

M3-11W-930-15



Light Output Ratio:	100.0%	
Luminaire Power:	12.92 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

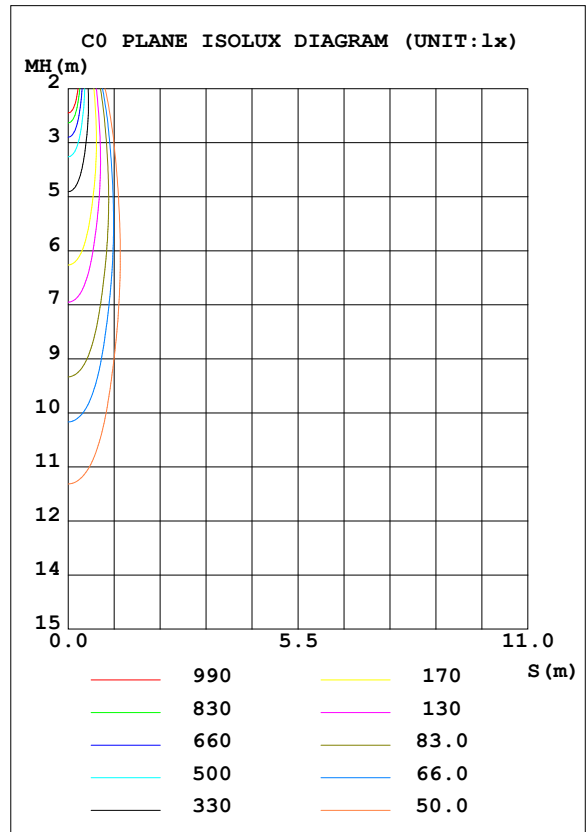
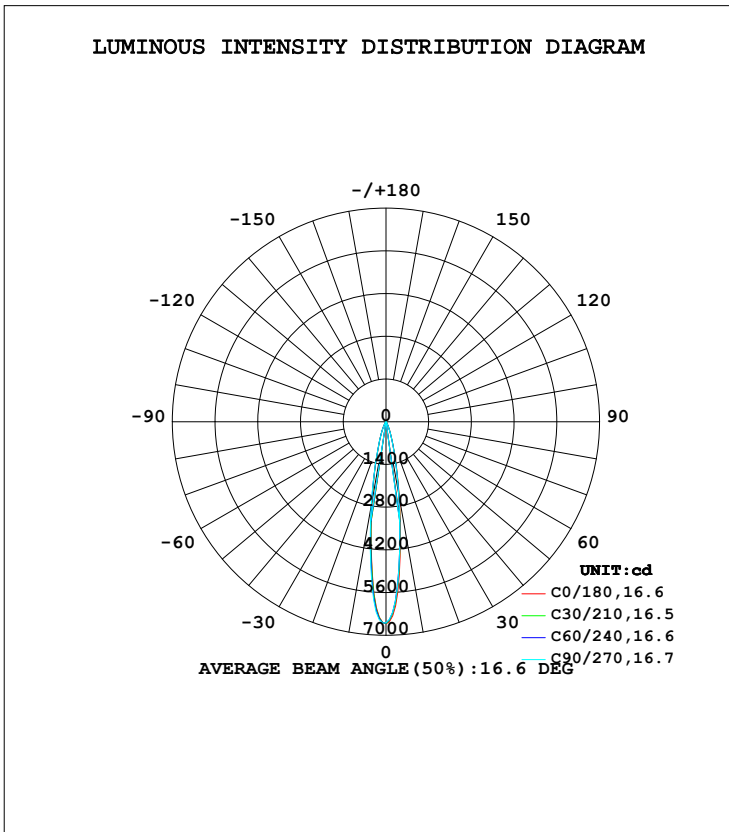
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Myles
Test Date: 2019-01-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
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:220.6V I:0.0654A P:12.92W PF:0.8958 Freq:49.90Hz Lamp Flux:958.734x1 lm		
NAME: M3-11W-930-15	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: φ50mm*H40mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 74.21 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	6624	S/MH (C0/180)	0.29
NOMINAL POWER (W)	13	LOR (%)	100.0	S/MH (C90/270)	0.31
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	958.73	η UP, DN (C0-180)	0.0, 47.9
NOMINAL FLUX (lm)	958.734	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 52.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	1.00



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 γ Interval: 1.0DEG
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 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	2529	2487	2408	2470	2658	2641	2795	2695	0- 10	398.7	398.7	41.6,41.6
20	485.3	470.9	448.3	484.4	552.6	562.0	560.5	538.4	10- 20	329.1	727.8	75.9,75.9
30	101.7	99.26	97.22	105.6	128.5	128.8	116.8	108.8	20- 30	115.1	842.9	87.9,87.9
40	45.49	45.30	43.06	45.03	48.43	47.40	44.32	45.01	30- 40	42.16	885.1	92.3,92.3
50	27.42	27.19	27.28	27.66	29.30	28.85	27.64	27.03	40- 50	27.25	912.3	95.2,95.2
60	18.15	18.54	18.86	18.97	19.51	19.91	19.07	17.82	50- 60	20.53	932.9	97.3,97.3
70	11.61	11.63	11.57	11.73	11.83	12.24	12.07	11.28	60- 70	15.06	947.9	98.9,98.9
80	5.544	5.416	4.724	4.552	4.455	5.009	5.491	5.242	70- 80	8.957	956.9	99.8,99.8
90	0.0503	0.0459	0.0503	0.0481	0.0350	0.0394	0.0372	0.0459	80- 90	1.858	958.7	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): 899.76 lm

%lum = 93.8%
%lamp = 93.8%

Conical surface Flux(120deg): 932.86 lm

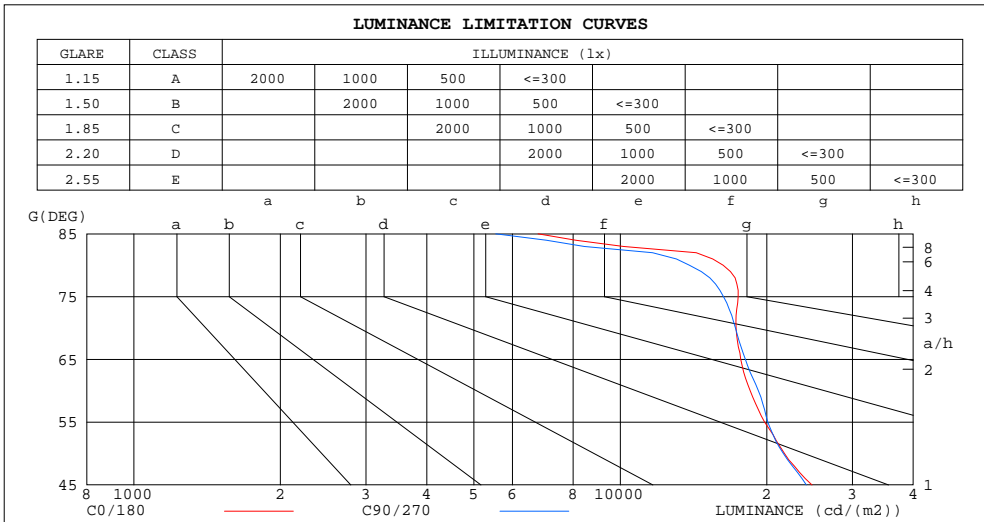
%lum = 97.3%
%lamp = 97.3%

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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

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SPEC.:3000K	DIM.: φ50mm*H40mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	6772	5545
80	16269	13863
75	17473	16296
70	17296	17239
65	17682	18068
60	18496	19218
55	19794	20101
50	21736	21623
45	24772	24122

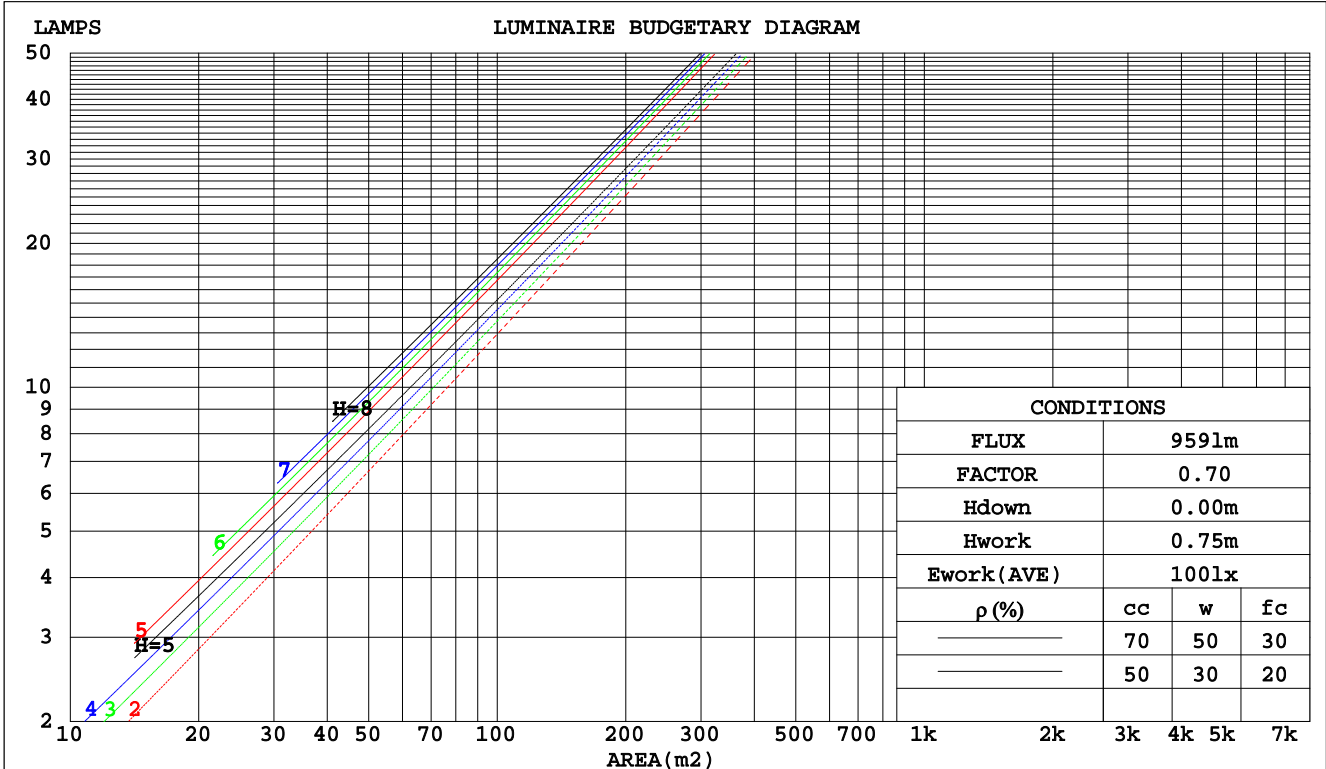
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw																
ρfc																
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	1.12	1.10	1.08	1.10	1.08	1.07	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.02	.99	.97	.99	.97	.95	.96	.94	.93	.92
3.0	1.01	.97	.94	1.00	.97	.94	.98	.95	.92	.95	.93	.91	.93	.91	.89	.88
4.0	.97	.93	.90	.96	.92	.89	.94	.91	.88	.92	.89	.87	.90	.88	.86	.85
5.0	.93	.89	.86	.93	.89	.85	.91	.87	.85	.89	.86	.84	.88	.85	.83	.82
6.0	.90	.86	.83	.90	.85	.82	.88	.85	.82	.87	.84	.81	.86	.83	.81	.80
7.0	.87	.83	.80	.87	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.79	.78
8.0	.85	.80	.78	.84	.80	.77	.83	.80	.77	.82	.79	.77	.82	.79	.76	.75
9.0	.82	.78	.75	.82	.78	.75	.81	.78	.75	.80	.77	.75	.80	.77	.75	.74
10.0	.80	.76	.73	.80	.76	.73	.79	.76	.73	.79	.75	.73	.78	.75	.73	.72



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WEC AND CCEC

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ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.150	.085	.027	.143	.082	.026	.131	.075	.024	.119	.069	.022	.109	.063	.020	
2.0	.139	.076	.023	.133	.073	.023	.123	.068	.021	.114	.064	.020	.105	.059	.019	
3.0	.129	.068	.021	.124	.066	.020	.115	.063	.019	.107	.059	.018	.100	.055	.017	
4.0	.120	.062	.018	.116	.061	.018	.108	.058	.017	.102	.055	.016	.095	.052	.016	
5.0	.112	.057	.016	.108	.056	.016	.102	.053	.016	.096	.051	.015	.091	.049	.015	
6.0	.105	.053	.015	.102	.052	.015	.097	.050	.014	.092	.048	.014	.087	.046	.014	
7.0	.099	.049	.014	.096	.048	.014	.092	.046	.013	.087	.045	.013	.083	.043	.013	
8.0	.093	.046	.013	.091	.045	.013	.087	.044	.012	.083	.042	.012	.080	.041	.012	
9.0	.089	.043	.012	.087	.042	.012	.083	.041	.012	.080	.040	.011	.077	.039	.011	
10.0	.084	.040	.011	.083	.040	.011	.080	.039	.011	.077	.038	.011	.074	.037	.011	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.117	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013	
3.0	.137	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.125	.098	.078	.107	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.114	.086	.065	.098	.074	.056	.068	.052	.040	.039	.030	.024	.013	.010	.008	
6.0	.105	.076	.055	.091	.066	.048	.063	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.098	.068	.047	.084	.059	.041	.058	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.091	.061	.040	.078	.053	.035	.054	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.085	.055	.035	.073	.048	.031	.051	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.080	.051	.031	.069	.044	.027	.048	.031	.019	.028	.018	.011	.009	.006	.004	

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 Test Date:2019-01-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 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:220.6V I:0.0654A P:12.92W PF:0.8958 Freq:49.90Hz Lamp Flux:958.734x1 lm		
NAME: M3-11W-930-15	TYPE:Downlight	SERIAL No.:
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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	17.0	17.7	17.2	17.9	18.0	17.0	17.7	17.2	17.8	18.0
3H	18.4	19.0	18.6	19.2	19.4	18.3	18.9	18.5	19.1	19.3
4H	19.0	19.6	19.3	19.8	20.1	18.9	19.5	19.1	19.7	19.9
6H	19.5	20.1	19.8	20.4	20.6	19.3	19.9	19.6	20.1	20.4
8H	19.7	20.2	20.0	20.5	20.7	19.4	20.0	19.7	20.2	20.5
12H	19.7	20.2	20.0	20.5	20.7	19.4	19.9	19.7	20.2	20.5
4H 2H	17.6	18.2	17.8	18.4	18.6	17.5	18.1	17.8	18.3	18.6
3H	19.1	19.7	19.4	19.9	20.2	19.0	19.6	19.3	19.8	20.1
4H	19.9	20.4	20.3	20.7	21.0	19.8	20.3	20.1	20.6	20.9
6H	20.6	21.0	20.9	21.4	21.7	20.3	20.7	20.7	21.1	21.4
8H	20.7	21.2	21.1	21.5	21.9	20.4	20.8	20.8	21.2	21.5
12H	20.7	21.1	21.1	21.5	21.9	20.4	20.8	20.8	21.2	21.5
8H 4H	20.2	20.6	20.6	21.0	21.3	20.0	20.5	20.4	20.8	21.2
6H	21.0	21.3	21.4	21.7	22.1	20.7	21.0	21.1	21.4	21.9
8H	21.2	21.5	21.6	21.9	22.3	20.8	21.2	21.3	21.6	22.0
12H	21.2	21.5	21.7	21.9	22.4	20.9	21.1	21.3	21.6	22.0
12H 4H	20.2	20.6	20.6	20.9	21.3	20.0	20.4	20.5	20.8	21.2
6H	21.0	21.3	21.4	21.7	22.2	20.7	21.1	21.2	21.5	21.9
8H	21.2	21.5	21.7	21.9	22.4	20.9	21.2	21.4	21.6	22.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
2.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.3				

CIE Pub.117, 958.7 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.1)

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UTILIZATION FACTORS TABLE

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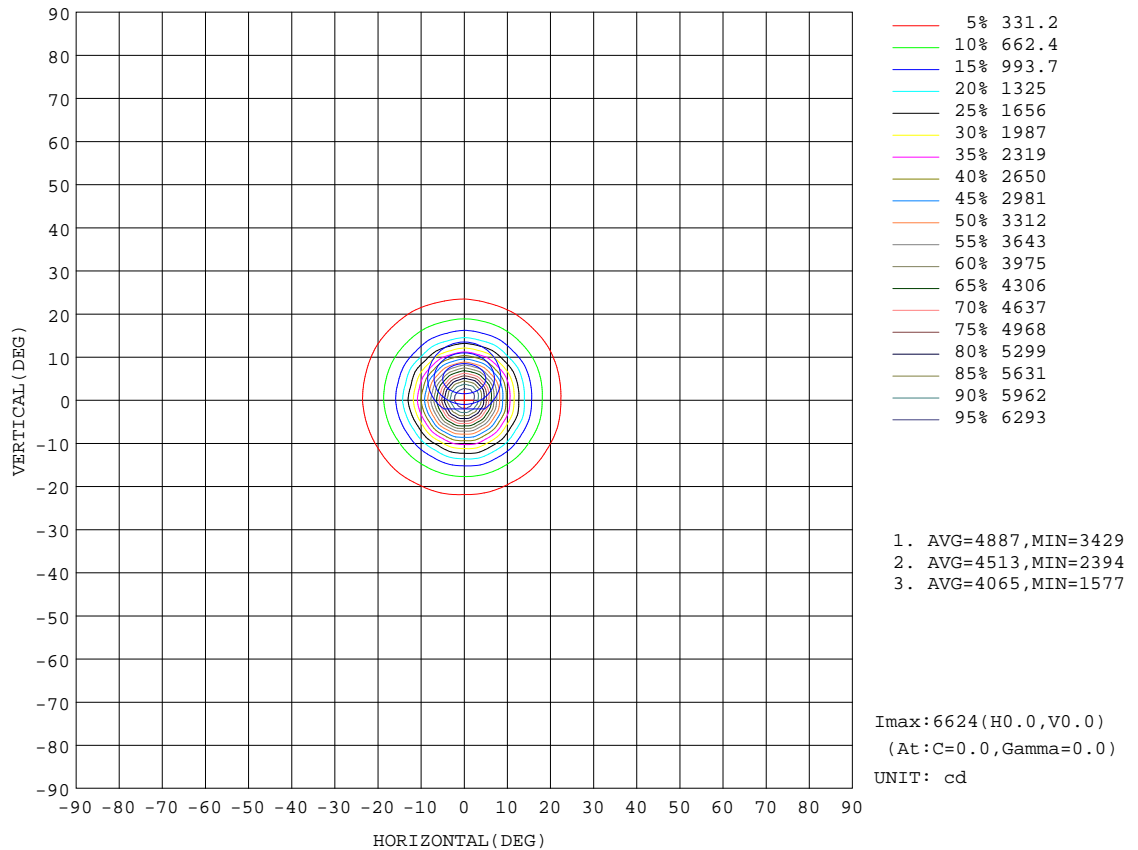
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	87	80	77	86	80	76	86	80	76	73
0.80	94	88	84	93	88	84	92	87	84	80
1.00	99	93	89	98	92	89	96	92	88	84
1.25	102	97	94	101	97	93	99	95	92	88
1.50	105	100	97	104	100	96	102	98	95	91
2.00	108	104	100	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	114	111	108	111	109	107	108	106	104	97
5.00	115	112	111	113	111	109	109	107	106	98
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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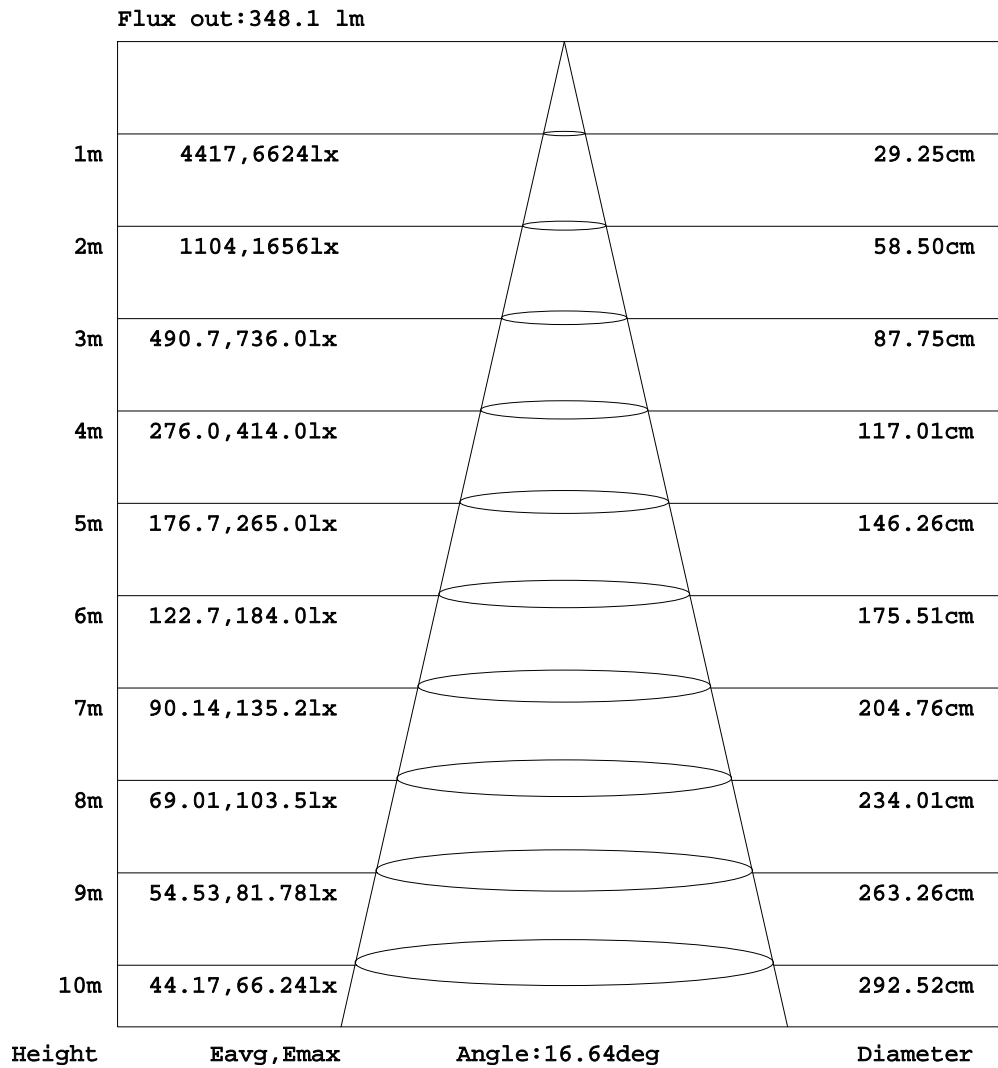


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AAI Figure

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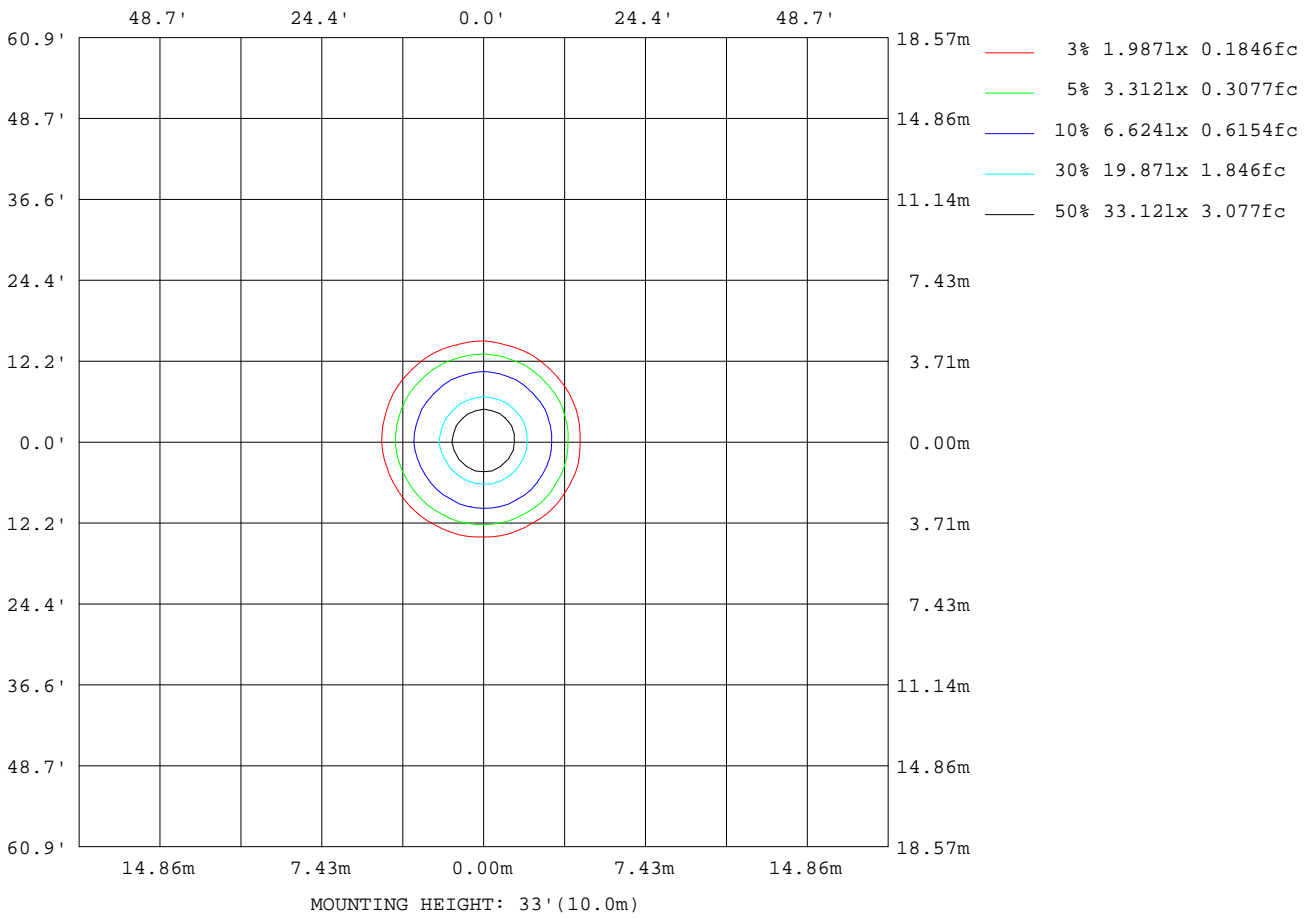
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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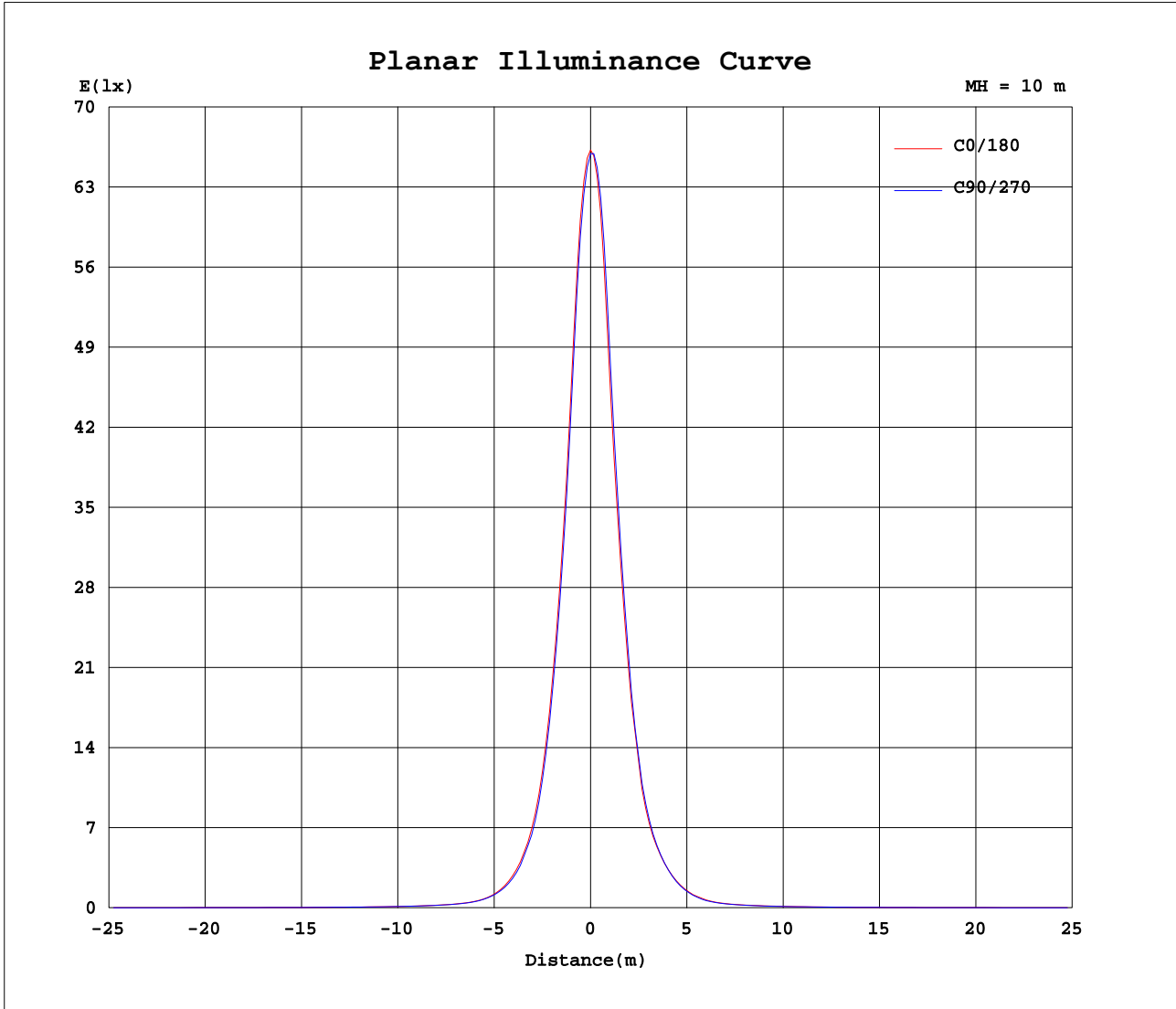
AvgL	cd/m2
L_0~180 (65) av	18292
L_0~180 (75) av	16764
L_0~180 (85) av	6377
L_90~270 (65) av	18274
L_90~270 (75) av	16854
L_90~270 (85) av	6649
L_45 (65) av	18222
L_45 (75) av	16714
L_45 (85) av	6439

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2019-01-07

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2019-01-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 56%
 Test Distance: 5.850m [K=1.0000]
 Remarks:

