

Low Voltage Track System Module ML26-AL280-13W-940-20



Light Output Ratio:	100.0%	
Luminaire Power:	13.12 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: Jason Long
Test Date: 2019-12-04

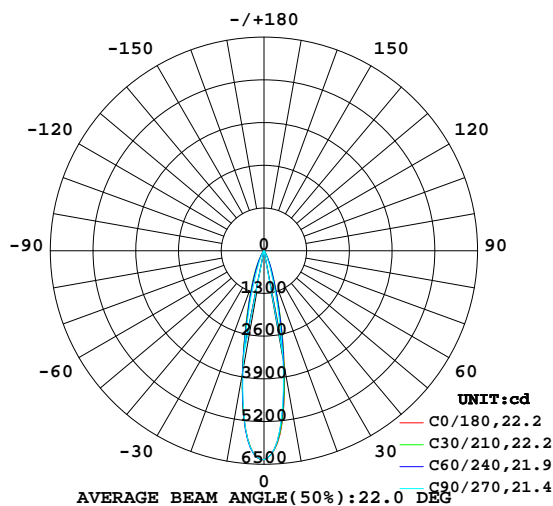
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 56%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

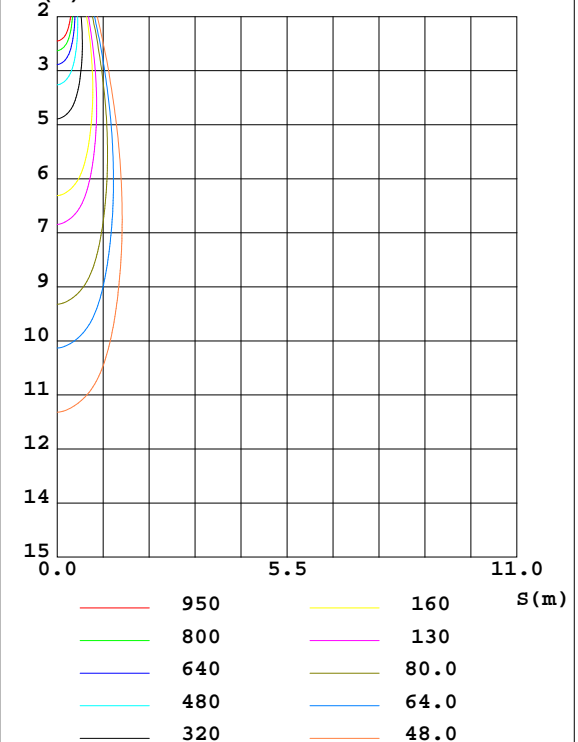
Test:U:48.00V I:0.2734A P:13.12W PF:1.000 Freq:0Hz Lamp Flux:1259.36x1 lm		
NAME: ML26-AL280-13W-940-20	TYPE:Low Voltage Track System Module	
SPEC.:4000K	DIM.: L284mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 95.97 lm/W			
MODEL	OSRAM-4000K	I _{max} (cd)	6357	S/MH(C0/180)	0.39
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.37
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	1259.4	η UP,DN(C0-180)	0.0,47.6
NOMINAL FLUX(lm)	1259.36	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,52.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	48	η down(%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
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γ Range: 0 - 90DEG
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ZONAL FLUX DIAGRAM

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γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	3544	3568	3312	3495	3772	3720	3691	3822	0- 10	471.4	471.4	37.4, 37.4
20	680.7	839.8	545.7	918.0	952.8	1039	642.6	970.9	10- 20	503.0	974.4	77.4, 77.4
30	142.1	193.9	113.0	238.9	188.2	315.1	146.2	245.8	20- 30	191.2	1166	92.6, 92.6
40	42.92	47.77	28.96	52.49	56.10	73.08	33.78	56.68	30- 40	60.55	1226	97.4, 97.4
50	19.40	17.85	11.58	18.57	25.02	23.56	14.58	21.40	40- 50	22.99	1249	99.2, 99.2
60	0.1337	0.3711	0.2012	0.6607	0.1283	0.9163	0.1900	1.841	50- 60	9.992	1259	100, 100
70	0.0786	0.0676	0.0941	0.0612	0.0436	0.0742	0.0743	0.0766	60- 70	0.1238	1259	100, 100
80	0.0546	0.0480	0.0591	0.0438	0.0327	0.0437	0.0349	0.0460	70- 80	0.0584	1259	100, 100
90	0.0480	0.0480	0.0437	0.0460	0.0262	0.0240	0.0262	0.0263	80- 90	0.0429	1259	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): 1239.7 lm

%lum = 98.4%

%lamp = 98.4%

Conical surface Flux(120deg): 1259.1 lm

%lum = 100.0%

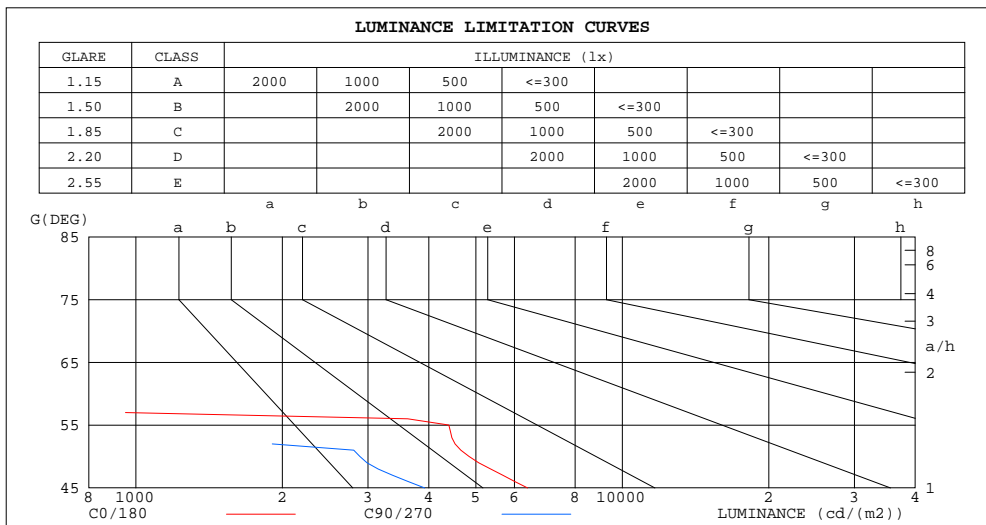
%lamp = 100.0%

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C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason Long
Test Date: 2019-12-04

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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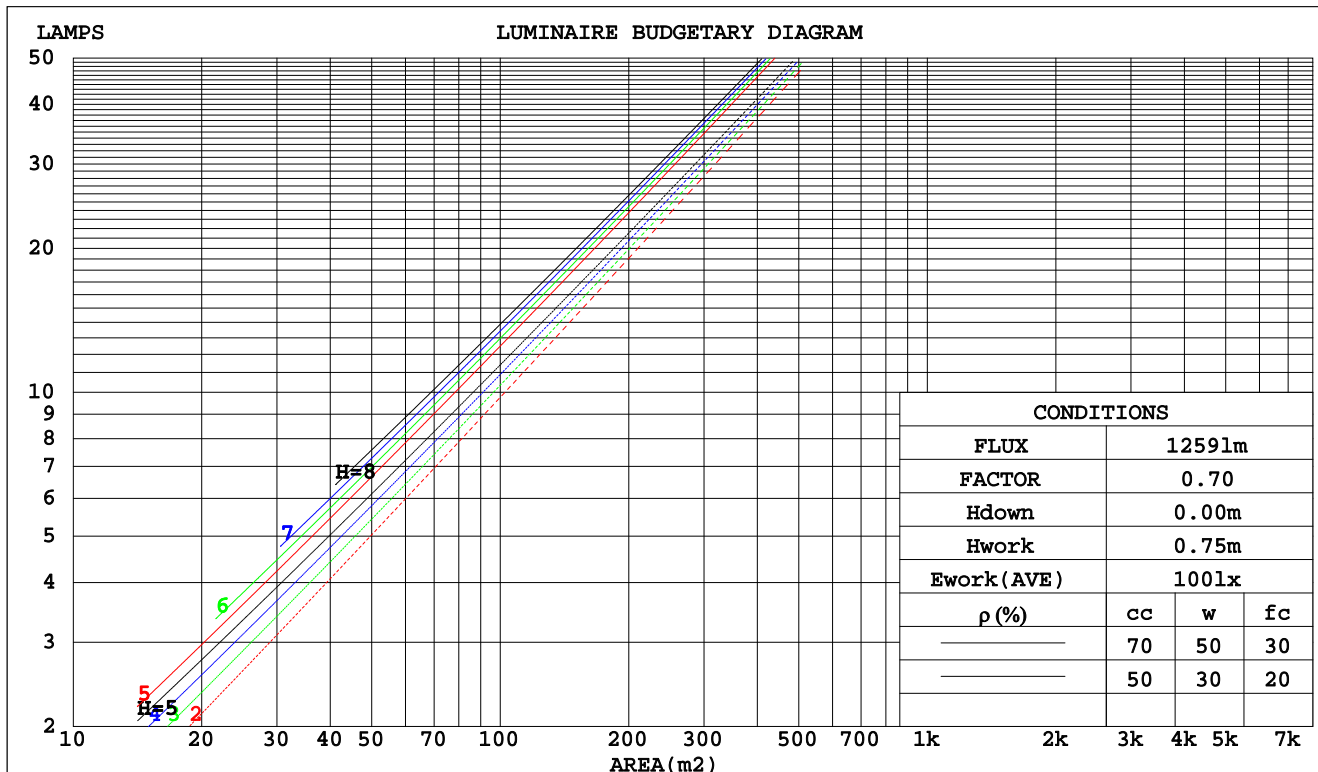
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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	1.13	1.11	1.09	1.11	1.09	1.07	1.07	1.05	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.07	1.04	1.02	1.06	1.03	1.01	1.03	1.01	.99	.00	.98	.97	.97	.96	.95	.93
3.0	1.03	.99	.96	1.01	.98	.95	.99	.96	.94	.97	.94	.93	.95	.93	.91	.90
4.0	.99	.95	.92	.98	.94	.91	.96	.93	.90	.94	.91	.89	.92	.90	.88	.87
5.0	.95	.91	.88	.94	.90	.87	.93	.89	.87	.91	.88	.86	.90	.87	.85	.84
6.0	.92	.87	.84	.91	.87	.84	.90	.86	.84	.88	.85	.83	.87	.85	.83	.82
7.0	.89	.84	.82	.88	.84	.81	.87	.84	.81	.86	.83	.81	.85	.82	.80	.79
8.0	.86	.82	.79	.85	.82	.79	.85	.81	.78	.84	.81	.78	.83	.80	.78	.77
9.0	.83	.79	.77	.83	.79	.76	.82	.79	.76	.82	.78	.76	.81	.78	.76	.75
10.0	.81	.77	.74	.81	.77	.74	.80	.77	.74	.79	.76	.74	.79	.76	.74	.73



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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	.138	.078	.025	.131	.075	.024	.119	.068	.022	.107	.062	.020	.097	.056	.018		
2.0	.128	.070	.022	.123	.068	.021	.113	.063	.019	.103	.058	.018	.094	.053	.017		
3.0	.120	.064	.019	.115	.062	.019	.107	.058	.018	.099	.054	.017	.091	.051	.016		
4.0	.112	.058	.017	.109	.057	.017	.101	.054	.016	.095	.051	.015	.088	.048	.015		
5.0	.106	.054	.016	.103	.053	.015	.096	.050	.015	.091	.048	.014	.085	.046	.014		
6.0	.100	.050	.014	.097	.049	.014	.092	.047	.014	.087	.045	.013	.082	.043	.013		
7.0	.095	.047	.013	.093	.046	.013	.088	.045	.013	.084	.043	.012	.080	.041	.012		
8.0	.091	.044	.012	.088	.044	.012	.084	.042	.012	.081	.041	.012	.077	.040	.012		
9.0	.086	.042	.012	.085	.041	.012	.081	.040	.011	.078	.039	.011	.075	.038	.011		
10.0	.083	.040	.011	.081	.039	.011	.078	.038	.011	.075	.037	.011	.072	.036	.010		

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	.168	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.136	.113	.096	.116	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.123	.098	.079	.106	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.113	.086	.066	.097	.074	.057	.067	.052	.040	.039	.030	.024	.012	.010	.008	
6.0	.104	.076	.055	.089	.066	.048	.062	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.096	.068	.047	.083	.059	.041	.057	.041	.029	.033	.024	.017	.011	.008	.006	
8.0	.090	.061	.041	.077	.053	.036	.053	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.084	.055	.036	.072	.048	.031	.050	.034	.022	.029	.020	.013	.009	.007	.004	
10.0	.079	.050	.031	.068	.044	.027	.047	.031	.019	.028	.018	.012	.009	.006	.004	

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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:

UGR(Unified Glare Rating) Table

Test:U:48.00V I:0.2734A P:13.12W PF:1.000 Freq:0Hz Lamp Flux:1259.36x1 lm										
NAME: ML26-AL280-13W-940-20					TYPE:Low Voltage Track System Module					
SPEC.:4000K					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	8.8	9.5	9.0	9.6	9.8	6.5	7.2	6.8	7.4	7.5
3H	8.7	9.3	8.9	9.5	9.7	6.4	7.0	6.6	7.2	7.4
4H	8.6	9.2	8.8	9.4	9.6	6.3	6.9	6.6	7.1	7.3
6H	8.5	9.1	8.8	9.3	9.5	6.2	6.8	6.5	7.0	7.3
8H	8.5	9.0	8.8	9.2	9.5	6.2	6.7	6.5	7.0	7.2
12H	8.4	8.9	8.7	9.2	9.5	6.1	6.7	6.5	6.9	7.2
4H 2H	8.6	9.2	8.9	9.4	9.6	6.4	7.0	6.7	7.2	7.4
3H	8.5	9.0	8.8	9.2	9.5	6.3	6.8	6.6	7.0	7.3
4H	8.4	8.8	8.7	9.1	9.4	6.2	6.6	6.5	6.9	7.2
6H	8.3	8.7	8.6	9.0	9.3	6.1	6.5	6.4	6.8	7.2
8H	8.2	8.6	8.6	8.9	9.3	6.0	6.4	6.4	6.7	7.1
12H	8.2	8.5	8.6	8.9	9.3	6.0	6.3	6.4	6.7	7.1
8H 4H	8.2	8.6	8.6	8.9	9.3	6.0	6.4	6.4	6.7	7.1
6H	8.1	8.4	8.5	8.8	9.2	5.9	6.2	6.3	6.6	7.0
8H	8.0	8.3	8.5	8.7	9.2	5.8	6.1	6.3	6.5	7.0
12H	8.0	8.2	8.4	8.7	9.1	5.8	6.0	6.2	6.5	6.9
12H 4H	8.2	8.5	8.6	8.9	9.3	6.0	6.3	6.4	6.7	7.1
6H	8.0	8.3	8.5	8.7	9.2	5.8	6.1	6.3	6.5	7.0
8H	8.0	8.2	8.4	8.7	9.1	5.8	6.0	6.2	6.5	6.9
Variations with the observer position at spacings:										
S = 1.0H	+ 2.3 / - 9.8					+ 2.6 / -21.9				
1.5H	+ 2.8 / - 2.1					+ 2.4 / - 5.8				
2.0H	+ 4.1 / -24.9					+ 3.9 / -21.2				

CIE Pub.117, 1259 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 0.8$)

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Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

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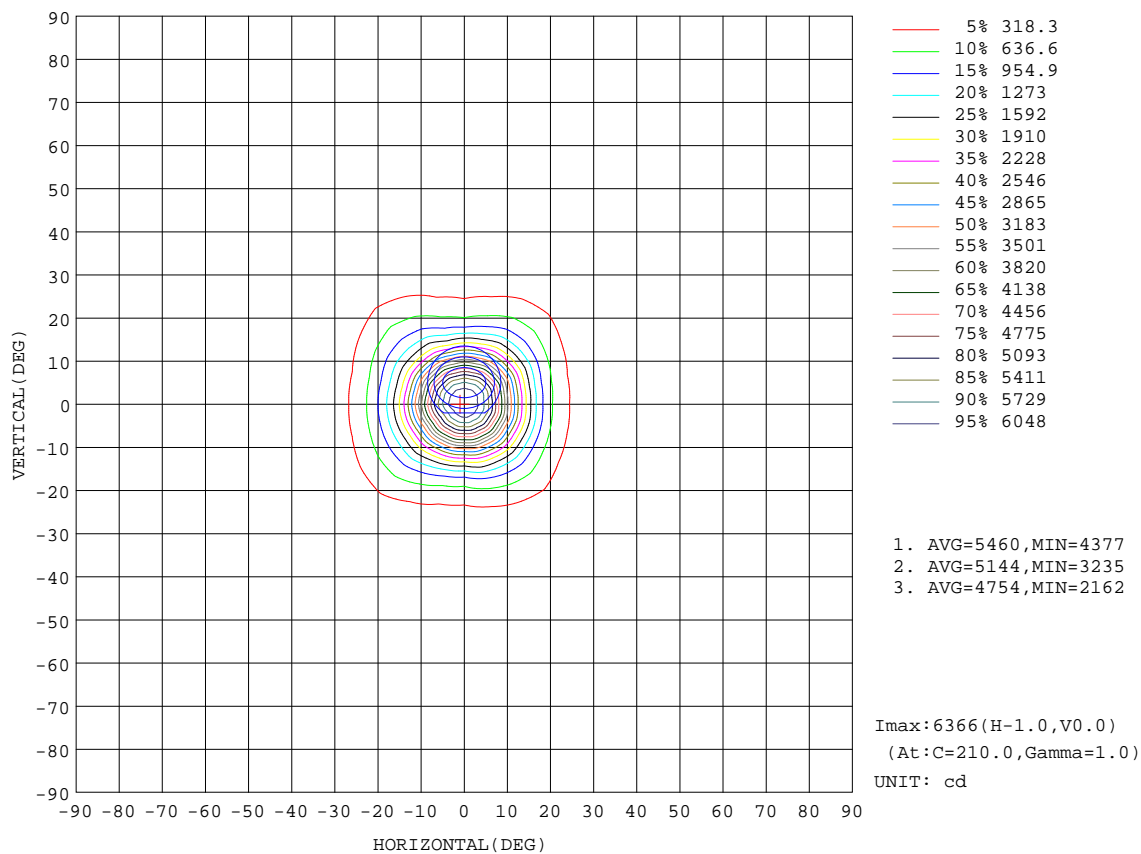
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	90	84	80	89	84	80	89	83	80	77
0.80	97	92	88	96	91	88	95	91	88	84
1.00	101	96	93	100	95	92	99	95	92	88
1.25	105	100	97	104	99	96	102	98	96	92
1.50	107	103	100	106	102	99	104	101	98	94
2.00	110	106	103	108	105	102	105	103	100	95
2.50	111	108	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	116	113	112	113	112	110	109	108	107	100
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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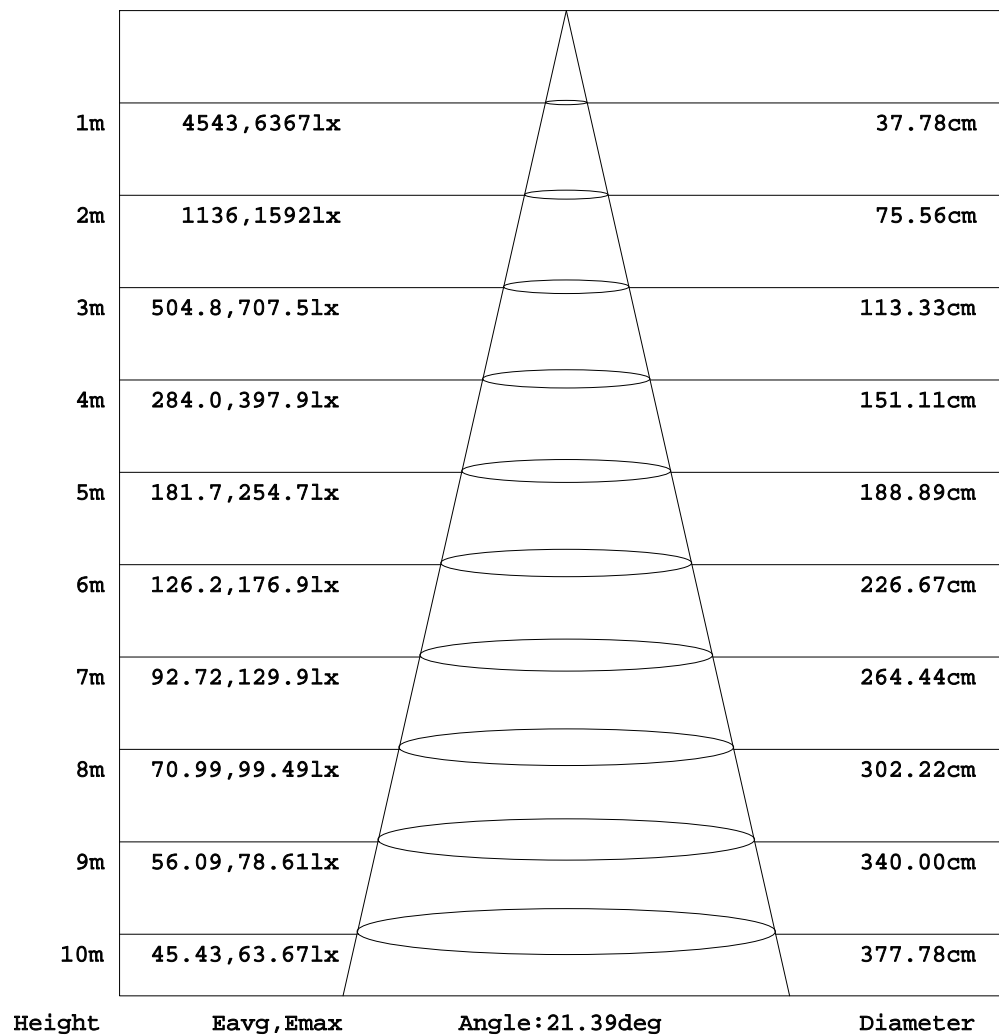
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AAI Figure

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Flux out:539.3 lm



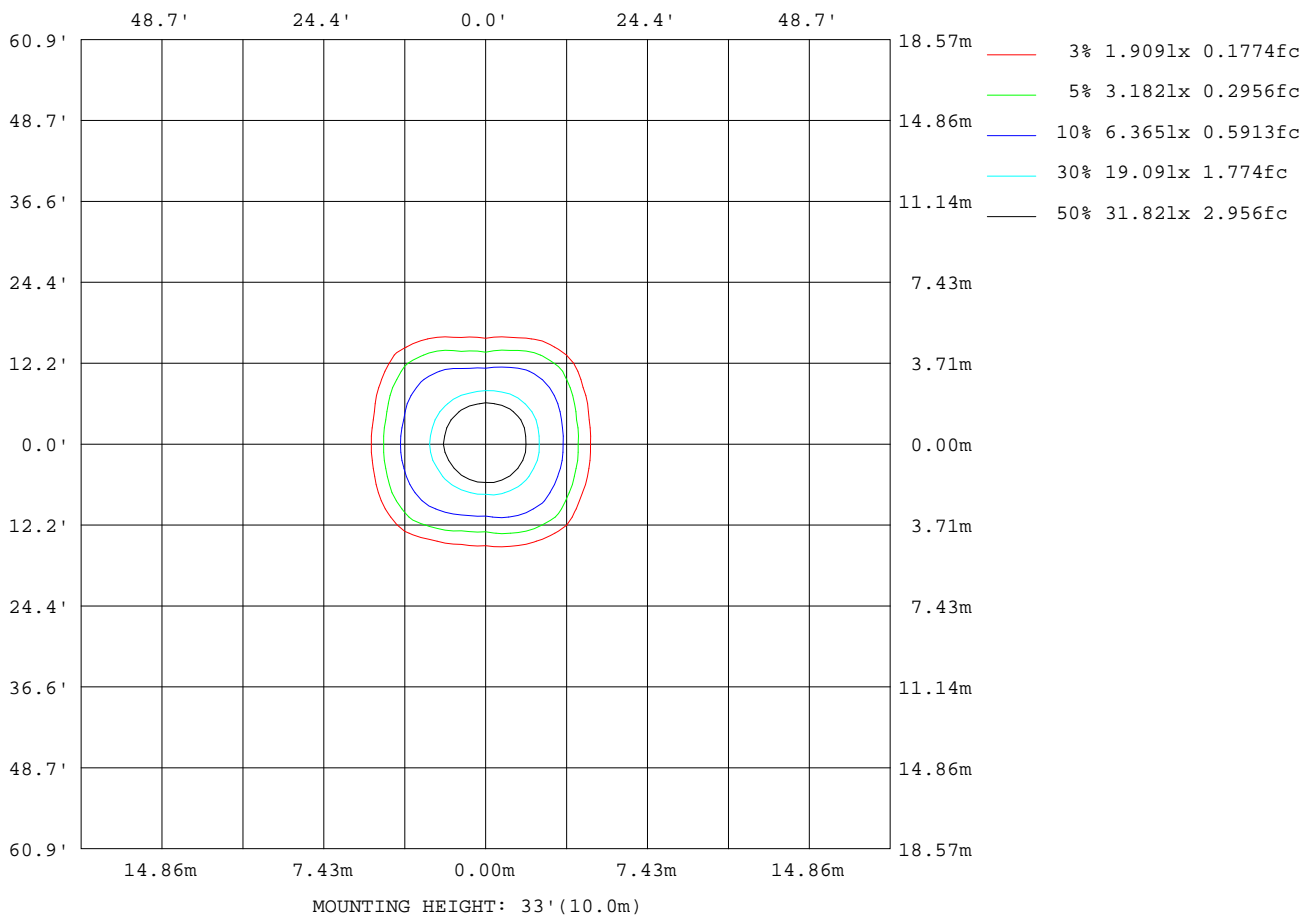
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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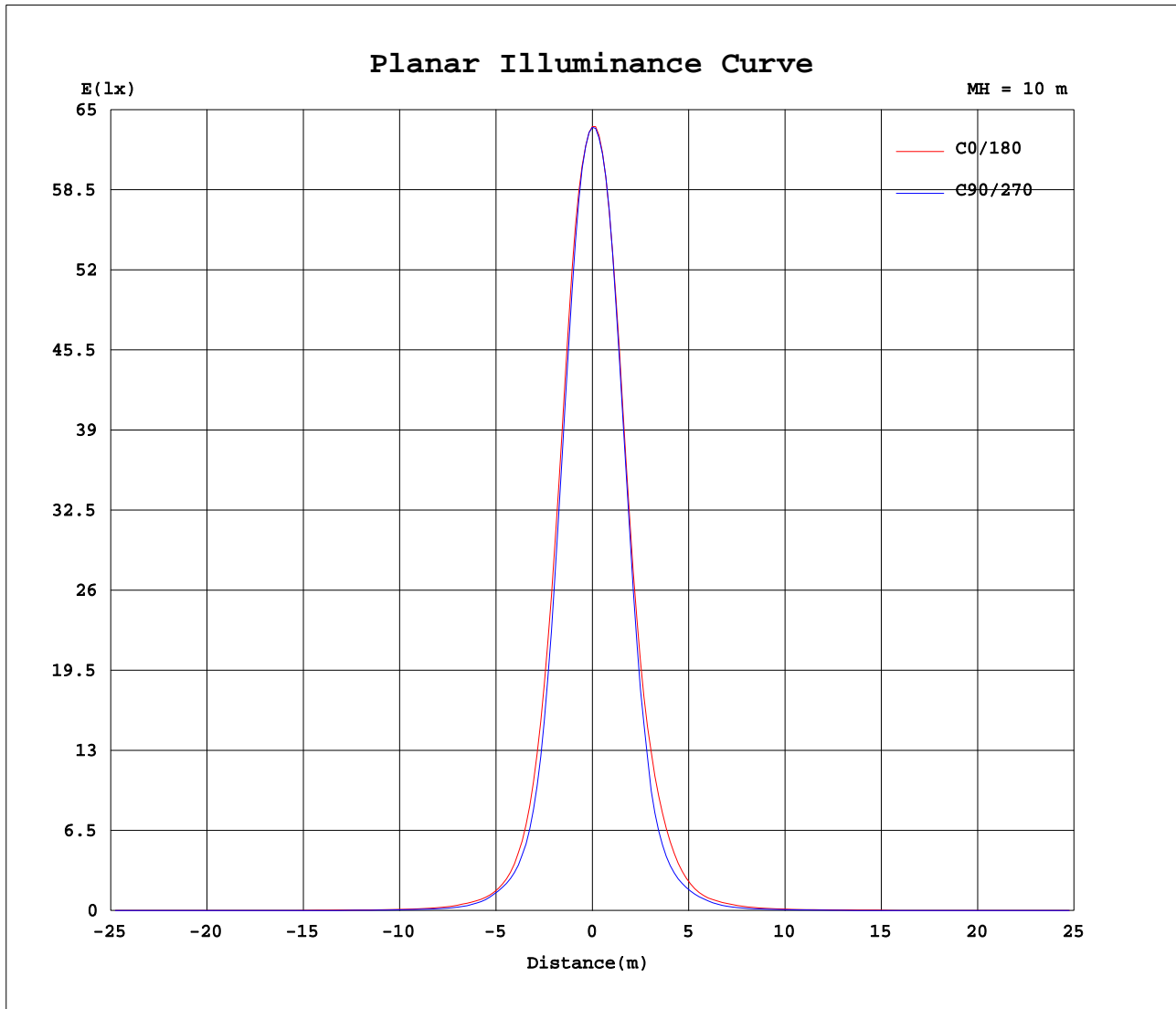
AvgL	cd/m2
L_0~180(65)av	31
L_0~180(75)av	30
L_0~180(85)av	68
L_90~270(65)av	46
L_90~270(75)av	39
L_90~270(85)av	68
L_45(65)av	35
L_45(75)av	31
L_45(85)av	72

Standard: GB/T 29293-2012

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C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-12-04

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: Jason Long
Test Date: 2019-12-04

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:

```

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:

```

```

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:

```