

CIE Pub.117, 4711 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 5.4$ )

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-01-05

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:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
NAME: SUGAR-600-38W-840	TYPE:Ceiling light	SERIAL No.:
SPEC.:4000K	DIM.: $\varnothing$ 600mm*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) $k(RI) \times RCR = 5$									
$k = 0.60$	65	55	49	65	55	49	64	55	49	43
0.80	75	65	59	75	65	59	73	64	59	53
1.00	83	74	68	82	74	68	80	75	67	61
1.25	90	81	75	89	81	75	86	79	74	68
1.50	94	86	81	93	85	80	90	84	79	73
2.00	100	93	88	98	92	87	95	90	86	79
2.50	103	97	92	101	96	91	98	93	89	82
3.00	106	100	96	104	99	95	100	96	93	85
4.00	109	104	101	107	103	99	103	99	97	88
5.00	111	107	104	109	105	102	104	102	99	91
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

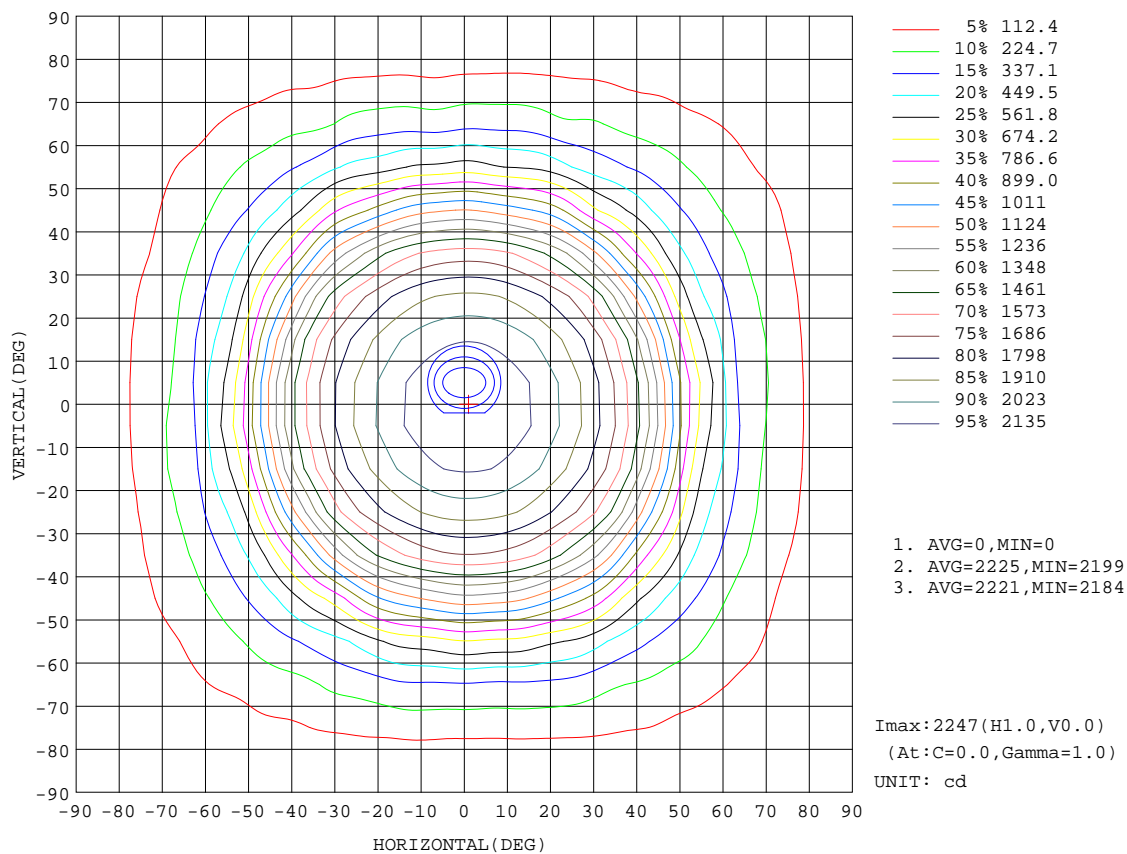
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 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
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 Remarks:



# ISOCANDELA DIAGRAM

Test:U:220.9V I:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
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SPEC.:4000K	DIM.: $\phi$ 600mm*H105mm	
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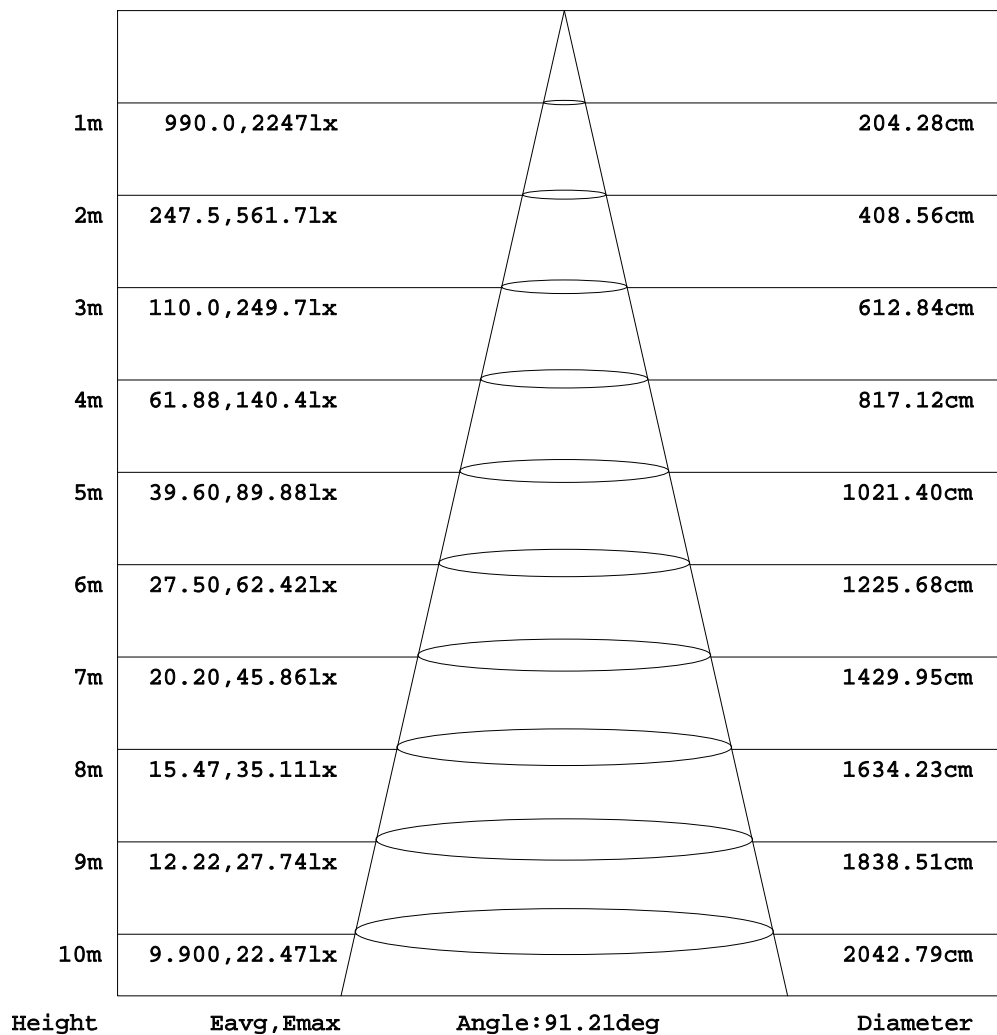
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**AAI Figure**

Test:U:220.9V I:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
NAME: SUGAR-600-38W-840	TYPE:Ceiling light	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 600mm*H105mm	
MFR.: NEKO LIGHTING AG		

Flux out:3335 lm



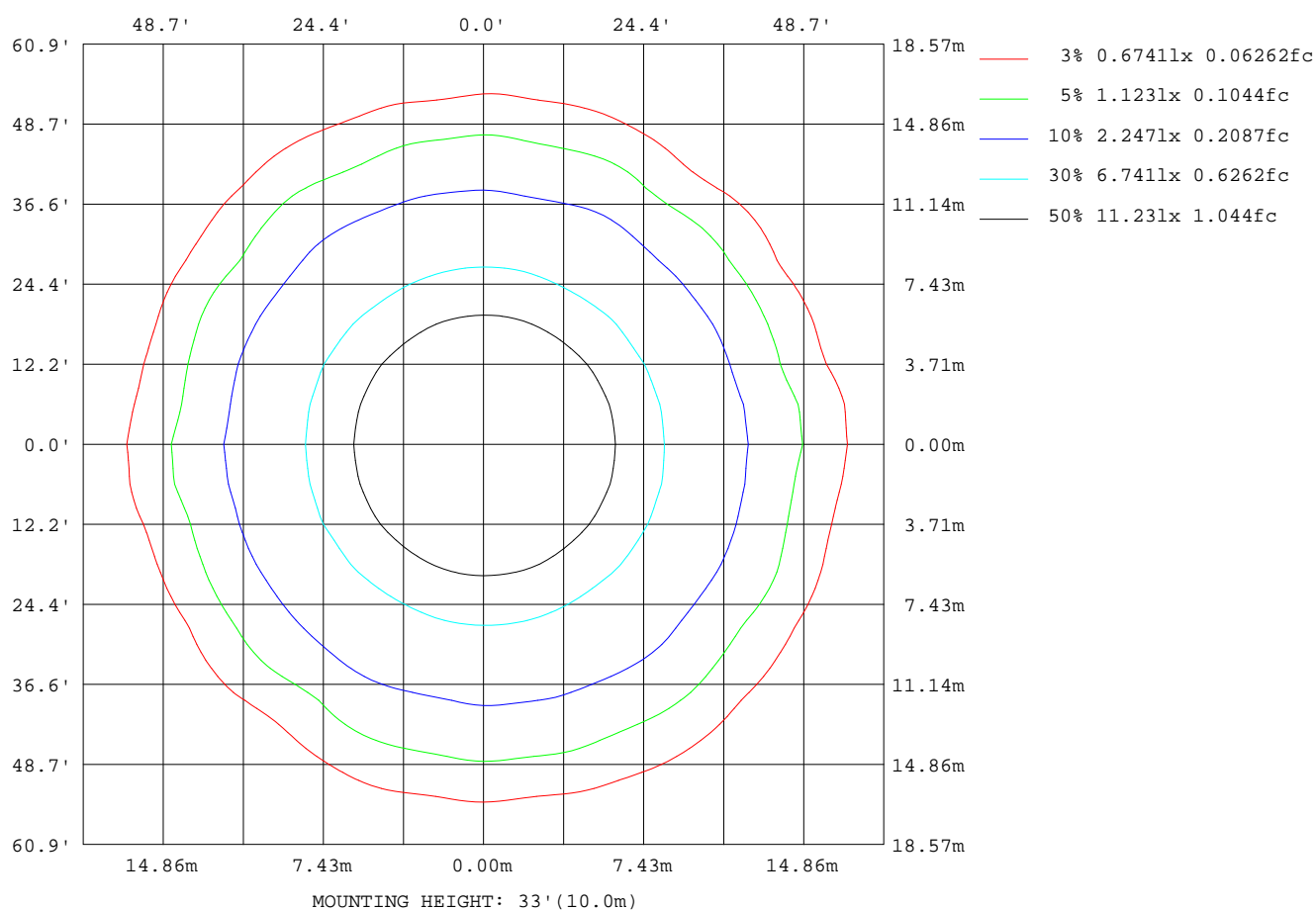
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:220.9V I:0.1816A P:40.51W PF:0.9853 Freq:49.96Hz Lamp Flux:4710.73x1 lm		
NAME: SUGAR-600-38W-840	TYPE:Ceiling light	SERIAL No.:
SPEC.:4000K	DIM.: $\phi$ 600mm*H105mm	
MFR.: NEKO LIGHTING AG		

