

GAME-450-18W-830



Light Output Ratio:	100.0%	
Luminaire Power:	17.93 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.35	fine grid method.

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

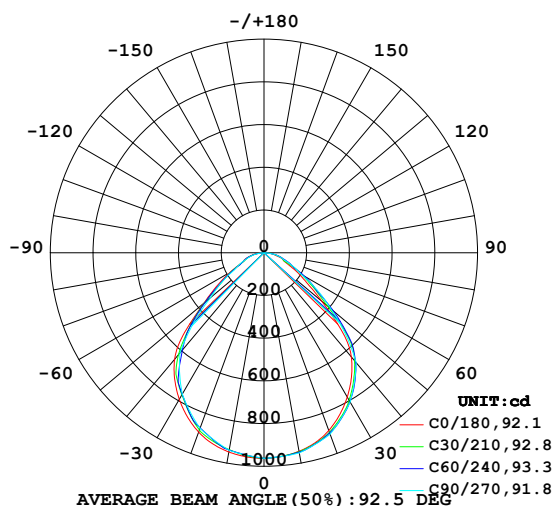
V(B) Range:-80 - 80DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

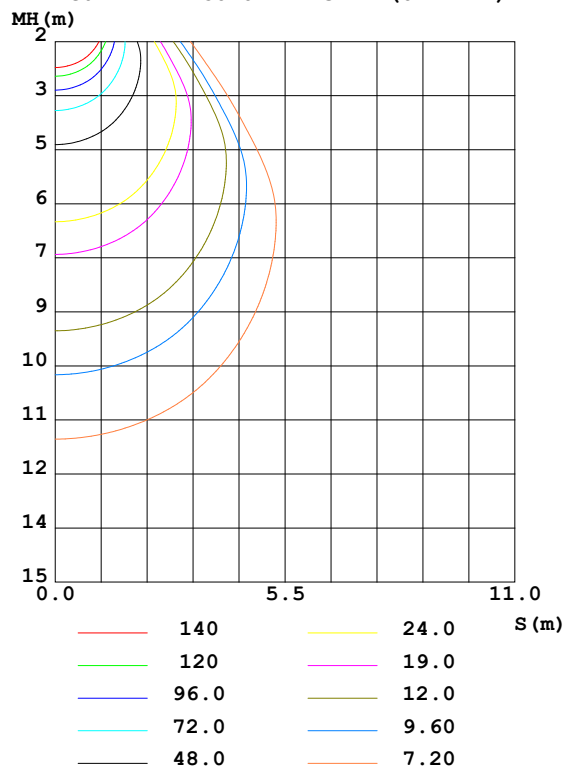
Test:U:220.9V I:0.0889A P:17.93W PF:0.9132 Freq:49.90Hz Lamp Flux:2021.86x1 lm		
NAME: GAME-450-18W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 112.77 lm/W			
MODEL	OSRAM-3000K	I _{max} (cd)	962.5	S/MH (C0/180)	1.23
NOMINAL POWER (W)	18	LOR (%)	100.0	S/MH (C90/270)	1.19
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2021.9	η UP,DN (C0-180)	0.0,51.7
NOMINAL FLUX (lm)	2021.86	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,48.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



H(β) Range:-90 - 90DEG
 H(β) 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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	943.9	946.2	951.8	947.1	947.2	936.9	939.5	938.6	0- 10	90.79	90.79	4.49,4.49
20	886.0	896.8	904.5	892.4	893.9	871.7	875.1	876.8	10- 20	259.4	350.2	17.3,17.3
30	779.9	798.1	807.1	799.0	792.8	768.6	765.5	769.3	20- 30	386.5	736.8	36.4,36.4
40	636.1	658.3	671.4	656.1	651.0	621.0	611.7	605.8	30- 40	446.9	1184	58.5,58.5
50	354.4	422.4	409.5	333.9	367.6	356.1	324.7	275.1	40- 50	384.5	1568	77.6,77.6
60	176.3	170.2	198.7	195.2	183.5	155.6	159.4	169.5	50- 60	227.0	1795	88.8,88.8
70	94.41	111.0	102.8	109.6	97.48	92.27	88.51	98.01	60- 70	130.1	1925	95.2,95.2
80	46.42	52.01	53.26	53.96	50.61	42.24	39.98	43.83	70- 80	76.83	2002	99,99
90	0	0	0	0	0.3102	0	0	0	80- 90	19.68	2022	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): 1396 lm

%lum = 69.0%

%lamp = 69.0%

Conical surface Flux(120deg): 1795.3 lm

%lum = 88.8%

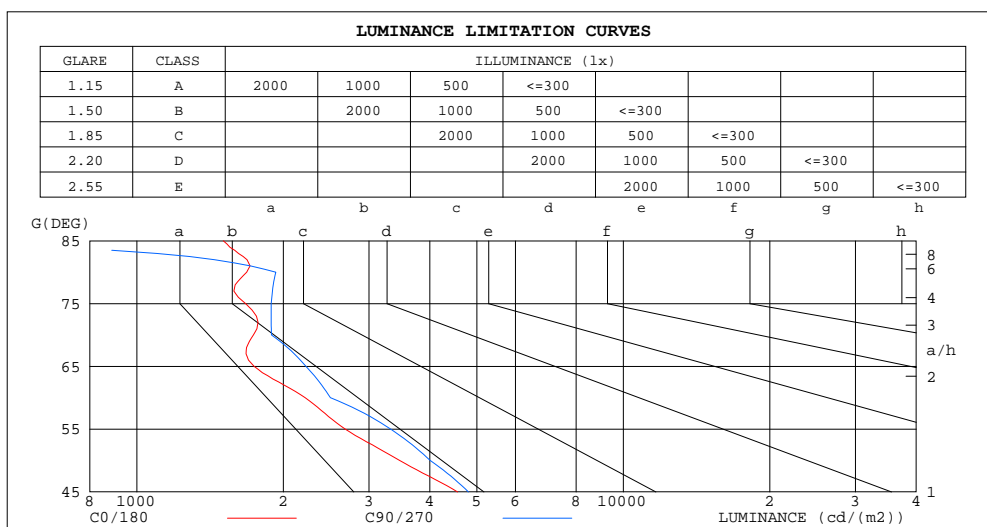
%lamp = 88.8%

H(β) Range:-90 - 90DEG
H(β) 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:0.0889A P:17.93W PF:0.9132 Freq:49.90Hz Lamp Flux:2021.86x1 lm		
NAME: GAME-450-18W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1505	0
80	1682	1930
75	1672	1889
70	1736	1891
65	1741	2226
60	2218	2500
55	2680	3322
50	3468	4008
45	4561	4804

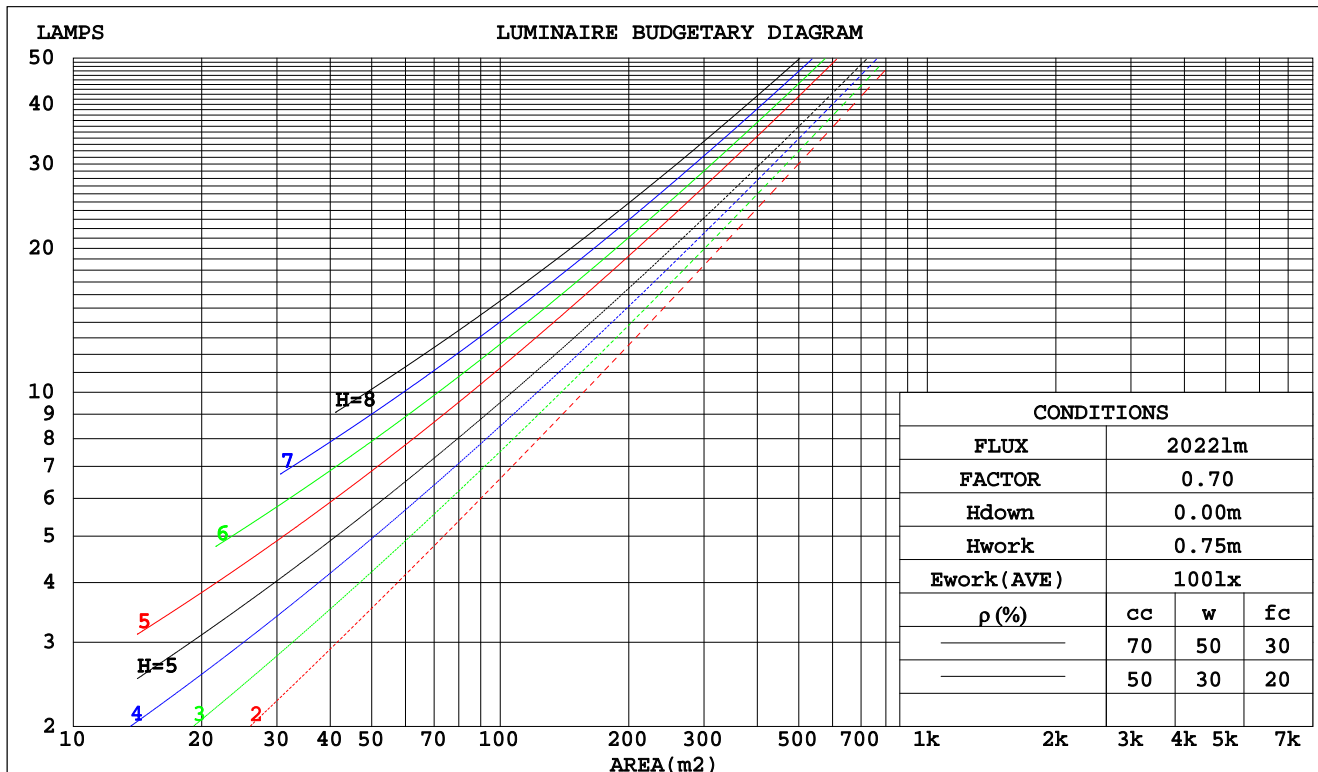
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Test Distance:5.850m [K=1.0000]
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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SPEC.:3000K	DIM.: ϕ 450mm*H78mm	
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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	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	1.06	1.03	.00	1.04	1.01	.98	1.00	.97	.95	.96	.94	.92	.93	.91	.89	.87
2.0	.95	.89	.84	.93	.88	.83	.90	.85	.81	.86	.83	.79	.84	.80	.78	.76
3.0	.85	.78	.72	.83	.77	.72	.81	.75	.70	.78	.73	.69	.76	.71	.68	.66
4.0	.77	.69	.63	.75	.68	.62	.73	.67	.62	.71	.65	.61	.69	.64	.60	.58
5.0	.69	.61	.55	.68	.61	.55	.66	.60	.54	.64	.58	.54	.63	.57	.53	.51
6.0	.63	.55	.49	.62	.54	.49	.60	.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	.35	.34
10.0	.45	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.33	.42	.37	.33	.31



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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

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NAME: GAME-450-18W-830	TYPE:Ceiling light	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 450mm*H78mm	
MFR.: NEKO LIGHTING AG		

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.260	.148	.047	.253	.144	.046	.240	.138	.044	.228	.132	.042	.217	.126	.041		
2.0	.249	.136	.042	.243	.134	.041	.231	.129	.040	.221	.124	.039	.211	.120	.038		
3.0	.234	.124	.037	.229	.122	.037	.219	.118	.036	.209	.115	.035	.201	.111	.034		
4.0	.219	.114	.033	.214	.112	.033	.206	.109	.033	.197	.106	.032	.190	.103	.031		
5.0	.205	.105	.030	.201	.103	.030	.193	.101	.030	.186	.098	.029	.179	.096	.029		
6.0	.192	.096	.028	.189	.095	.027	.182	.093	.027	.175	.091	.027	.169	.089	.026		
7.0	.181	.089	.025	.178	.089	.025	.172	.087	.025	.166	.085	.025	.160	.083	.024		
8.0	.171	.083	.023	.168	.083	.023	.162	.081	.023	.157	.079	.023	.152	.078	.023		
9.0	.161	.078	.022	.158	.077	.022	.153	.076	.022	.149	.075	.021	.144	.073	.021		
10.0	.152	.073	.020	.150	.072	.020	.146	.071	.020	.141	.070	.020	.137	.069	.020		

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{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	.177	.157	.138	.151	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.166	.132	.103	.143	.114	.089	.098	.079	.062	.056	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.078	.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	.043	.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:0.0889A P:17.93W PF:0.9132 Freq:49.90Hz Lamp Flux:2021.86x1 lm										
NAME: GAME-450-18W-830					TYPE:Ceiling light			SERIAL No.:		
SPEC.:3000K					DIM.: ϕ 450mm*H78mm					
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	13.8	15.2	14.1	15.4	15.6	14.3	15.6	14.5	15.8	16.0
3H	14.4	15.7	14.7	15.9	16.1	15.0	16.2	15.3	16.5	16.7
4H	14.8	16.0	15.1	16.2	16.5	15.3	16.5	15.6	16.7	17.0
6H	15.1	16.2	15.4	16.4	16.7	15.6	16.7	15.9	17.0	17.3
8H	15.2	16.3	15.5	16.5	16.8	15.7	16.7	16.0	17.0	17.3
12H	15.3	16.3	15.6	16.6	16.9	15.6	16.7	16.0	17.0	17.3
4H 2H	14.1	15.2	14.4	15.5	15.7	14.5	15.6	14.8	15.9	16.1
3H	14.9	15.9	15.2	16.2	16.5	15.4	16.4	15.7	16.7	17.0
4H	15.4	16.3	15.8	16.6	17.0	15.9	16.8	16.3	17.1	17.5
6H	15.9	16.7	16.3	17.0	17.4	16.4	17.2	16.8	17.6	17.9
8H	16.1	16.8	16.5	17.2	17.6	16.5	17.3	16.9	17.6	18.0
12H	16.2	16.9	16.6	17.3	17.7	16.5	17.2	16.9	17.6	18.0
8H 4H	15.6	16.4	16.0	16.7	17.1	16.0	16.8	16.4	17.2	17.5
6H	16.2	16.9	16.7	17.3	17.7	16.7	17.3	17.2	17.7	18.2
8H	16.6	17.1	17.0	17.5	18.0	16.9	17.5	17.4	17.9	18.3
12H	16.8	17.3	17.3	17.7	18.2	16.9	17.4	17.4	17.8	18.3
12H 4H	15.6	16.3	16.0	16.7	17.1	16.0	16.7	16.5	17.1	17.5
6H	16.3	16.8	16.8	17.3	17.7	16.8	17.3	17.2	17.7	18.2
8H	16.7	17.1	17.1	17.6	18.1	17.0	17.5	17.5	17.9	18.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.7					+ 0.5 / - 0.4				
1.5H	+ 0.3 / - 0.5					+ 0.3 / - 0.4				
2.0H	+ 1.0 / - 1.0					+ 0.9 / - 0.9				

CIE Pub.117, 2022 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 2.4$)

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
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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:

UTILIZATION FACTORS TABLE

Test:U:220.9V I:0.0889A P:17.93W PF:0.9132 Freq:49.90Hz Lamp Flux:2021.86x1 lm		
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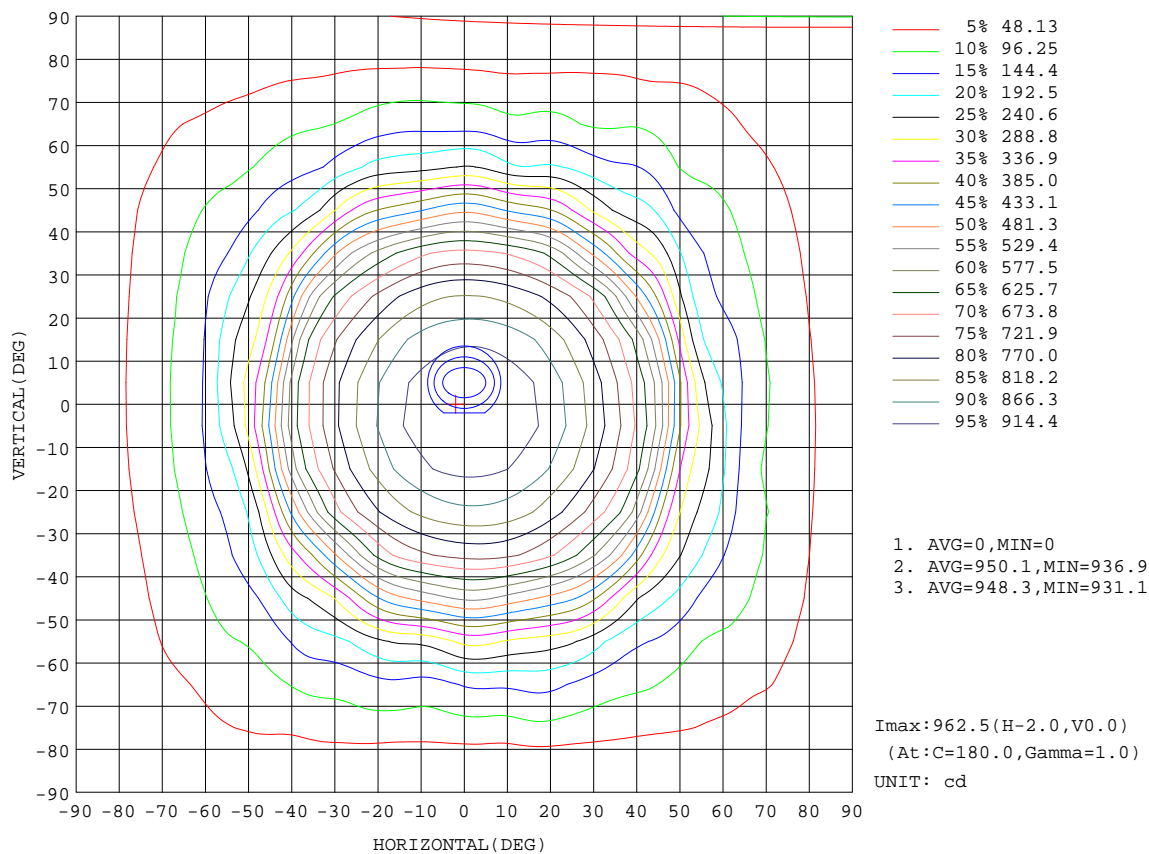
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	66	55	49	65	55	49	64	55	49	43
0.80	76	66	59	75	65	59	73	64	59	53
1.00	83	74	68	82	74	68	80	74	67	61
1.25	90	81	75	89	80	75	86	79	74	68
1.50	94	86	80	93	85	80	90	84	79	72
2.00	100	93	88	98	92	87	95	90	85	78
2.50	103	97	92	101	95	91	97	93	89	81
3.00	106	100	96	104	99	94	100	96	92	85
4.00	109	104	100	107	102	99	103	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
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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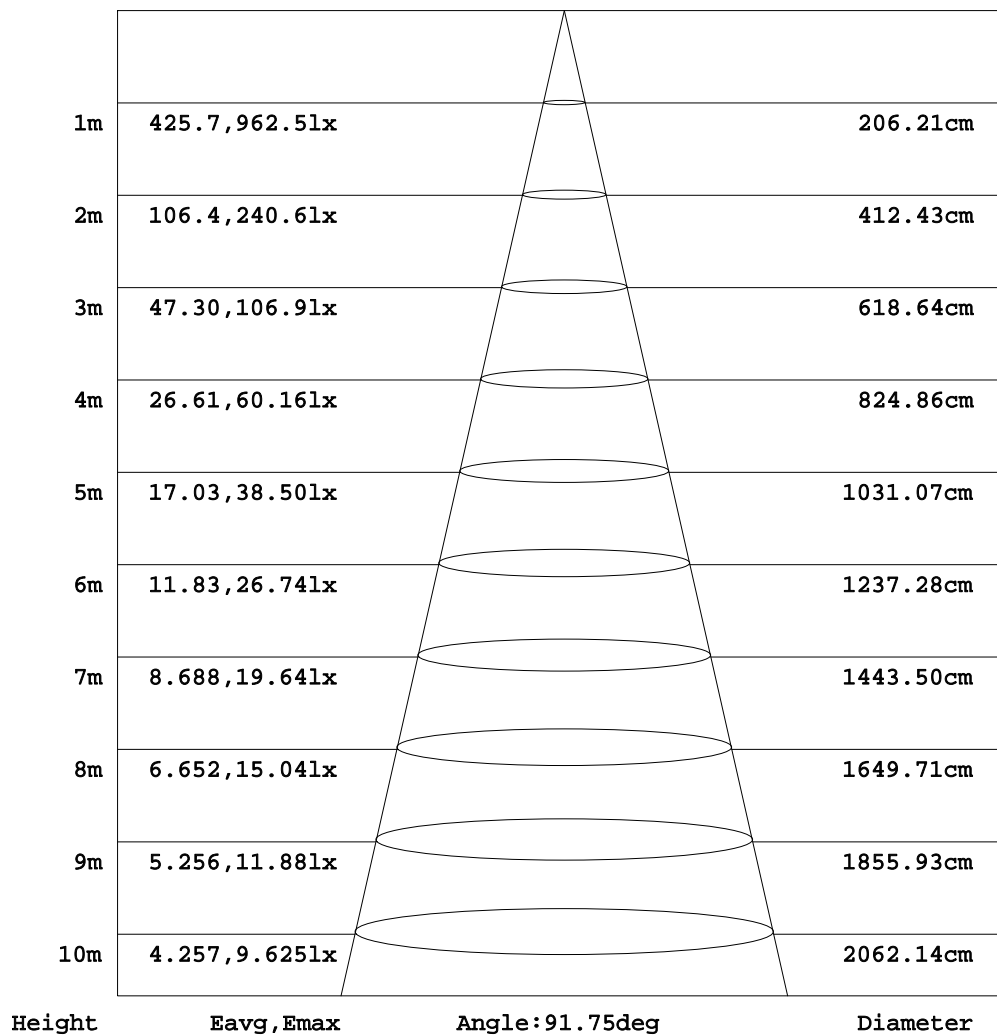
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AAI Figure

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Flux out:1434 lm



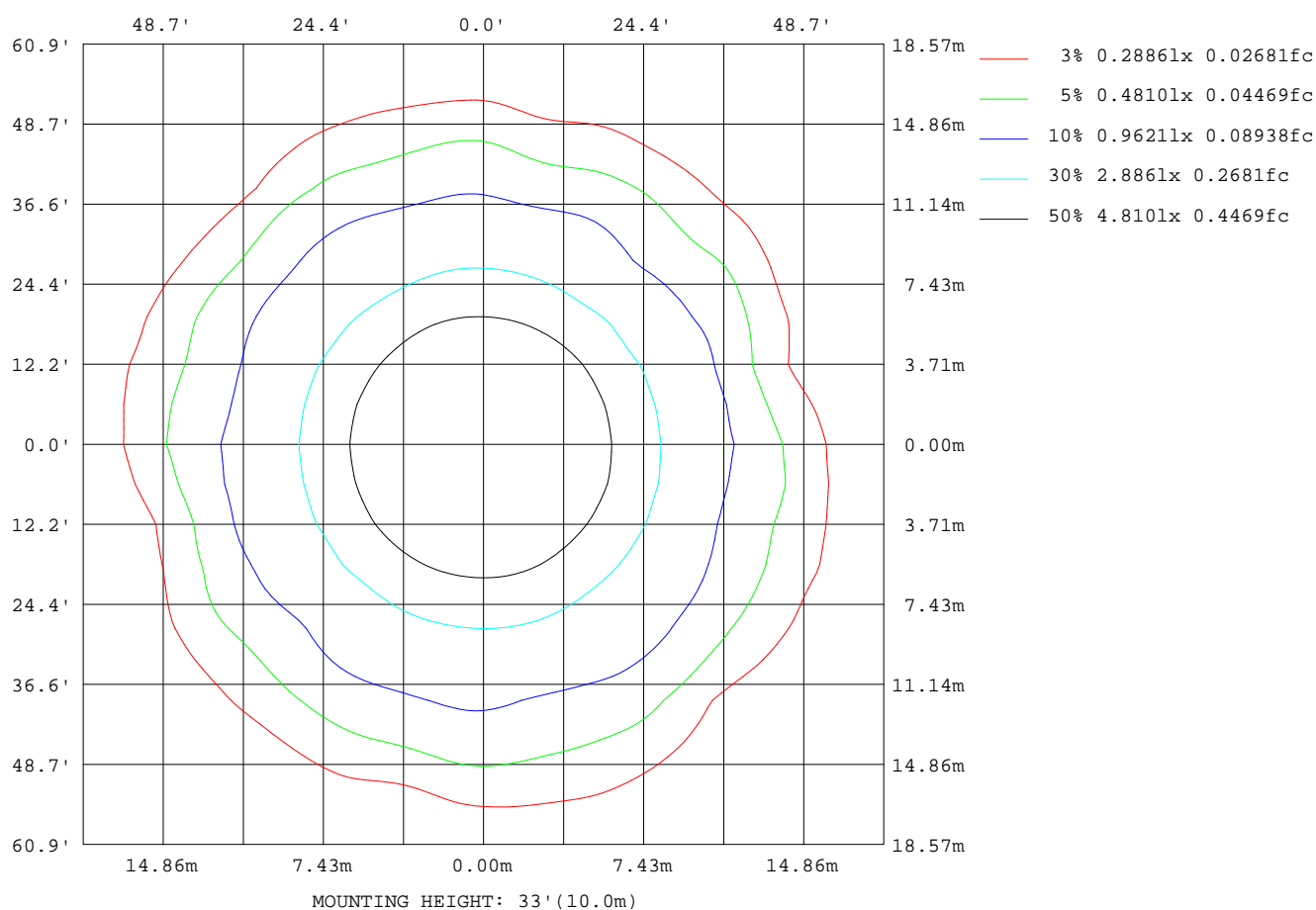
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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SPEC.:3000K	DIM.: ϕ 450mm*H78mm	
MFR.: NEKO LIGHTING AG		

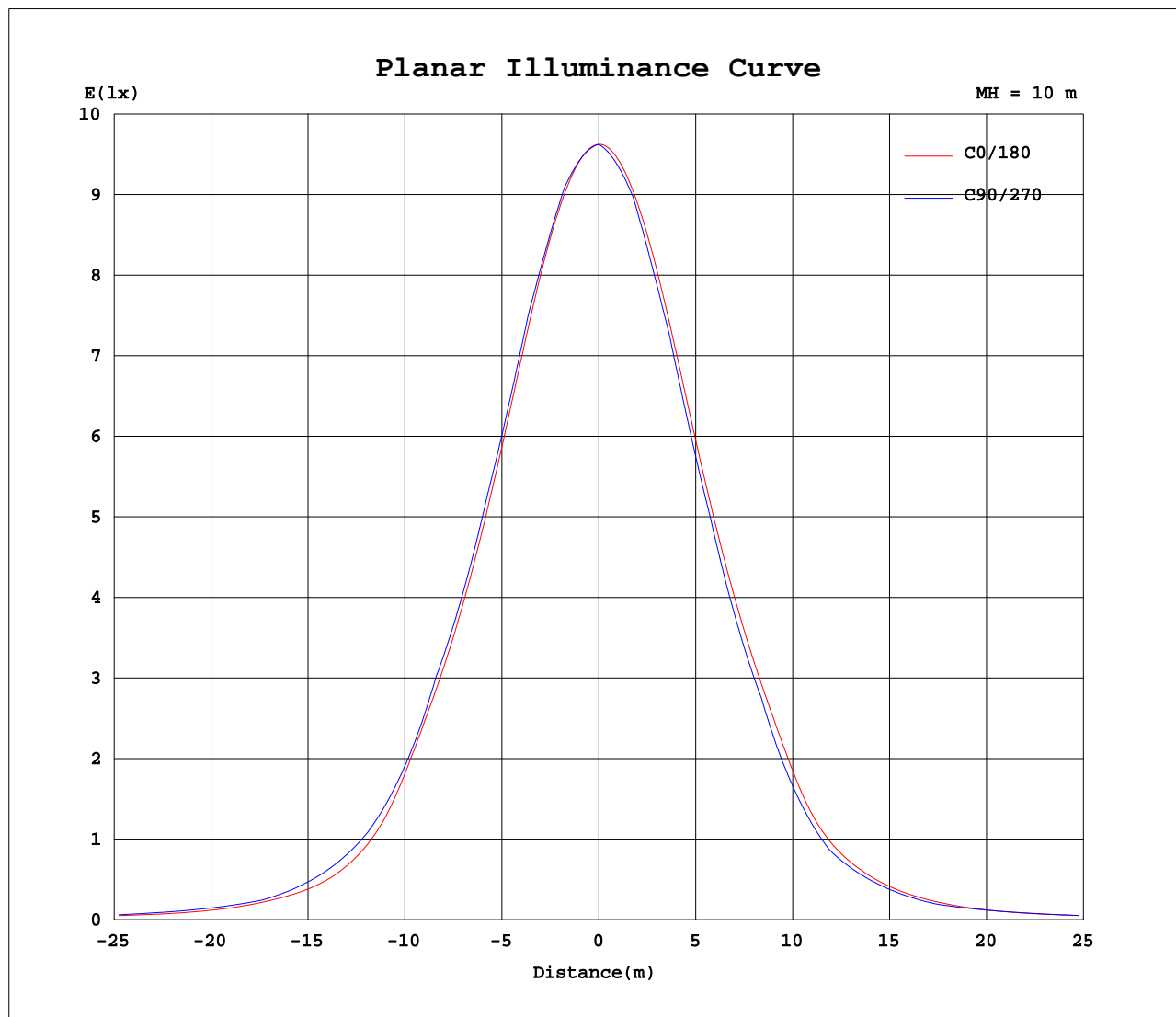
AvgL	cd/m2
L_0~180 (65) av	1773
L_0~180 (75) av	1725
L_0~180 (85) av	1632
L_90~270 (65) av	2037
L_90~270 (75) av	1733
L_90~270 (85) av	0
L_45 (65) av	2022
L_45 (75) av	1757
L_45 (85) av	1008

Standard: GB/T 29293-2012

H(β) Range:-90 - 90DEG
H(β) 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(β) Range:-90 - 90DEG
H(β) 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:

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V(B) Interval: 5.0DEG
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Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks: