

Low Voltage Track System Module ML26-AL190-3W-930-20



Light Output Ratio:	100.0%	
Luminaire Power:	2.938 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
Test Date: 2020-05-04

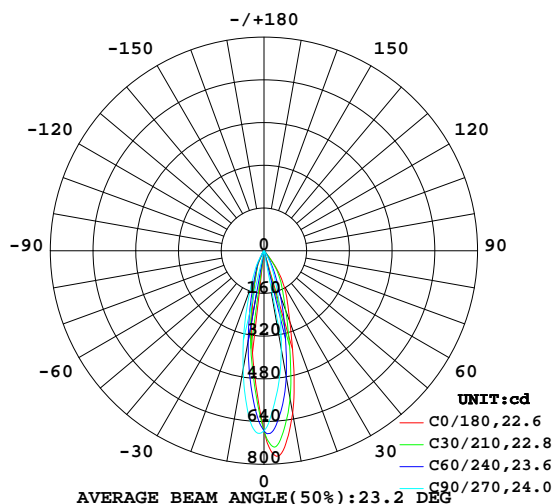
γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

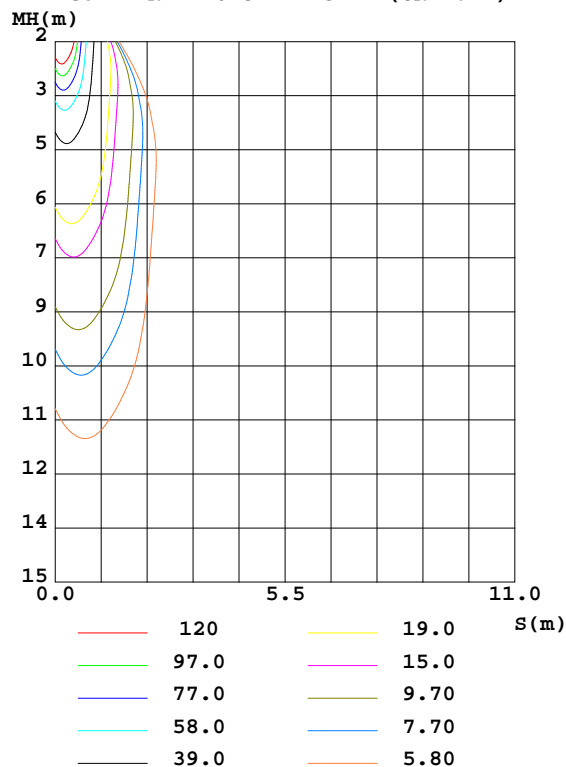
Test:U:48.00V I:0.0612A P:2.938W PF:1.000 Freq:0Hz Lamp Flux:190.42lx1 lm		
NAME: ML26-AL190-3W-930-20	TYPE:Low Voltage Track System Module	
SPEC.:3000K	DIM.: L192mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 64.82 lm/W
MODEL	OSRAM-3000K	I _{max} (cd)	792.8	S/MH(C0/180)	0.27	
NOMINAL POWER(W)	3	LOR(%)	100.0	S/MH(C90/270)	0.44	
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	190.42	η UP,DN(C0-180)	0.0,50.3	
NOMINAL FLUX(lm)	190.421	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.7	
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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ZONAL FLUX DIAGRAM

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γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	618.3	527.8	374.8	275.2	266.1	308.7	452.0	597.3	0- 10	51.34	51.34	27,27
20	284.9	203.9	131.6	86.36	81.56	88.10	145.9	222.0	10- 20	73.93	125.3	65.8,65.8
30	146.0	66.78	28.08	14.38	12.36	14.93	34.66	73.18	20- 30	44.01	169.3	88.9,88.9
40	16.42	9.769	5.827	4.503	4.597	5.061	6.981	10.70	30- 40	16.86	186.1	97.8,97.8
50	5.852	3.550	1.997	0.9452	1.081	1.169	2.216	2.841	40- 50	3.465	189.6	99.6,99.6
60	0.0498	0.0305	0.0484	0.0328	0.0411	0.0613	0.0351	0.0503	50- 60	0.7638	190.4	100,100
70	0.0238	0.0087	0.0241	0.0088	0.0108	0.0327	0.0066	0.0241	60- 70	0.0285	190.4	100,100
80	0.0130	0.0087	0.0154	0.0088	0.0065	0.0153	0.0066	0.0110	70- 80	0.0148	190.4	100,100
90	0.0087	0.0087	0.0088	0.0088	0.0065	0.0066	0.0066	0.0066	80- 90	0.0104	190.4	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): 188.29 lm

%lum = 98.9%

%lamp = 98.9%

Conical surface Flux(120deg): 190.37 lm

%lum = 100.0%

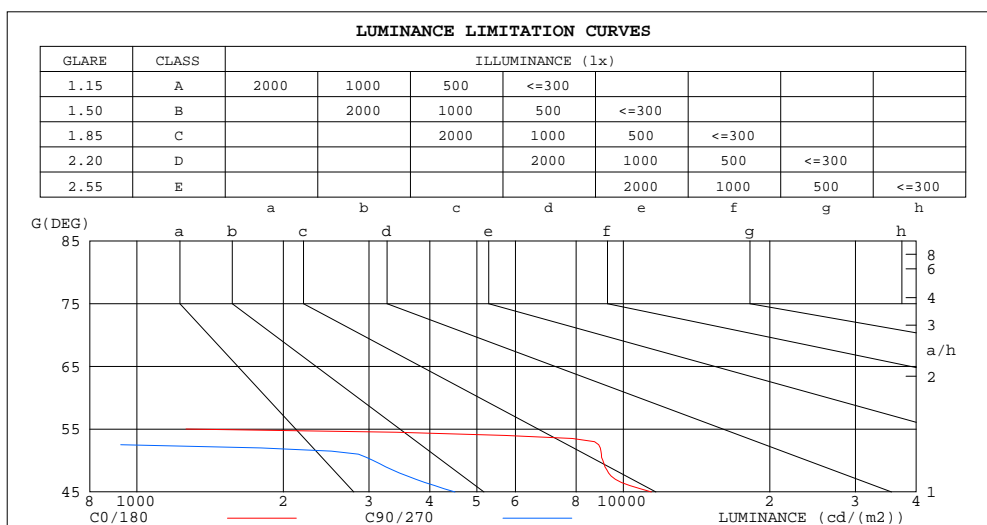
%lamp = 100.0%

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Humidity:58%
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Remarks:

LUMINANCE LIMITATION CURVES

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SPEC.:3000K	DIM.: L192mm*W22mm*H43mm	
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	124	124
80	75	87
75	67	67
70	69	69
65	77	82
60	99	95
55	1262	144
50	9075	3059
45	11422	4507

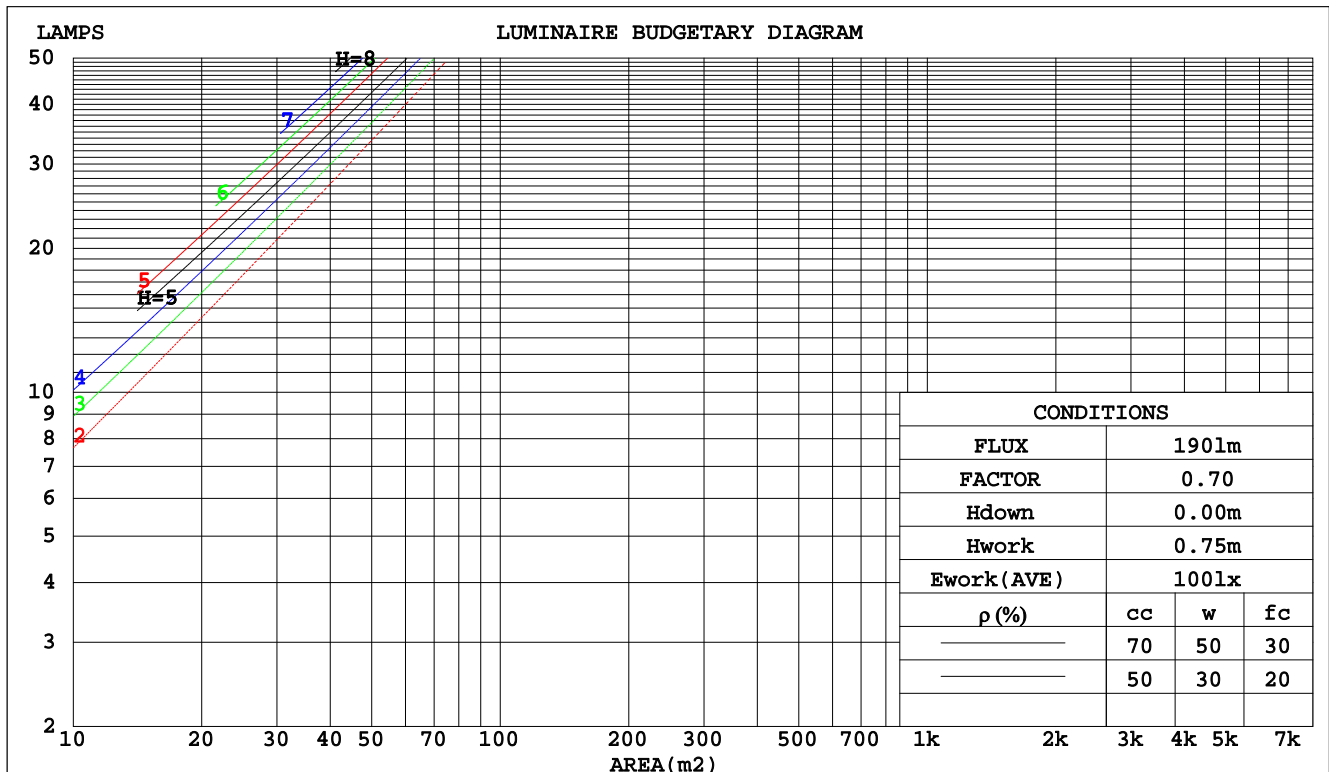
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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SPEC.:3000K	DIM.: L192mm*W22mm*H43mm	
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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	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	1.01	.99	.97	.99	.97	.95	.96	.94	.93	.91
3.0	1.01	.97	.94	.90	.96	.93	.97	.94	.92	.95	.92	.90	.93	.91	.89	.87
4.0	.96	.92	.88	.95	.91	.88	.93	.90	.87	.91	.88	.86	.90	.87	.85	.84
5.0	.92	.87	.84	.91	.87	.84	.89	.86	.83	.88	.85	.82	.86	.84	.82	.80
6.0	.88	.83	.80	.87	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.78	.77
7.0	.85	.80	.77	.84	.79	.76	.83	.79	.76	.82	.78	.76	.81	.78	.75	.74
8.0	.81	.77	.73	.81	.76	.73	.80	.76	.73	.79	.75	.73	.78	.75	.72	.71
9.0	.78	.74	.71	.78	.73	.70	.77	.73	.70	.76	.73	.70	.76	.72	.70	.69
10.0	.76	.71	.68	.75	.71	.68	.74	.70	.68	.74	.70	.68	.73	.70	.67	.66



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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	.149	.085	.027	.142	.081	.026	.130	.074	.024	.118	.068	.022	.108	.062	.020		
2.0	.140	.076	.023	.134	.074	.023	.124	.069	.021	.114	.064	.020	.105	.060	.019		
3.0	.131	.070	.021	.127	.068	.020	.118	.064	.019	.110	.060	.018	.103	.057	.018		
4.0	.124	.064	.019	.120	.063	.019	.113	.060	.018	.106	.057	.017	.100	.054	.016		
5.0	.118	.060	.017	.114	.059	.017	.108	.056	.017	.102	.054	.016	.096	.052	.015		
6.0	.112	.056	.016	.109	.055	.016	.103	.053	.015	.098	.051	.015	.093	.049	.015		
7.0	.107	.053	.015	.104	.052	.015	.099	.050	.014	.095	.049	.014	.090	.047	.014		
8.0	.102	.050	.014	.100	.049	.014	.095	.048	.014	.091	.046	.013	.088	.045	.013		
9.0	.098	.047	.013	.096	.047	.013	.092	.045	.013	.088	.044	.013	.085	.043	.012		
10.0	.094	.045	.012	.092	.044	.012	.088	.043	.012	.085	.042	.012	.082	.041	.012		

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	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.116	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013	
3.0	.138	.113	.094	.118	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.116	.086	.064	.100	.074	.056	.069	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.108	.076	.054	.093	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.101	.068	.046	.087	.059	.040	.060	.042	.028	.035	.024	.017	.011	.008	.006	
8.0	.094	.062	.039	.081	.054	.034	.056	.038	.024	.033	.022	.015	.011	.007	.005	
9.0	.089	.056	.034	.077	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.084	.052	.030	.073	.045	.026	.050	.032	.019	.029	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
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Test Speed: HIGH
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Operators:Jason
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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:0.0612A P:2.938W PF:1.000 Freq:0Hz Lamp Flux:190.42lx1 lm										
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SPEC.:3000K					DIM.: L192mm*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	25.6	26.3	25.8	26.5	26.6	15.8	16.5	16.0	16.7	16.8
3H	25.4	26.1	25.7	26.3	26.5	15.6	16.3	15.9	16.5	16.7
4H	25.4	26.0	25.6	26.2	26.4	15.6	16.2	15.8	16.4	16.6
6H	25.3	25.9	25.6	26.1	26.4	15.5	16.1	15.8	16.3	16.6
8H	25.2	25.8	25.5	26.1	26.3	15.4	16.0	15.7	16.3	16.5
12H	25.2	25.7	25.5	26.0	26.3	15.4	15.9	15.7	16.2	16.5
4H 2H	25.4	26.0	25.6	26.2	26.4	15.6	16.2	15.8	16.4	16.6
3H	25.2	25.7	25.5	26.0	26.3	15.4	16.0	15.7	16.2	16.5
4H	25.1	25.6	25.4	25.9	26.2	15.3	15.8	15.6	16.1	16.4
6H	25.0	25.4	25.4	25.8	26.1	15.2	15.7	15.6	16.0	16.3
8H	24.9	25.4	25.3	25.7	26.1	15.1	15.6	15.5	15.9	16.3
12H	24.9	25.3	25.3	25.6	26.0	15.1	15.5	15.5	15.9	16.2
8H 4H	24.9	25.4	25.3	25.7	26.1	15.1	15.6	15.5	15.9	16.3
6H	24.8	25.2	25.2	25.6	26.0	15.0	15.4	15.5	15.8	16.2
8H	24.8	25.1	25.2	25.5	25.9	15.0	15.3	15.4	15.7	16.1
12H	24.7	25.0	25.2	25.4	25.9	14.9	15.2	15.4	15.6	16.1
12H 4H	24.9	25.3	25.3	25.6	26.0	15.1	15.5	15.5	15.9	16.2
6H	24.8	25.1	25.2	25.5	25.9	15.0	15.3	15.4	15.7	16.1
8H	24.7	25.0	25.2	25.4	25.9	14.9	15.2	15.4	15.6	16.1
Variations with the observer position at spacings:										
S = 1.0H	+ 4.9 / -31.1					+ 2.7 / -21.7				
1.5H	+ 7.2 / -26.4					+ 3.1 / -20.6				
2.0H	+ 5.4 / -24.6					+ 4.8 / -19.9				

CIE Pub.117, 190.4 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -5.8)

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UTILIZATION FACTORS TABLE

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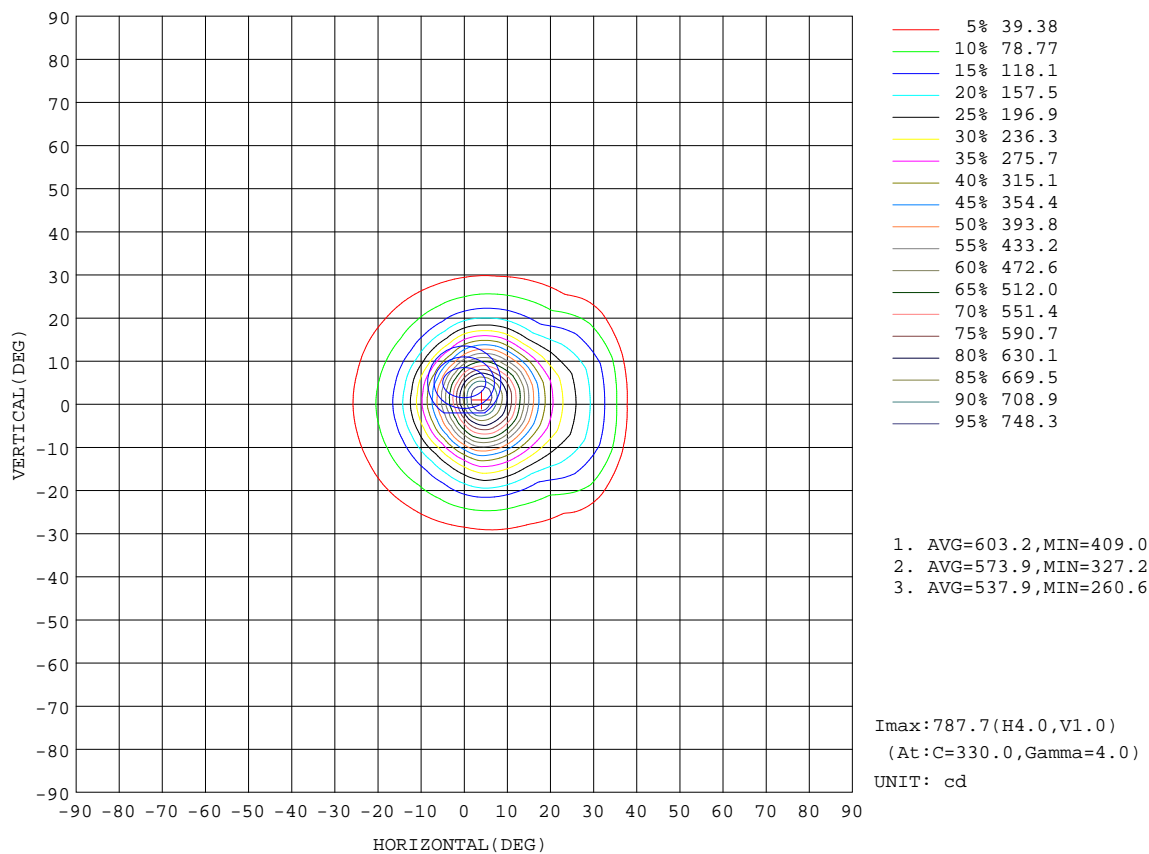
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	88	97	92	88	95	91	88	85
1.00	101	96	93	100	96	92	99	95	92	88
1.25	105	100	97	104	100	97	102	98	96	92
1.50	107	103	100	106	102	99	104	101	98	94
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	106	104	107	104	102	96
3.00	112	109	107	111	108	106	107	105	104	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	116	114	112	113	112	110	110	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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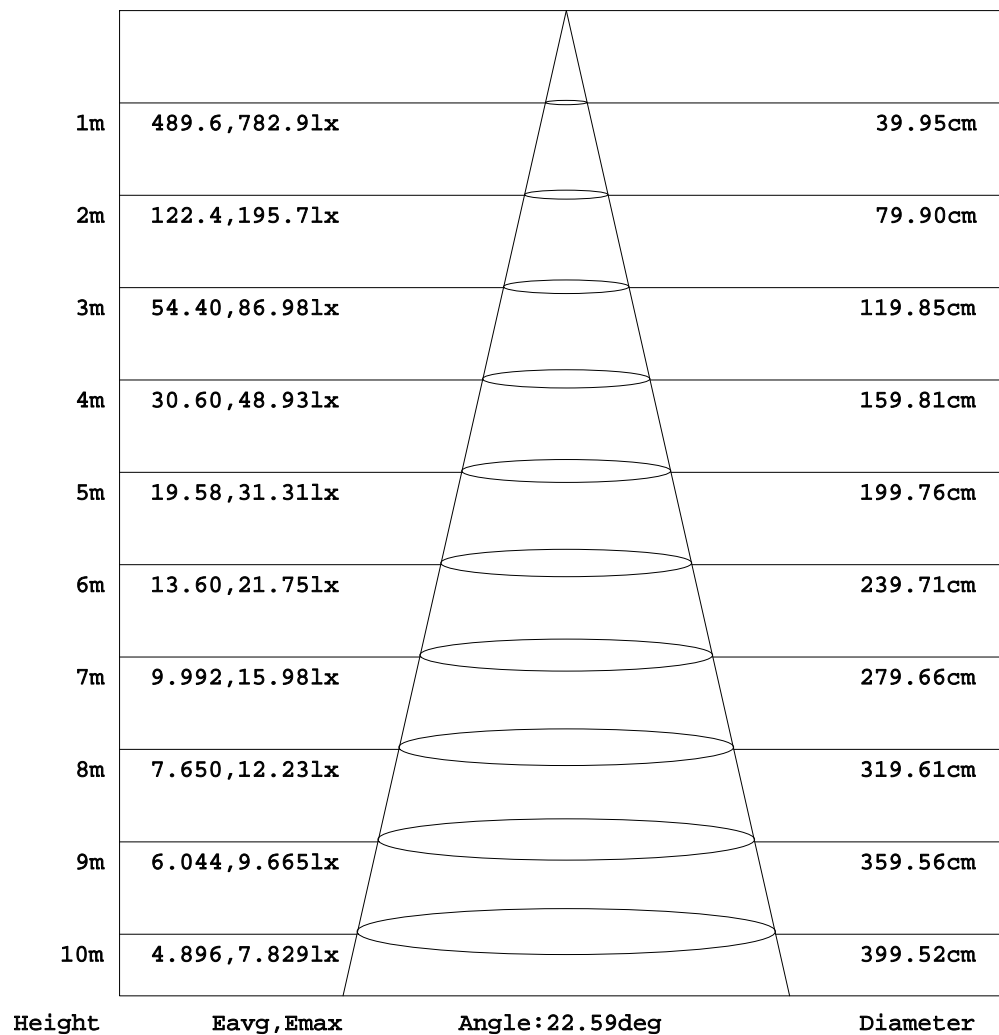
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AAI Figure

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Flux out:63.67 lm



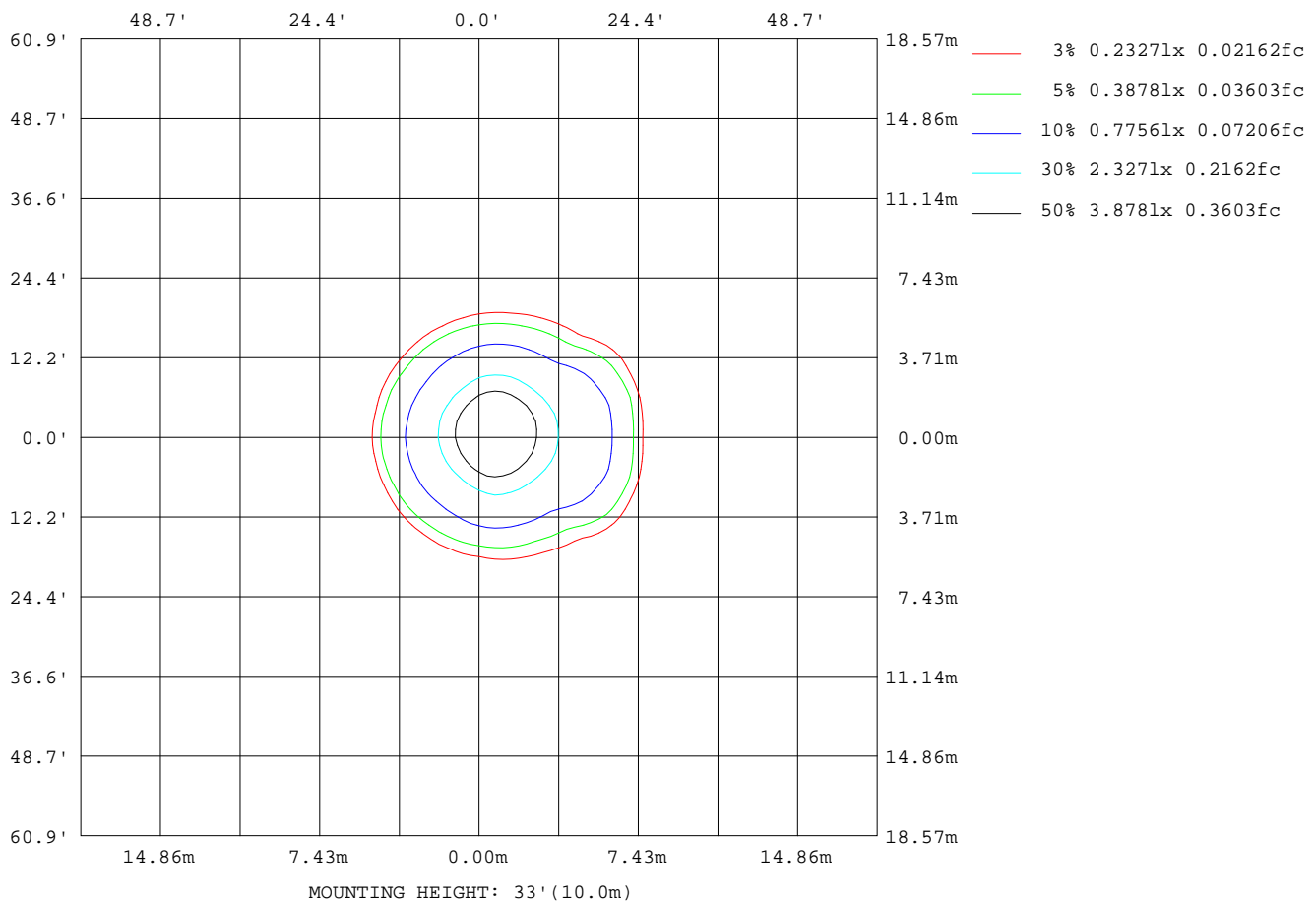
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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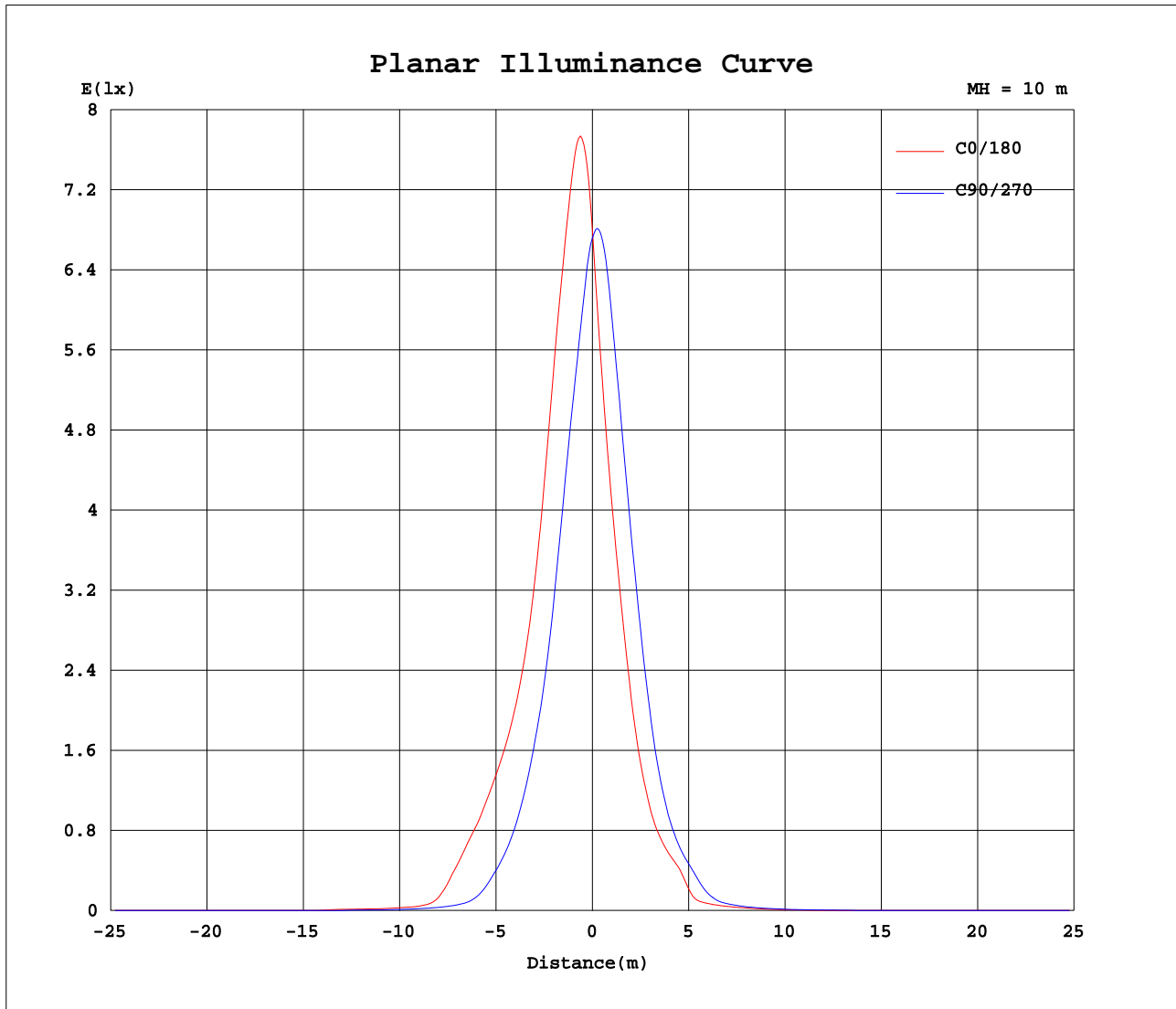
AvgL	cd/m2
L_0~180(65)av	71
L_0~180(75)av	46
L_0~180(85)av	98
L_90~270(65)av	62
L_90~270(75)av	46
L_90~270(85)av	100
L_45(65)av	64
L_45(75)av	56
L_45(85)av	112

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:2020-05-04

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
Test Date: 2020-05-04

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:

```