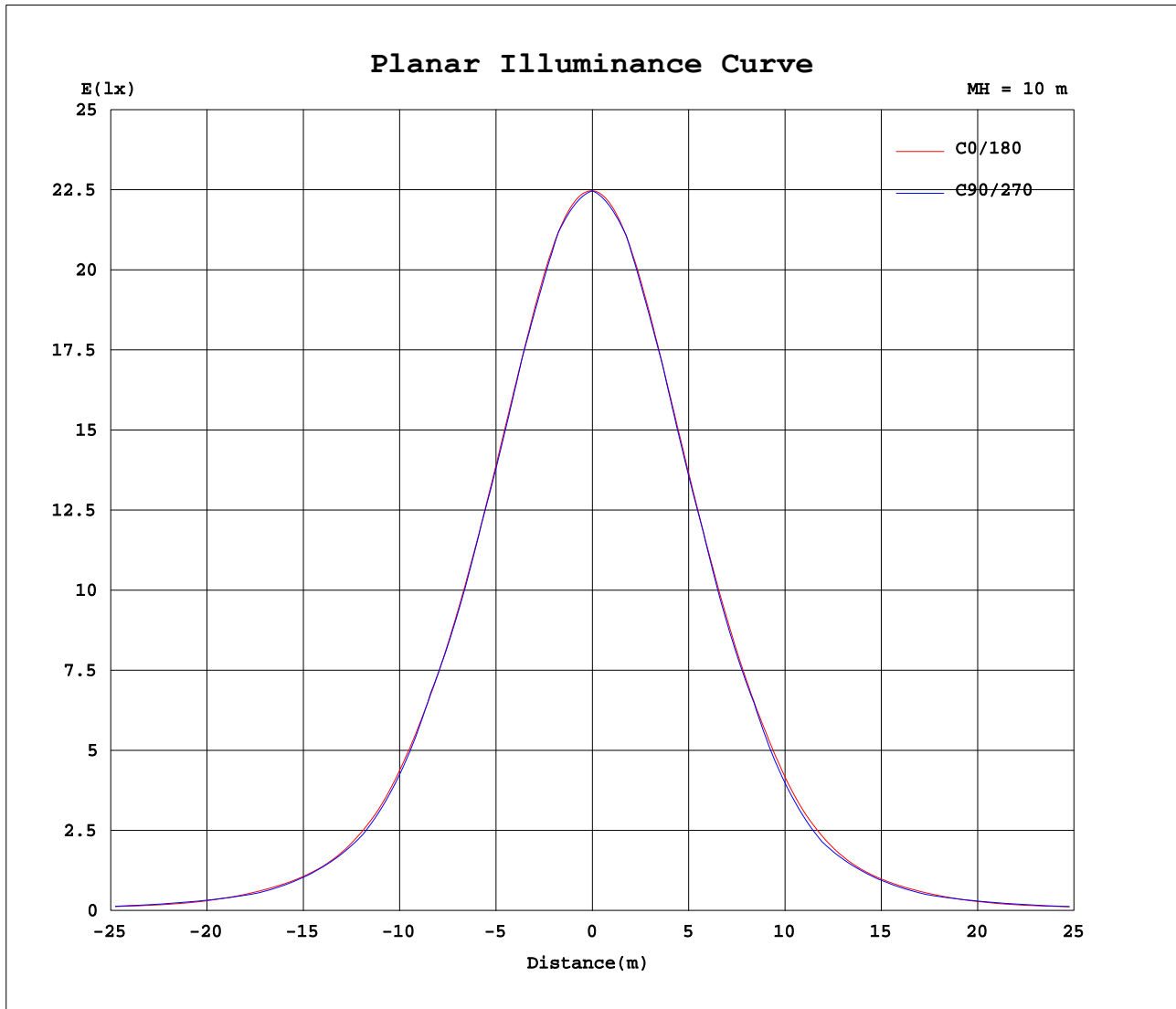
AvgL	cd/m2
L_0~180 (65) av	2359
L_0~180 (75) av	1979
L_0~180 (85) av	831
L_90~270 (65) av	2628
L_90~270 (75) av	1937
L_90~270 (85) av	0
L_45 (65) av	2559
L_45 (75) av	2006
L_45 (85) av	744

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:2019-01-05

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:2019-01-05

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:



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: