

Low Voltage Track System Module ML26-AL280-13W-927-35



Light Output Ratio:	100.0%	
Luminaire Power:	12.19 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: Payne Cao
Test Date: 2020-04-29

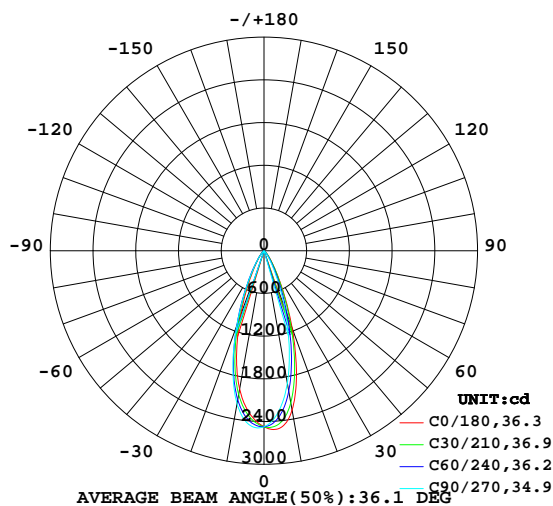
γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

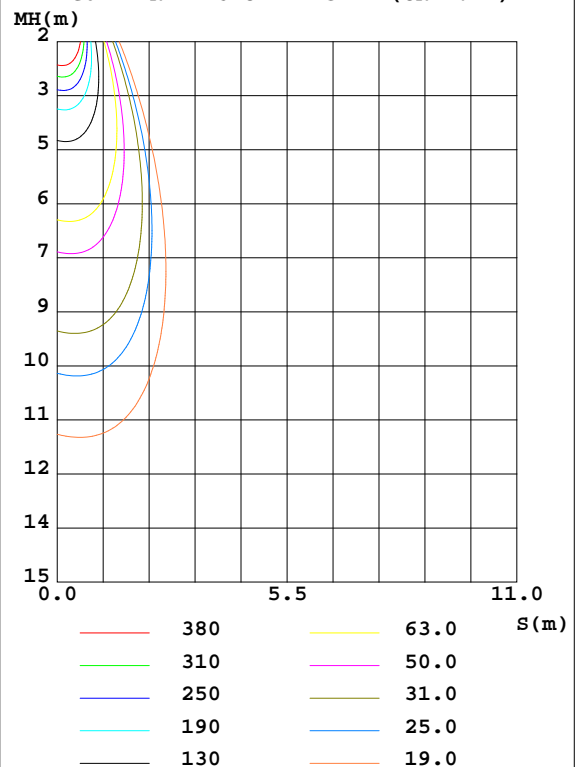
Test:U:48.00V I:0.2540A P:12.19W PF:1.000 Freq:0Hz Lamp Flux:1070.33x1 lm		
NAME: ML26-AL280-13W-927-35	TYPE:Low Voltage Track System Module	
SPEC.:2700K	DIM.: L284mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 87.79 lm/W			
MODEL	OSRAM-2700K	I _{max} (cd)	2540	S/MH(C0/180)	0.57
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.61
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	1070.3	η UP,DN(C0-180)	0.0,46.8
NOMINAL FLUX(lm)	1070.33	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,53.2
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
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Payne Cao
Test Date:2020-04-29

γ Range: 0 - 90DEG
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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	2274	2102	1890	1903	1973	2082	2182	2305	0- 10	218.3	218.3	20.4,20.4
20	1157	1047	841.7	914.1	960.9	1088	1116	1254	10- 20	433.8	652.0	60.9,60.9
30	340.7	312.8	222.4	260.3	271.8	326.2	323.0	406.2	20- 30	277.4	929.5	86.8,86.8
40	95.47	85.20	46.88	71.68	74.60	88.46	68.04	115.3	30- 40	103.0	1032	96.5,96.5
50	19.72	18.96	4.066	17.50	18.75	21.85	7.879	26.02	40- 50	32.43	1065	99.5,99.5
60	0.1397	0.2688	0.1688	0.1616	0.1040	0.5297	0.1619	0.8129	50- 60	5.267	1070	100,100
70	0.0631	0.0480	0.0810	0.0569	0.0455	0.0699	0.0634	0.0701	60- 70	0.1022	1070	100,100
80	0.0478	0.0459	0.0569	0.0504	0.0304	0.0415	0.0328	0.0417	70- 80	0.0536	1070	100,100
90	0.0456	0.0459	0.0526	0.0504	0.0282	0.0306	0.0263	0.0285	80- 90	0.0445	1070	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): 1053.9 lm

%lum = 98.5%

%lamp = 98.5%

Conical surface Flux(120deg): 1070.1 lm

%lum = 100.0%

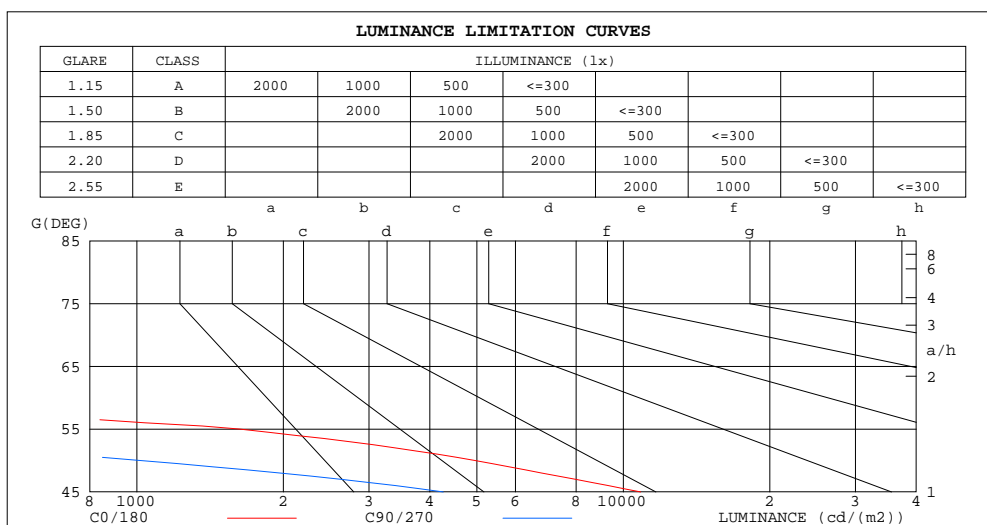
%lamp = 100.0%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Payne Cao
Test Date:2020-04-29

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:

LUMINANCE LIMITATION CURVES

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SPEC.:2700K	DIM.: L284mm*W22mm*H43mm	
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	88	96
80	44	52
75	32	41
70	30	38
65	31	42
60	45	54
55	1624	75
50	4943	1011
45	10850	4263

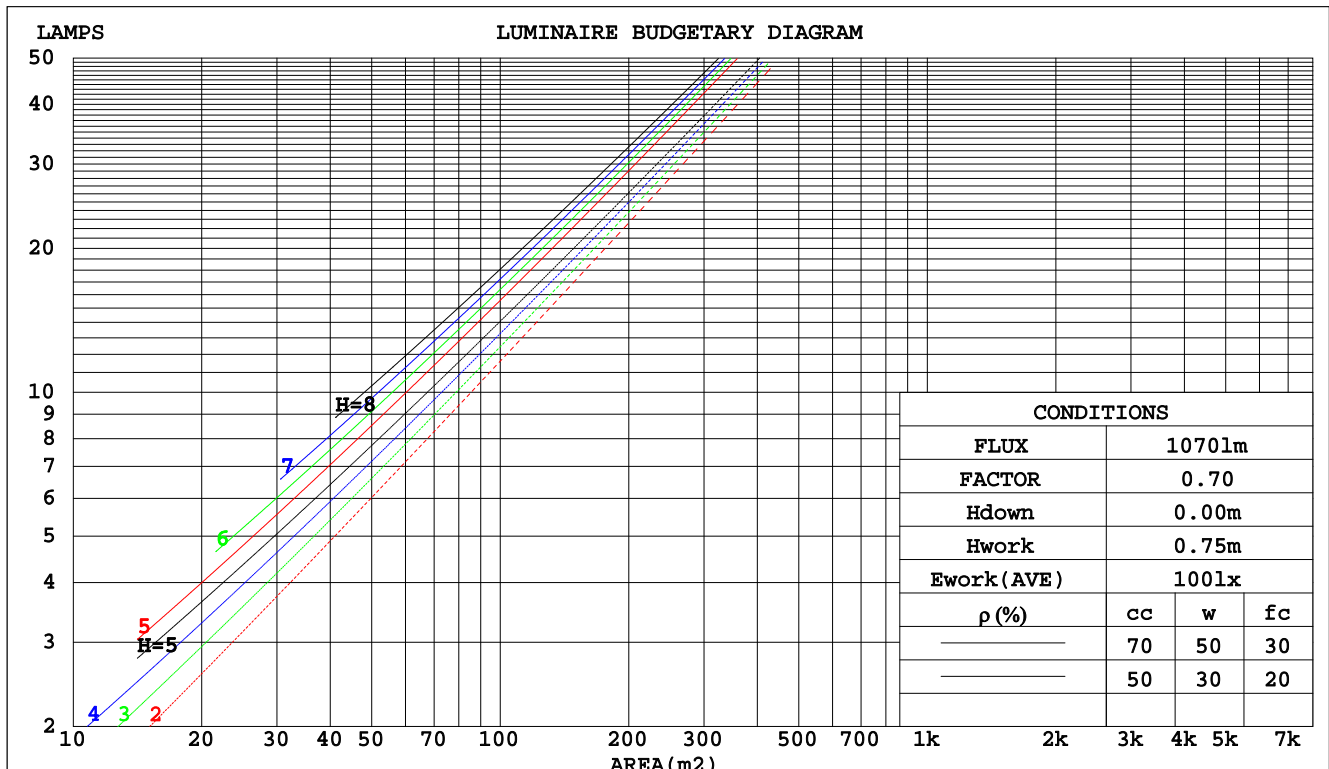
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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	.93	.92	.90
3.0	.00	.96	.92	.99	.95	.92	.96	.93	.90	.94	.91	.89	.92	.89	.87	.86
4.0	.95	.90	.87	.94	.89	.86	.92	.88	.85	.90	.87	.84	.88	.85	.83	.82
5.0	.90	.85	.82	.89	.85	.81	.88	.84	.81	.86	.83	.80	.85	.82	.79	.78
6.0	.86	.81	.77	.85	.81	.77	.84	.80	.77	.83	.79	.76	.81	.78	.76	.74
7.0	.82	.77	.74	.82	.77	.73	.80	.76	.73	.79	.75	.73	.78	.75	.72	.71
8.0	.79	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.69	.75	.72	.69	.68
9.0	.75	.70	.67	.75	.70	.67	.74	.70	.67	.73	.69	.67	.72	.69	.66	.65
10.0	.72	.68	.64	.72	.67	.64	.71	.67	.64	.71	.67	.64	.70	.66	.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	.155	.088	.028	.149	.085	.027	.136	.078	.025	.125	.072	.023	.114	.066	.021		
2.0	.146	.080	.025	.141	.078	.024	.131	.073	.023	.121	.068	.021	.112	.063	.020		
3.0	.138	.074	.022	.134	.072	.022	.125	.068	.021	.117	.064	.020	.109	.061	.019		
4.0	.131	.068	.020	.127	.067	.020	.120	.063	.019	.113	.061	.018	.106	.058	.018		
5.0	.125	.063	.018	.121	.062	.018	.115	.060	.018	.109	.057	.017	.103	.055	.017		
6.0	.119	.059	.017	.116	.058	.017	.110	.056	.016	.105	.054	.016	.100	.053	.016		
7.0	.113	.056	.016	.111	.055	.016	.106	.053	.015	.101	.052	.015	.097	.050	.015		
8.0	.108	.053	.015	.106	.052	.015	.102	.051	.015	.098	.049	.014	.094	.048	.014		
9.0	.104	.050	.014	.102	.050	.014	.098	.048	.014	.094	.047	.014	.091	.046	.013		
10.0	.100	.048	.013	.098	.047	.013	.095	.046	.013	.091	.045	.013	.088	.044	.013		

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	.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	.110	.085	.066	.075	.059	.046	.044	.035	.027	.014	.011	.009		
5.0	.118	.086	.063	.102	.075	.055	.070	.052	.039	.041	.031	.023	.013	.010	.008		
6.0	.110	.077	.053	.095	.066	.046	.065	.047	.033	.038	.027	.019	.012	.009	.006		
7.0	.103	.069	.045	.089	.060	.039	.061	.042	.028	.036	.025	.016	.012	.008	.005		
8.0	.097	.062	.039	.084	.054	.034	.058	.038	.024	.034	.022	.014	.011	.007	.005		
9.0	.092	.057	.033	.079	.049	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004		
10.0	.087	.052	.029	.075	.046	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Payne Cao
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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:0.2540A P:12.19W PF:1.000 Freq:0Hz Lamp Flux:1070.33x1 lm										
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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	13.9	14.7	14.1	14.9	15.0	11.1	11.9	11.3	12.1	12.2
3H	13.8	14.5	14.0	14.7	14.9	11.0	11.7	11.2	11.9	12.1
4H	13.7	14.4	14.0	14.6	14.8	10.9	11.6	11.1	11.8	12.0
6H	13.6	14.2	13.9	14.5	14.7	10.8	11.4	11.1	11.7	11.9
8H	13.6	14.2	13.9	14.4	14.7	10.7	11.4	11.0	11.6	11.9
12H	13.5	14.1	13.8	14.4	14.6	10.7	11.3	11.0	11.6	11.8
4H 2H	13.7	14.4	14.0	14.6	14.8	10.9	11.6	11.1	11.8	12.0
3H	13.5	14.1	13.8	14.4	14.6	10.7	11.3	11.0	11.6	11.8
4H	13.4	14.0	13.8	14.3	14.6	10.6	11.2	11.0	11.5	11.8
6H	13.3	13.8	13.7	14.1	14.5	10.5	11.0	10.9	11.3	11.7
8H	13.3	13.7	13.7	14.1	14.4	10.5	10.9	10.8	11.3	11.6
12H	13.2	13.6	13.6	14.0	14.4	10.4	10.8	10.8	11.2	11.6
8H 4H	13.3	13.7	13.7	14.1	14.4	10.5	10.9	10.8	11.3	11.6
6H	13.2	13.5	13.6	13.9	14.3	10.4	10.7	10.8	11.1	11.5
8H	13.1	13.4	13.5	13.8	14.3	10.3	10.6	10.7	11.0	11.5
12H	13.0	13.3	13.5	13.8	14.2	10.2	10.5	10.7	11.0	11.4
12H 4H	13.2	13.6	13.6	14.0	14.4	10.4	10.8	10.8	11.2	11.6
6H	13.1	13.4	13.5	13.8	14.3	10.3	10.6	10.7	11.0	11.5
8H	13.0	13.3	13.5	13.8	14.2	10.2	10.5	10.7	11.0	11.4
Variations with the observer position at spacings:										
S = 1.0H	+ 3.1 / -17.8					+ 2.6 / -26.3				
1.5H	+ 4.8 / -10.2					+ 4.4 / -15.6				
2.0H	+ 6.4 / -26.4					+ 6.3 / -19.8				

CIE Pub.117, 1070 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 0.2$)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
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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:

UTILIZATION FACTORS TABLE

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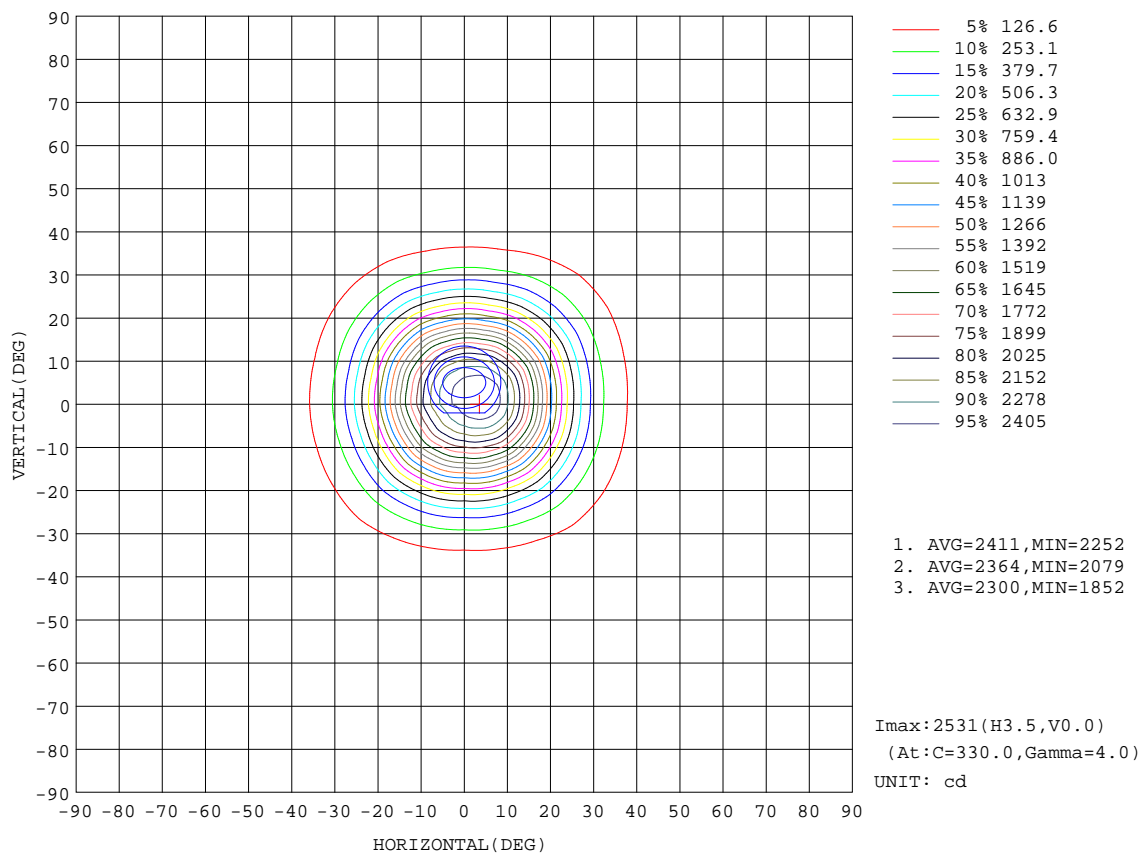
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	87	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	88
1.25	104	100	96	103	99	96	102	98	95	91
1.50	107	103	99	106	102	99	104	100	98	94
2.00	109	105	103	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	106	107	105	103	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	115	113	112	113	112	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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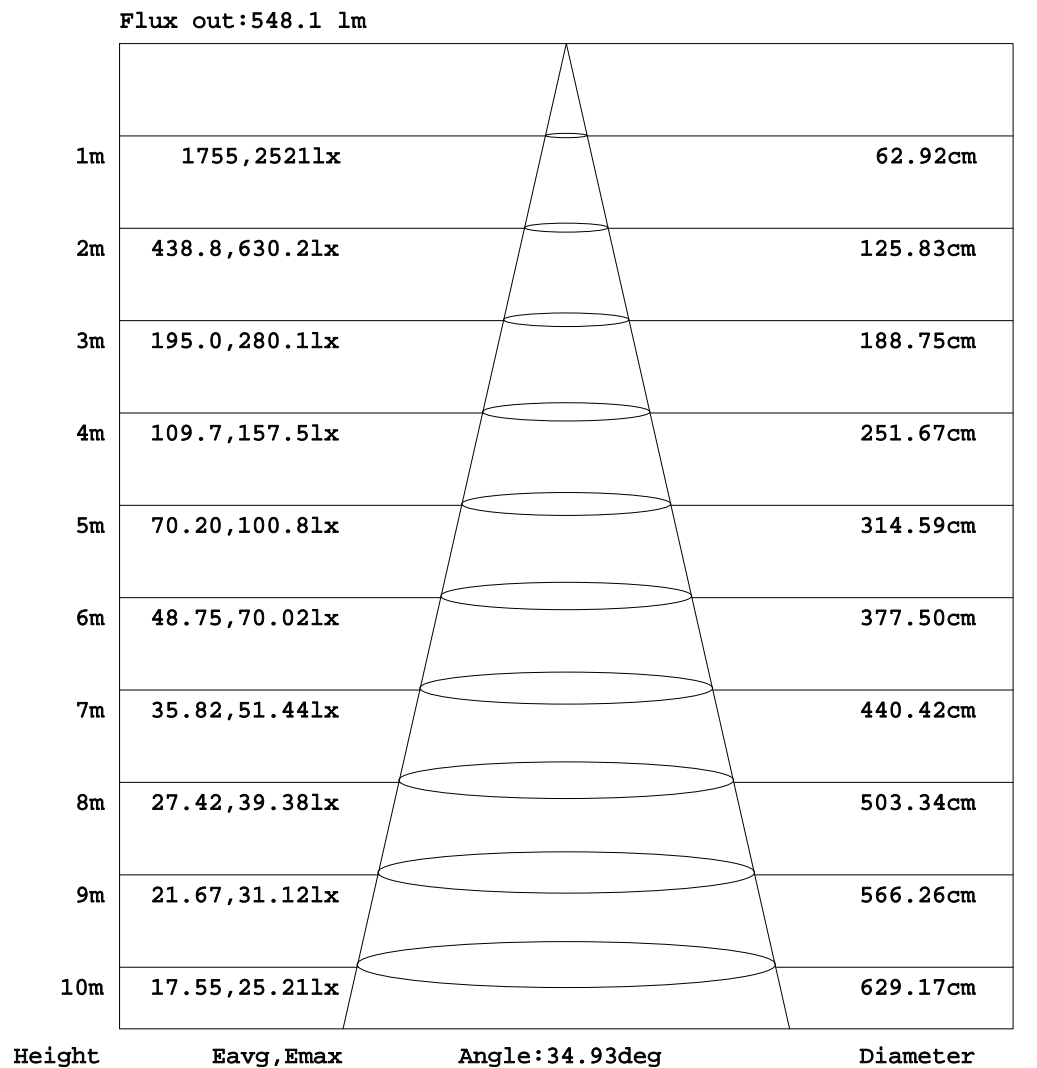


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AAI Figure

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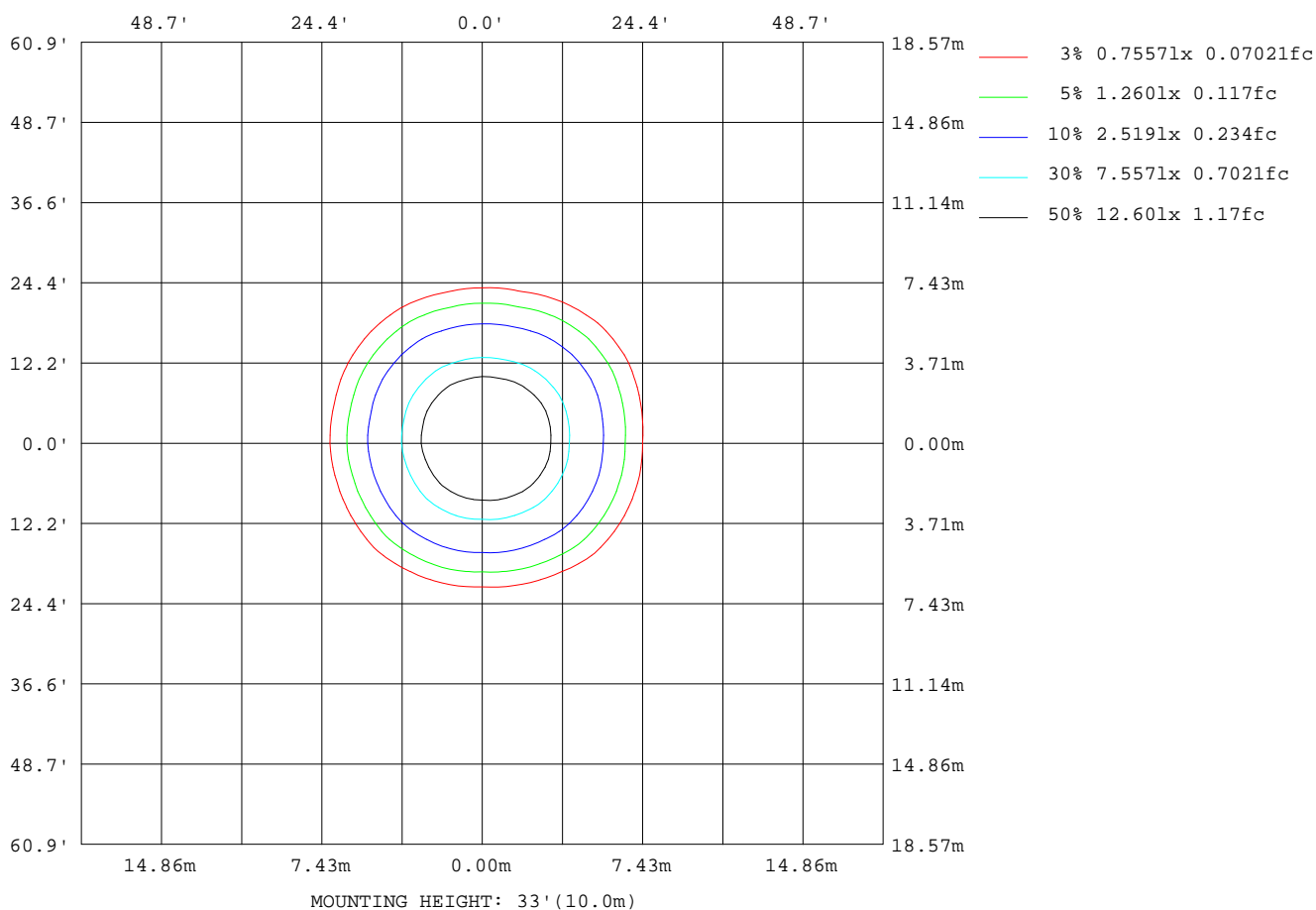
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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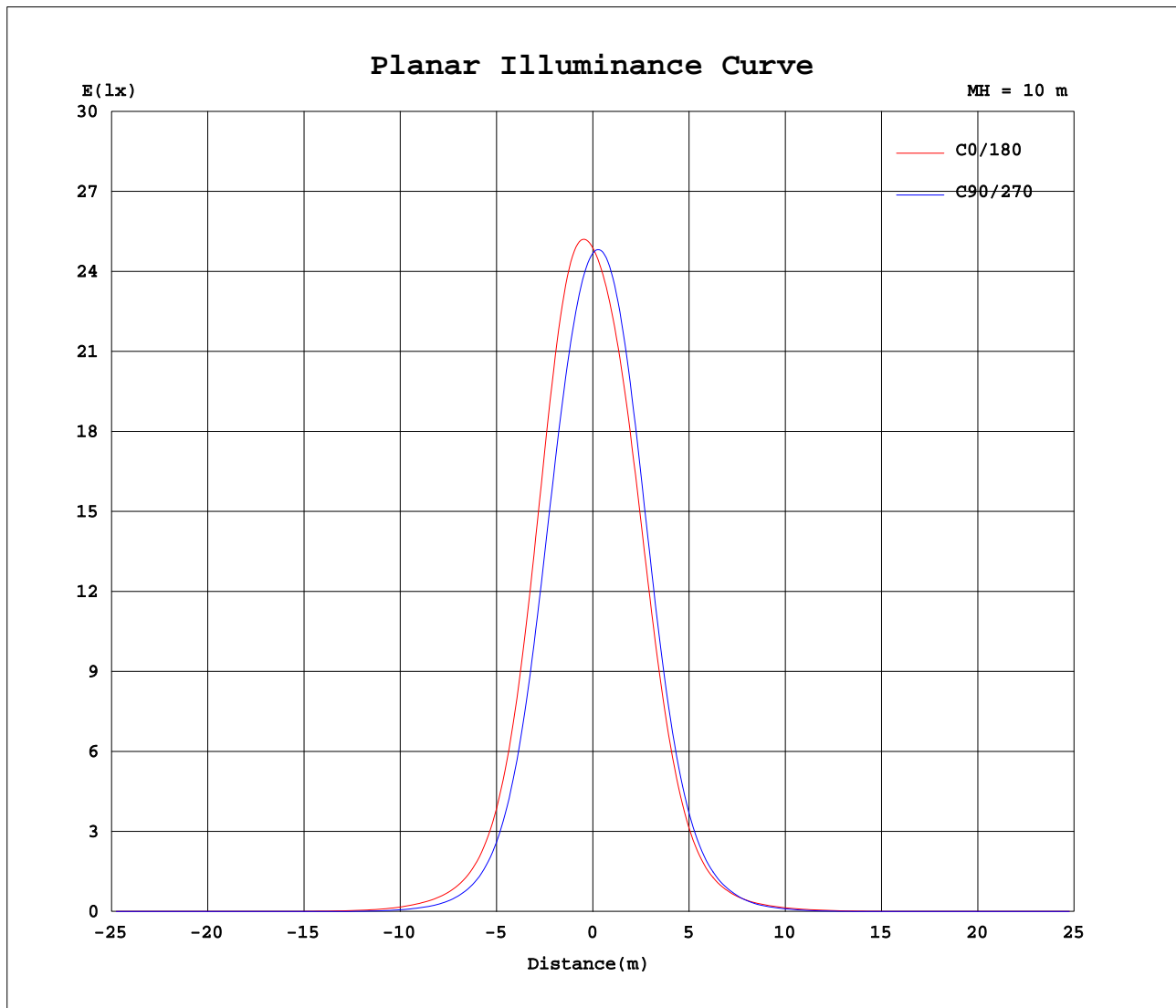
AvgL	cd/m2
L_0~180(65)av	28
L_0~180(75)av	26
L_0~180(85)av	70
L_90~270(65)av	40
L_90~270(75)av	32
L_90~270(85)av	72
L_45(65)av	31
L_45(75)av	31
L_45(85)av	73

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Payne Cao
Test Date:2020-04-29

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: Payne Cao
Test Date: 2020-04-29

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:

```