

Low Voltage Track System Module ML26-AL280-13W-930-35



Light Output Ratio:	100.0%	
Luminaire Power:	12.34 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.60	fine grid method.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason Long
Test Date: 2020-04-01

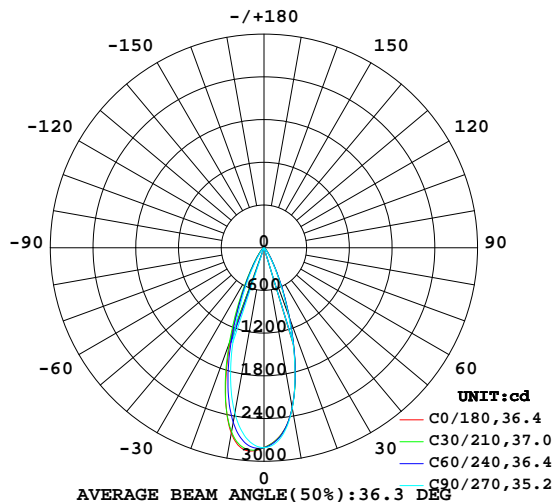
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

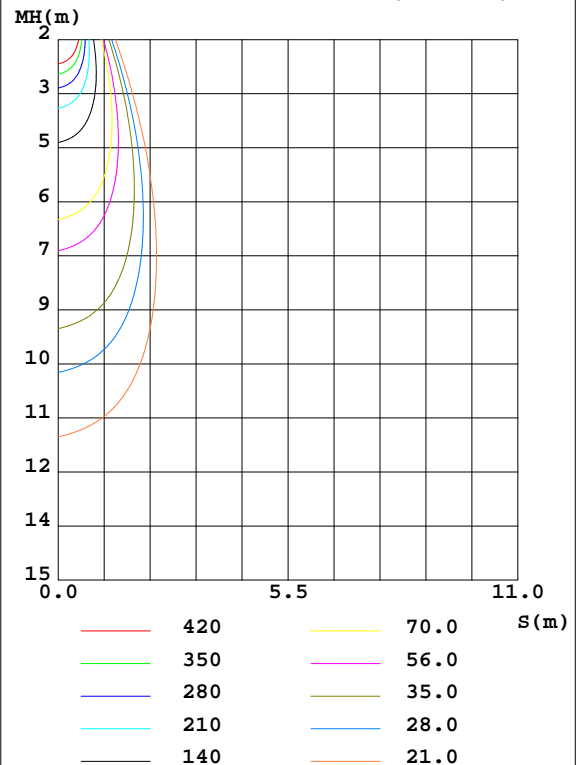
Test:U:48.00V I:0.2570A P:12.34W PF:1.000 Freq:0Hz Lamp Flux:1202.7lx1 lm		
NAME: ML26-AL280-13W-930-35	TYPE:Low Voltage Track System Module	
SPEC.:3000K	DIM.: L284mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 97.50 lm/W			
MODEL	OSRAM-3000K	I _{max} (cd)	2863	S/MH(C0/180)	0.62
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.59
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	1202.7	η UP,DN(C0-180)	0.0,47.9
NOMINAL FLUX(lm)	1202.71	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,52.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	48	η down(%)	100.0	CIBSE SHR MAX	0.60

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
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ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2282	2296	2289	2506	2645	2557	2360	2334	0- 10	250.2	250.2	20.8,20.8
20	1032	1078	1013	1272	1373	1377	1176	1174	10- 20	498.7	748.9	62.3,62.3
30	265.4	288.3	247.4	371.2	371.8	399.5	314.5	319.4	20- 30	303.1	1052	87.5,87.5
40	76.56	79.17	52.72	100.8	101.5	108.4	72.81	89.52	30- 40	106.3	1158	96.3,96.3
50	22.03	21.23	7.040	24.87	26.52	32.17	13.83	27.22	40- 50	36.39	1195	99.3,99.3
60	0.1515	0.3879	0.1951	0.6243	0.2562	3.055	0.2647	1.645	50- 60	7.690	1202	100,100
70	0.0919	0.0873	0.0986	0.0656	0.0592	0.1027	0.1137	0.1138	60- 70	0.1772	1203	100,100
80	0.0723	0.0699	0.0701	0.0591	0.0394	0.0699	0.0679	0.0744	70- 80	0.0808	1203	100,100
90	0.0722	0.0699	0.0657	0.0612	0.0394	0.0546	0.0591	0.0656	80- 90	0.0669	1203	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): 1181.5 lm

%lum = 98.2%

%lamp = 98.2%

Conical surface Flux(120deg): 1202.4 lm

%lum = 100.0%

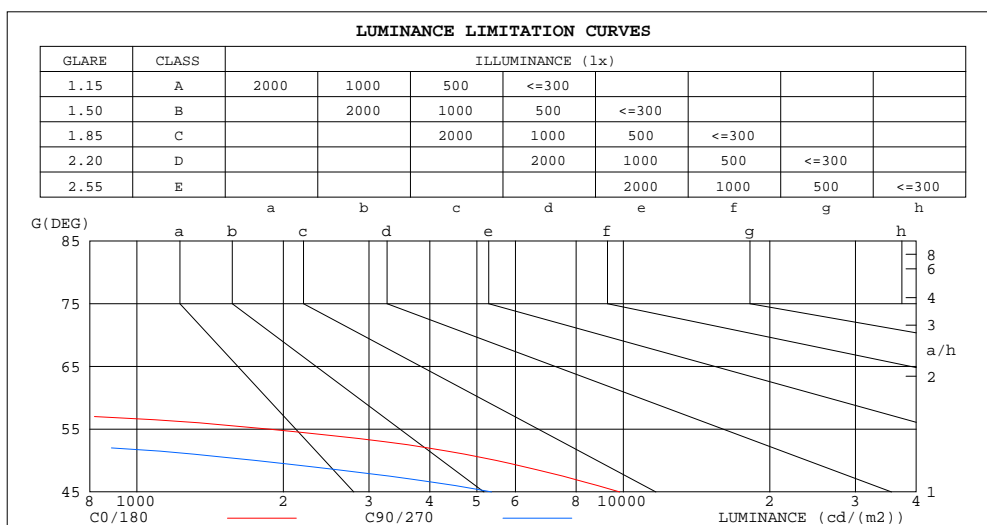
%lamp = 100.0%

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Operators:Jason Long
Test Date:2020-04-01

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Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

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SPEC.:3000K	DIM.: L284mm*W22mm*H43mm	
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	128	121
80	67	64
75	50	51
70	43	46
65	42	49
60	48	62
55	1860	86
50	5477	1750
45	9825	5362

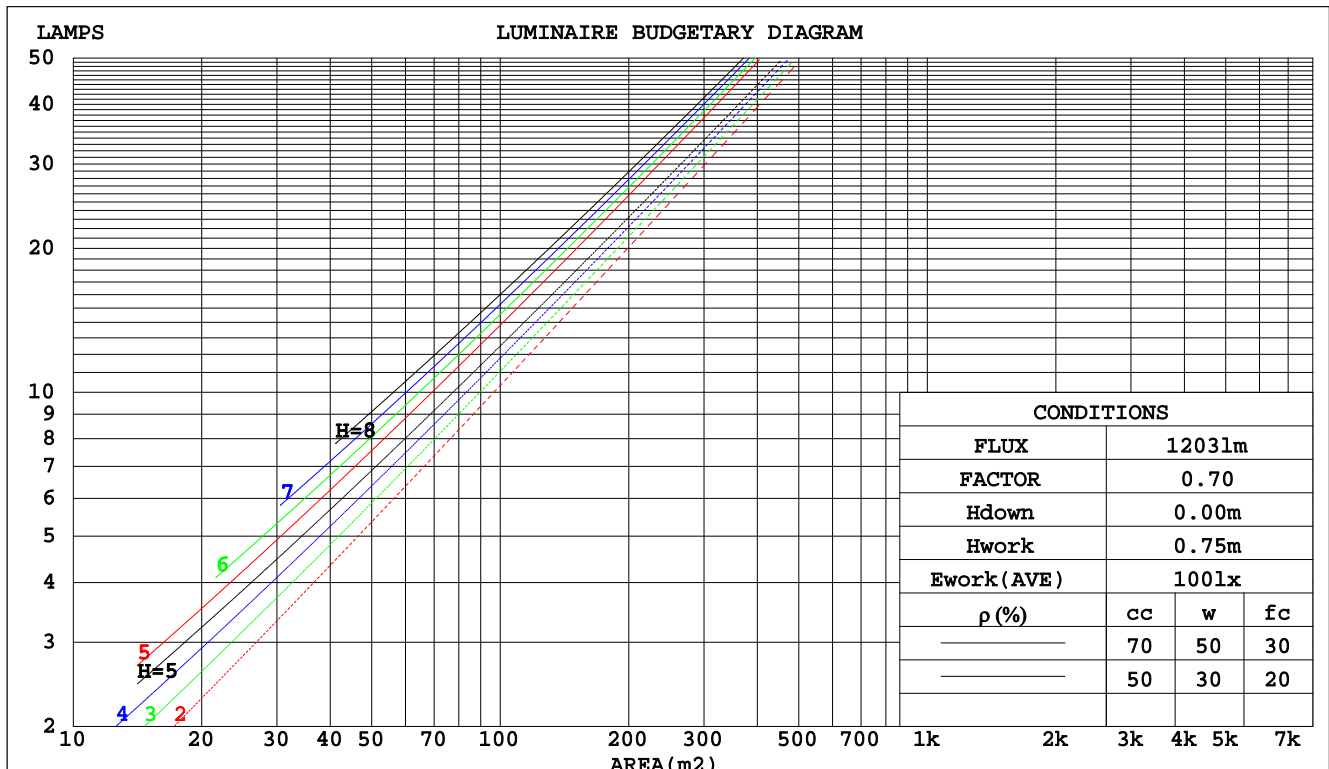
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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	.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.06	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.96	.93	.90	.94	.91	.89	.92	.89	.88	.86
4.0	.95	.90	.87	.94	.90	.86	.92	.88	.85	.90	.87	.84	.88	.86	.83	.82
5.0	.90	.86	.82	.90	.85	.82	.88	.84	.81	.86	.83	.80	.85	.82	.80	.78
6.0	.86	.81	.78	.86	.81	.77	.84	.80	.77	.83	.79	.76	.82	.78	.76	.75
7.0	.82	.77	.74	.82	.77	.74	.81	.76	.73	.80	.76	.73	.79	.75	.73	.71
8.0	.79	.74	.71	.78	.74	.70	.77	.73	.70	.76	.73	.70	.76	.72	.70	.68
9.0	.76	.71	.68	.75	.71	.67	.74	.70	.67	.74	.70	.67	.73	.69	.67	.66
10.0	.73	.68	.65	.72	.68	.65	.72	.67	.65	.71	.67	.64	.70	.67	.64	.63



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WEC AND CCEC

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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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.154	.088	.028	.148	.084	.027	.135	.078	.025	.124	.071	.023	.113	.066	.021		
2.0	.146	.080	.024	.140	.077	.024	.130	.072	.022	.120	.067	.021	.111	.063	.020		
3.0	.138	.073	.022	.133	.071	.021	.124	.067	.020	.116	.064	.019	.109	.060	.019		
4.0	.130	.068	.020	.126	.066	.020	.119	.063	.019	.112	.060	.018	.105	.057	.017		
5.0	.124	.063	.018	.120	.062	.018	.114	.059	.017	.108	.057	.017	.102	.055	.016		
6.0	.118	.059	.017	.115	.058	.017	.109	.056	.016	.104	.054	.016	.099	.052	.015		
7.0	.112	.056	.016	.110	.055	.016	.105	.053	.015	.100	.051	.015	.096	.050	.015		
8.0	.108	.053	.015	.105	.052	.015	.101	.050	.014	.097	.049	.014	.093	.048	.014		
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.094	.047	.013	.090	.046	.013		
10.0	.099	.047	.013	.097	.047	.013	.094	.046	.013	.090	.045	.013	.087	.044	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.170	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013		
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011		
4.0	.128	.098	.076	.109	.085	.066	.075	.059	.047	.044	.035	.028	.014	.011	.009		
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008		
6.0	.110	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006		
7.0	.103	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.005		
8.0	.097	.062	.039	.083	.054	.034	.058	.038	.024	.034	.022	.014	.011	.007	.005		
9.0	.091	.057	.034	.079	.049	.029	.055	.035	.021	.032	.020	.012	.010	.007	.004		
10.0	.087	.052	.029	.075	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004		

C Range: 0 - 360DEG
C Interval: 15.0DEG
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γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:48.00V I:0.2570A P:12.34W PF:1.000 Freq:0Hz Lamp Flux:1202.71x1 lm										
NAME: ML26-AL280-13W-930-35					TYPE:Low Voltage Track System Module					
SPEC.:3000K					DIM.: L284mm*W22mm*H43mm					
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	11.9	12.7	12.1	12.8	13.0	10.7	11.5	10.9	11.6	11.8
3H	11.8	12.5	12.0	12.7	12.9	10.5	11.2	10.8	11.4	11.6
4H	11.7	12.4	11.9	12.6	12.8	10.4	11.1	10.7	11.3	11.5
6H	11.6	12.2	11.9	12.5	12.7	10.3	11.0	10.6	11.2	11.5
8H	11.5	12.2	11.8	12.4	12.7	10.3	10.9	10.6	11.2	11.4
12H	11.5	12.1	11.8	12.3	12.6	10.2	10.8	10.6	11.1	11.4
4H 2H	11.7	12.4	11.9	12.6	12.8	10.4	11.1	10.7	11.3	11.6
3H	11.5	12.1	11.8	12.4	12.6	10.3	10.9	10.6	11.1	11.4
4H	11.4	11.9	11.7	12.2	12.5	10.2	10.7	10.5	11.0	11.3
6H	11.3	11.8	11.7	12.1	12.5	10.1	10.6	10.4	10.9	11.2
8H	11.2	11.7	11.6	12.0	12.4	10.0	10.5	10.4	10.8	11.2
12H	11.2	11.6	11.6	12.0	12.4	10.0	10.4	10.4	10.7	11.1
8H 4H	11.2	11.7	11.6	12.0	12.4	10.0	10.5	10.4	10.8	11.2
6H	11.1	11.5	11.6	11.9	12.3	9.9	10.3	10.3	10.7	11.1
8H	11.1	11.4	11.5	11.8	12.3	9.9	10.2	10.3	10.6	11.0
12H	11.0	11.3	11.5	11.7	12.2	9.8	10.1	10.3	10.5	11.0
12H 4H	11.2	11.6	11.6	12.0	12.4	10.0	10.4	10.4	10.7	11.1
6H	11.1	11.4	11.5	11.8	12.3	9.9	10.2	10.3	10.6	11.0
8H	11.0	11.3	11.5	11.7	12.2	9.8	10.1	10.3	10.5	11.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.7 / -14.4					+ 2.6 / -24.7				
1.5H	+ 4.0 / - 7.6					+ 4.5 / -13.6				
2.0H	+ 5.8 / -23.9					+ 6.2 / -18.9				

CIE Pub.117, 1203 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 0.6$)

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γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
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Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:48.00V I:0.2570A P:12.34W PF:1.000 Freq:0Hz Lamp Flux:1202.71x1 lm		
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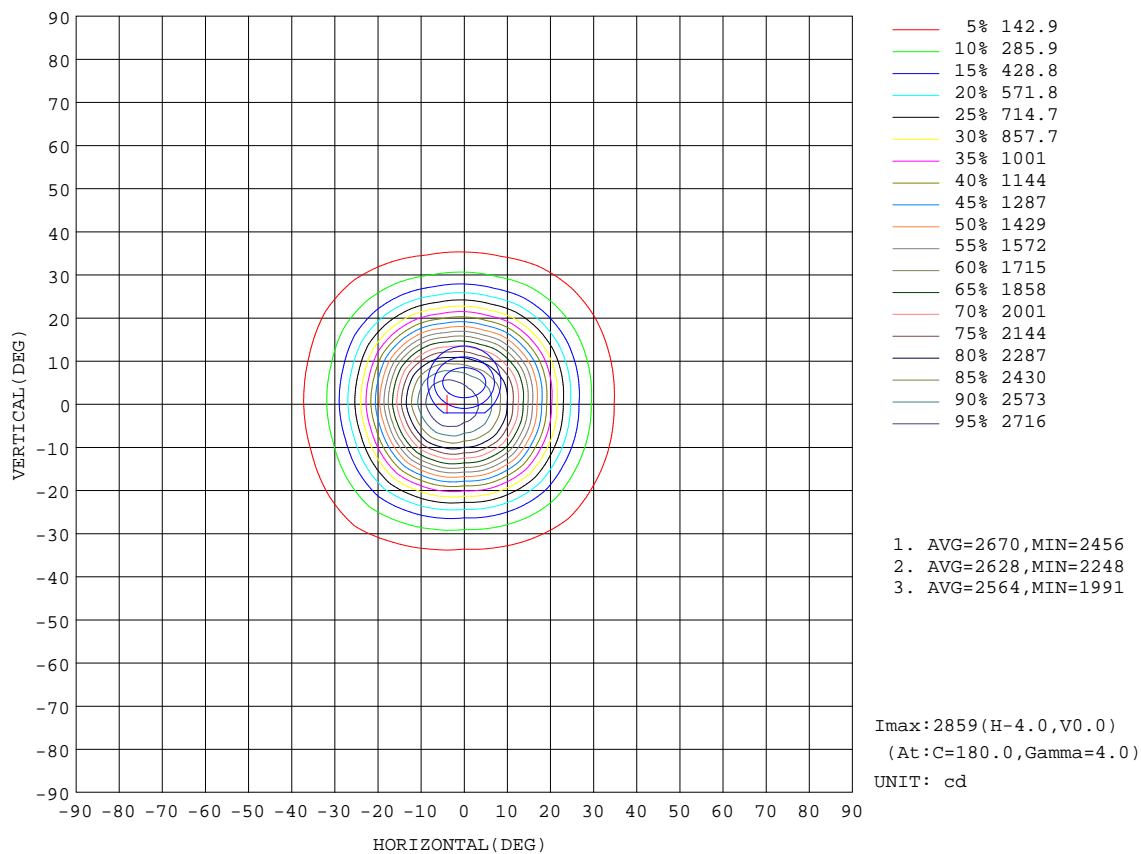
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	79	76
0.80	96	91	87	96	91	87	95	90	87	83
1.00	101	95	92	100	95	92	98	95	91	87
1.25	104	100	96	103	99	96	101	98	95	91
1.50	107	103	99	106	102	99	104	100	98	94
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	105	107	105	103	97
4.00	114	112	110	112	110	108	109	107	105	99
5.00	115	113	112	113	111	110	109	108	107	99
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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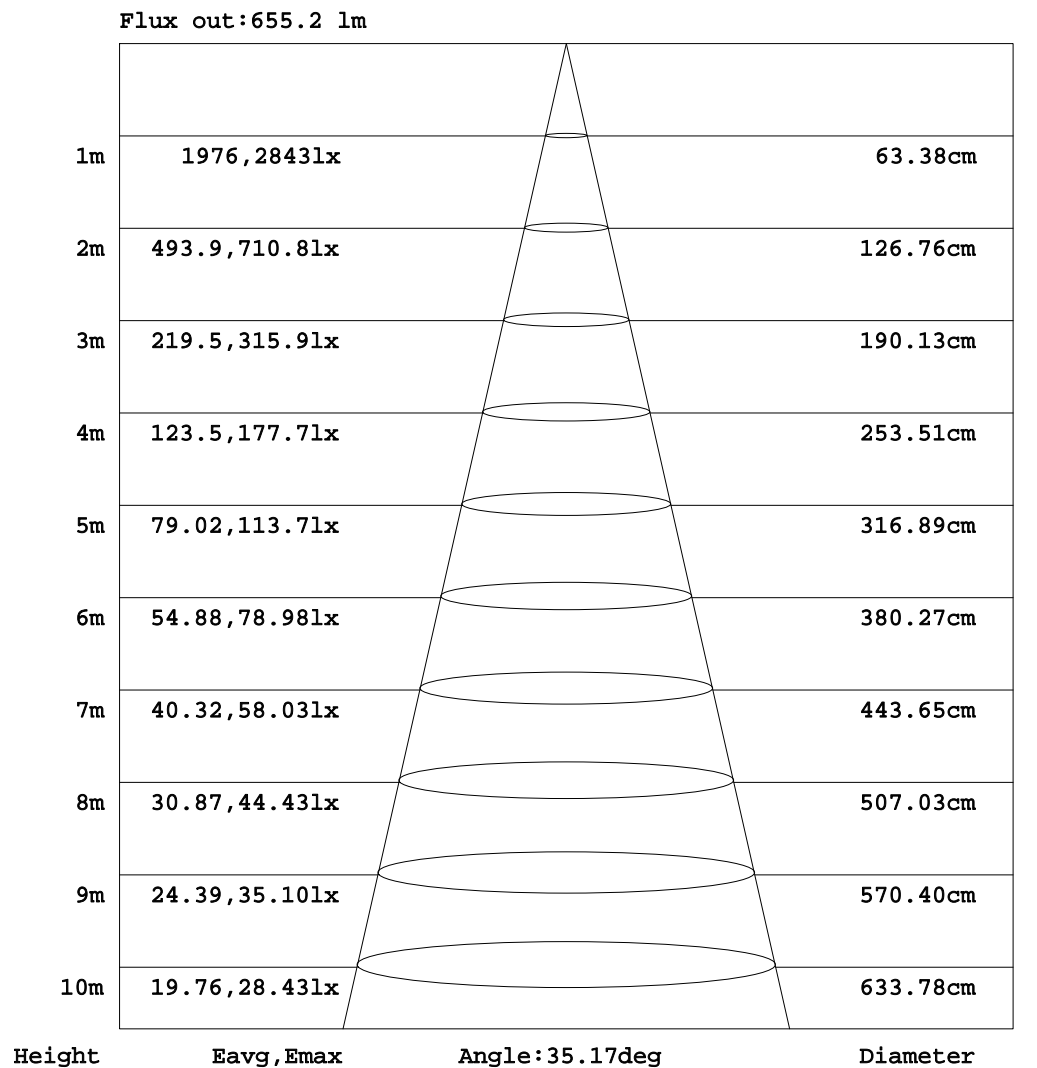


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AAI Figure

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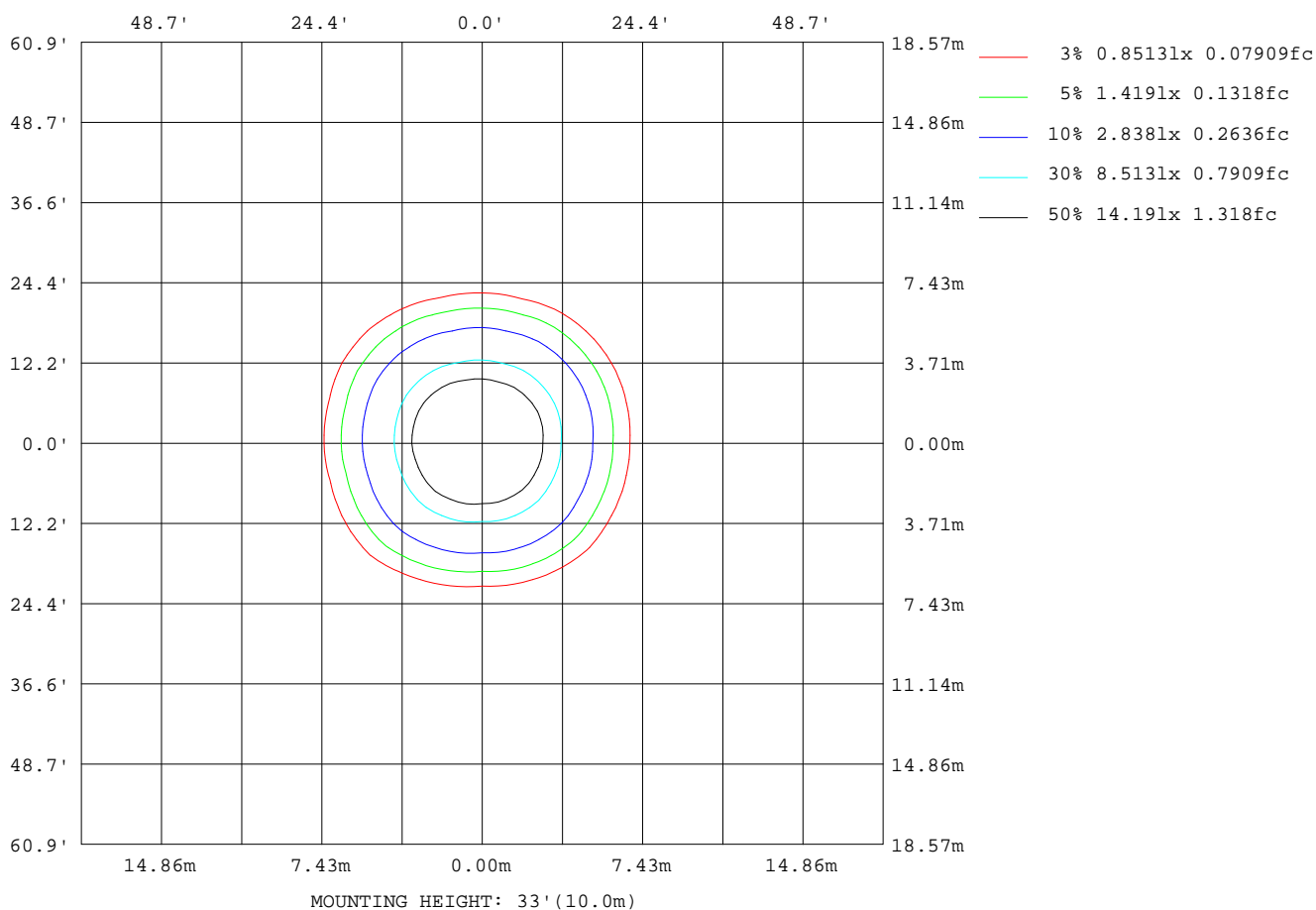
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

Test:U:48.00V I:0.2570A P:12.34W PF:1.000 Freq:0Hz Lamp Flux:1202.7lx 1m		
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LED Avg.L Report

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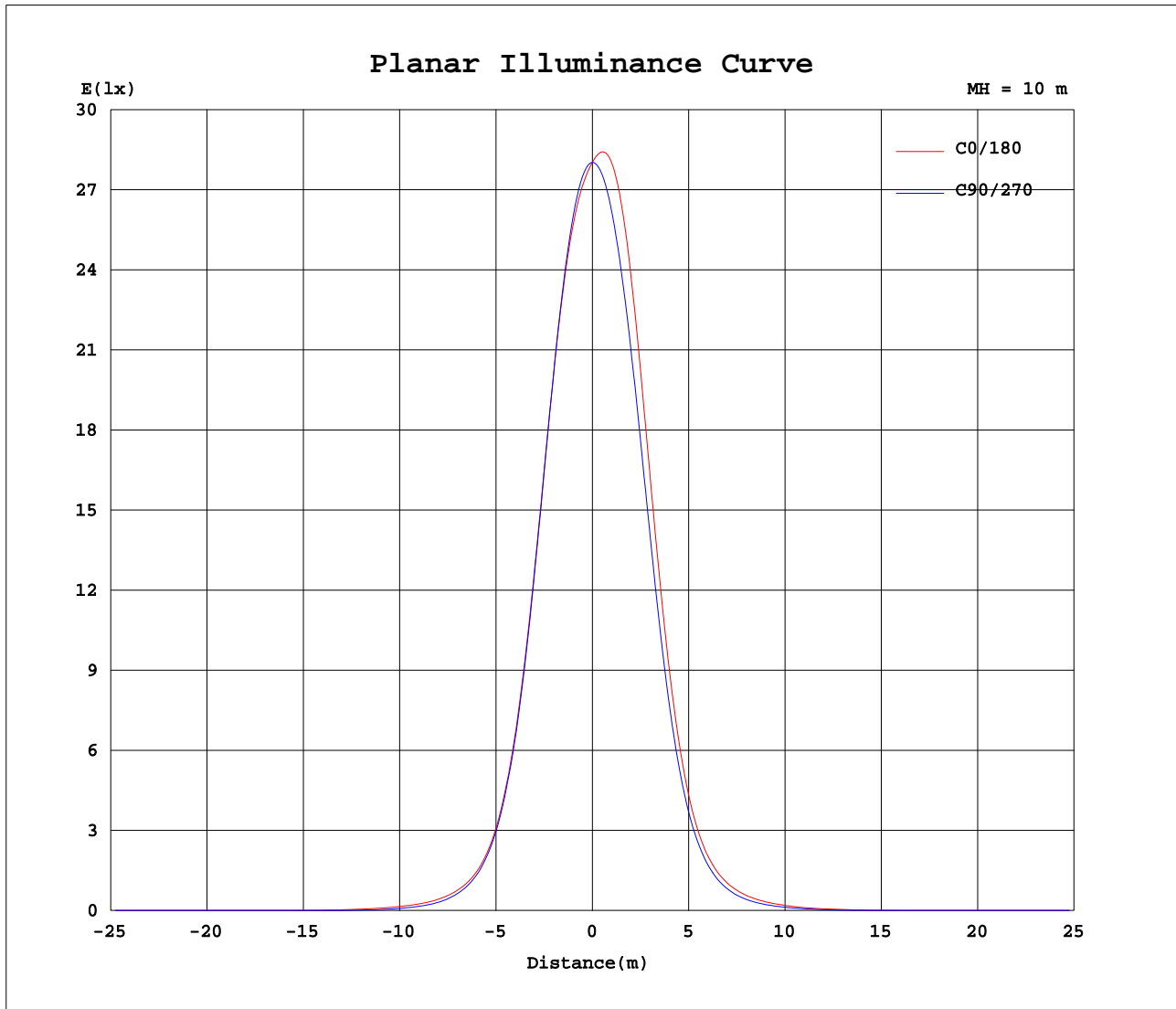
AvgL	cd/m2
L_0~180(65)av	37
L_0~180(75)av	39
L_0~180(85)av	101
L_90~270(65)av	59
L_90~270(75)av	51
L_90~270(85)av	117
L_45(65)av	46
L_45(75)av	45
L_45(85)av	117

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Long
Test Date:2020-04-01

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
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: Jason Long
Test Date: 2020-04-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 5.850m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

```