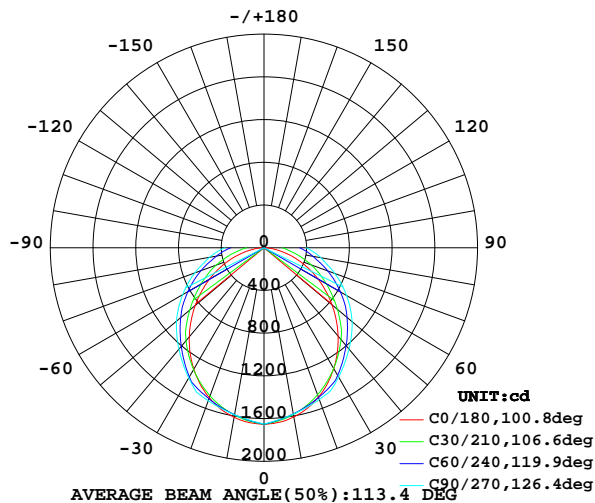


LUMINAIRE PHOTOMETRIC TEST REPORT

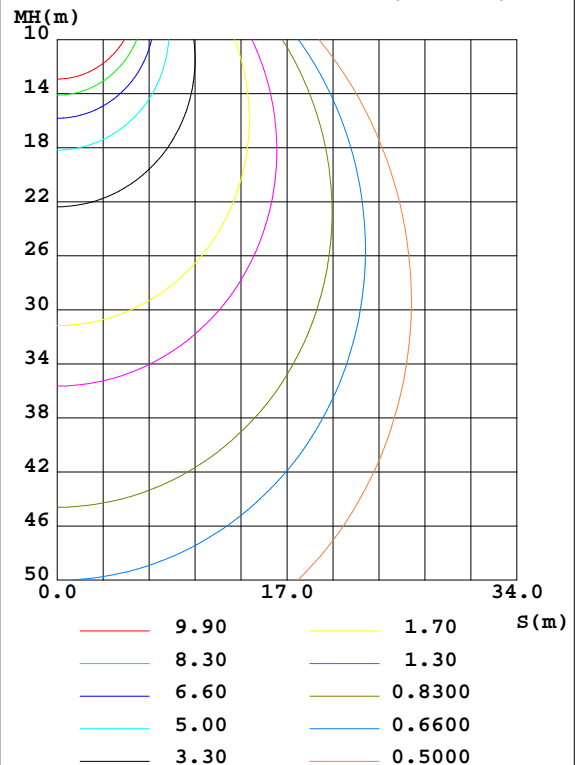
Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 135.92 lm/W			
MODEL	5000K	I _{max} (cd)	1652	S/MH(C0/180)	1.19
NOMINAL POWER(W)	36	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	5044.4	η UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	5044.37	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-06-16

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:8.900m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
5	1640	1621	1616	1622	1642	1624	1619	1623	0- 5	39.08	39.08	0.77,0.77
10	1609	1582	1582	1584	1612	1588	1588	1586	5- 10	114.9	154.0	3.05,3.05
15	1558	1533	1547	1536	1564	1541	1556	1540	10- 15	185.8	339.7	6.74,6.74
20	1489	1477	1512	1482	1496	1490	1525	1485	15- 20	250.0	589.7	11.7,11.7
25	1405	1414	1478	1420	1412	1429	1493	1425	20- 25	306.2	895.9	17.8,17.8
30	1307	1347	1398	1354	1314	1363	1409	1360	25- 30	352.0	1248	24.7,24.7
35	1197	1266	1318	1273	1206	1282	1324	1279	30- 35	384.1	1632	32.4,32.4
40	1080	1161	1238	1168	1088	1174	1240	1170	35- 40	403.5	2035	40.4,40.4
45	955.8	1056	1158	1064	965.5	1067	1155	1063	40- 45	410.8	2446	48.5,48.5
50	831.9	954.1	1079	961.9	841.5	961.9	1071	957.5	45- 50	407.1	2853	56.6,56.6
55	706.7	854.9	985.5	864.4	716.1	861.7	975.3	857.0	50- 55	393.3	3247	64.4,64.4
60	583.0	758.2	892.4	767.4	590.2	763.7	880.0	758.9	55- 60	369.5	3616	71.7,71.7
65	461.8	655.7	799.3	663.2	468.1	658.3	784.6	654.8	60- 65	337.9	3954	78.4,78.4
70	344.2	558.5	706.2	564.0	349.5	557.9	689.3	556.1	65- 70	300.1	4254	84.3,84.3
75	232.5	466.6	613.1	469.5	235.3	462.8	594.0	462.8	70- 75	257.9	4512	89.4,89.4
80	131.8	382.8	540.3	383.6	134.3	375.4	517.6	376.8	75- 80	214.9	4727	93.7,93.7
85	52.21	319.6	467.5	318.2	56.04	307.8	441.1	308.7	80- 85	175.9	4903	97.2,97.2
90	15.55	260.1	394.8	256.2	22.76	243.5	364.6	244.0	85- 90	141.5	5044	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

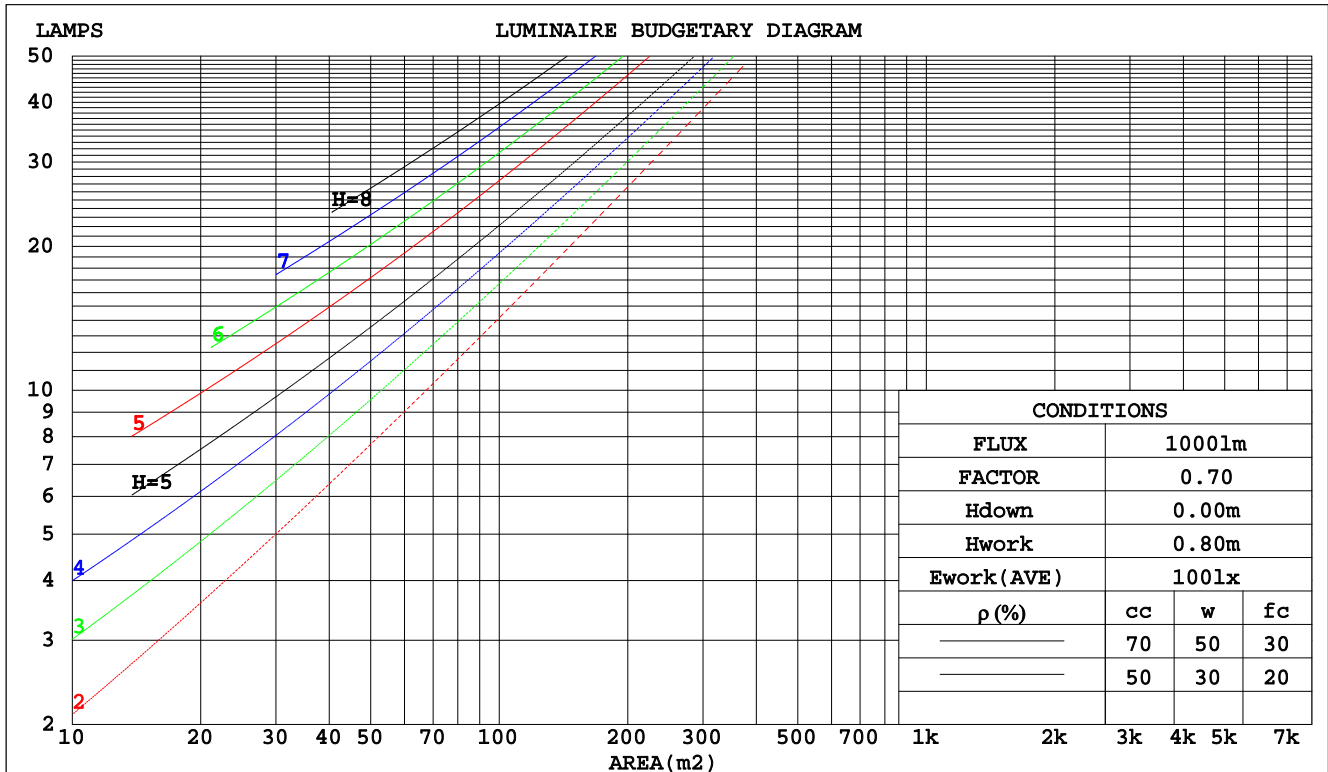
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 γ Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.900m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:

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	1.01	.96	.91	.99	.94	.90	.94	.90	.87	.90	.87	.84	.86	.84	.81	.79
2.0	.87	.79	.73	.85	.78	.72	.81	.75	.70	.78	.73	.69	.75	.71	.67	.65
3.0	.76	.67	.60	.74	.66	.59	.71	.64	.58	.68	.62	.57	.66	.61	.56	.54
4.0	.67	.58	.50	.66	.57	.50	.63	.55	.49	.61	.54	.49	.58	.53	.48	.46
5.0	.60	.50	.43	.59	.50	.43	.56	.49	.42	.54	.47	.42	.52	.46	.41	.39
6.0	.54	.44	.38	.53	.44	.37	.51	.43	.37	.49	.42	.37	.48	.41	.36	.34
7.0	.49	.40	.33	.48	.39	.33	.46	.38	.33	.45	.38	.32	.43	.37	.32	.30
8.0	.44	.36	.30	.44	.35	.29	.42	.35	.29	.41	.34	.29	.40	.34	.29	.27
9.0	.41	.32	.27	.40	.32	.26	.39	.32	.26	.38	.31	.26	.37	.31	.26	.24
10.0	.38	.29	.24	.37	.29	.24	.36	.29	.24	.35	.28	.24	.34	.28	.24	.22



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity: 65.0%
 Test Distance: 8.900m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm					
NAME: MLSN4-36/D10/U/50			TYPE:LED		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:1182*66*14mm		PROTECTION ANGLE:

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	.368	.209	.066	.361	.206	.065	.347	.199	.064	.335	.193	.062	.323	.187	.060	
2.0	.325	.178	.055	.319	.176	.054	.307	.171	.053	.296	.166	.052	.286	.162	.051	
3.0	.292	.156	.047	.287	.154	.046	.276	.150	.045	.266	.146	.045	.257	.142	.044	
4.0	.265	.138	.040	.260	.136	.040	.251	.133	.040	.242	.130	.039	.234	.127	.039	
5.0	.242	.123	.036	.238	.122	.036	.229	.119	.035	.221	.117	.035	.214	.114	.034	
6.0	.222	.112	.032	.219	.110	.032	.211	.108	.031	.204	.106	.031	.198	.104	.031	
7.0	.206	.102	.029	.202	.101	.029	.196	.099	.028	.189	.097	.028	.184	.095	.028	
8.0	.191	.093	.026	.188	.093	.026	.182	.091	.026	.177	.090	.026	.171	.088	.026	
9.0	.179	.086	.024	.176	.086	.024	.170	.084	.024	.165	.083	.024	.161	.082	.024	
10.0	.167	.080	.022	.165	.080	.022	.160	.078	.022	.156	.077	.022	.151	.076	.022	

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	.184	.156	.130	.158	.134	.112	.108	.092	.077	.062	.053	.045	.020	.017	.015	
2.0	.177	.132	.094	.151	.113	.081	.104	.078	.057	.060	.046	.033	.019	.015	.011	
3.0	.169	.114	.071	.145	.099	.062	.099	.069	.043	.057	.040	.026	.018	.013	.008	
4.0	.161	.101	.056	.138	.088	.049	.095	.061	.034	.055	.036	.020	.018	.012	.007	
5.0	.153	.091	.045	.131	.079	.040	.090	.055	.028	.052	.032	.017	.017	.011	.005	
6.0	.145	.083	.038	.125	.072	.033	.086	.050	.023	.050	.029	.014	.016	.010	.005	
7.0	.138	.076	.032	.119	.066	.028	.082	.046	.020	.048	.027	.012	.015	.009	.004	
8.0	.131	.070	.028	.113	.061	.024	.078	.043	.017	.045	.025	.010	.015	.008	.003	
9.0	.125	.065	.025	.108	.056	.022	.075	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.119	.061	.022	.103	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.900m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm										
NAME: MLSN4-36/D10/U/50					TYPE:LED			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:1182*66*14mm			PROTECTION ANGLE:		
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	17.3	18.9	17.6	19.1	19.3	19.1	20.7	19.4	20.9	21.1
	3H	18.6	20.1	18.9	20.3	20.6	21.4	22.9	21.7	23.1
	4H	19.1	20.5	19.4	20.8	21.1	22.6	24.0	22.9	24.3
	6H	19.5	20.8	19.8	21.1	21.4	24.0	25.3	24.3	25.6
	8H	19.5	20.8	19.9	21.1	21.4	24.7	26.0	25.1	26.3
	12H	19.6	20.8	19.9	21.1	21.4	25.6	26.8	25.9	27.1
4H	2H	18.3	19.7	18.6	20.0	20.2	19.7	21.1	20.0	21.3
	3H	19.9	21.2	20.3	21.5	21.8	22.2	23.5	22.6	23.8
	4H	20.6	21.8	21.0	22.1	22.4	23.6	24.8	24.0	25.1
	6H	21.1	22.1	21.5	22.5	22.9	25.2	26.2	25.6	26.6
	8H	21.2	22.2	21.7	22.6	23.0	26.1	27.1	26.5	27.4
	12H	21.3	22.2	21.8	22.6	23.0	27.1	28.0	27.5	28.4
8H	4H	21.5	22.4	21.9	22.8	23.2	23.9	24.9	24.4	25.3
	6H	22.3	23.1	22.7	23.5	24.0	25.8	26.6	26.3	27.1
	8H	22.6	23.4	23.1	23.8	24.3	26.9	27.7	27.4	28.1
	12H	22.9	23.5	23.4	24.0	24.5	28.2	28.8	28.7	29.3
12H	4H	21.7	22.6	22.1	23.0	23.4	24.0	24.9	24.4	25.3
	6H	22.8	23.5	23.2	23.9	24.4	25.9	26.7	26.4	27.1
	8H	23.3	23.9	23.7	24.4	24.8	27.1	27.8	27.6	28.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.1 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 5044 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.6)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.900m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:

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	55	43	36	55	43	36	53	43	36	29
0.80	65	53	45	64	52	45	62	52	45	37
1.00	73	61	53	72	61	53	69	62	53	45
1.25	80	69	61	78	68	60	76	66	60	52
1.50	85	74	66	83	73	66	80	71	65	57
2.00	92	82	75	90	81	74	86	79	73	64
2.50	96	87	80	94	86	79	90	83	78	69
3.00	99	92	85	97	90	84	93	87	82	73
4.00	104	97	92	101	95	90	97	92	88	78
5.00	106	101	96	104	99	94	99	95	91	81
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.900m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:

Conical surface Flux(90deg):

2446.3 lm

%lum = 48.5%

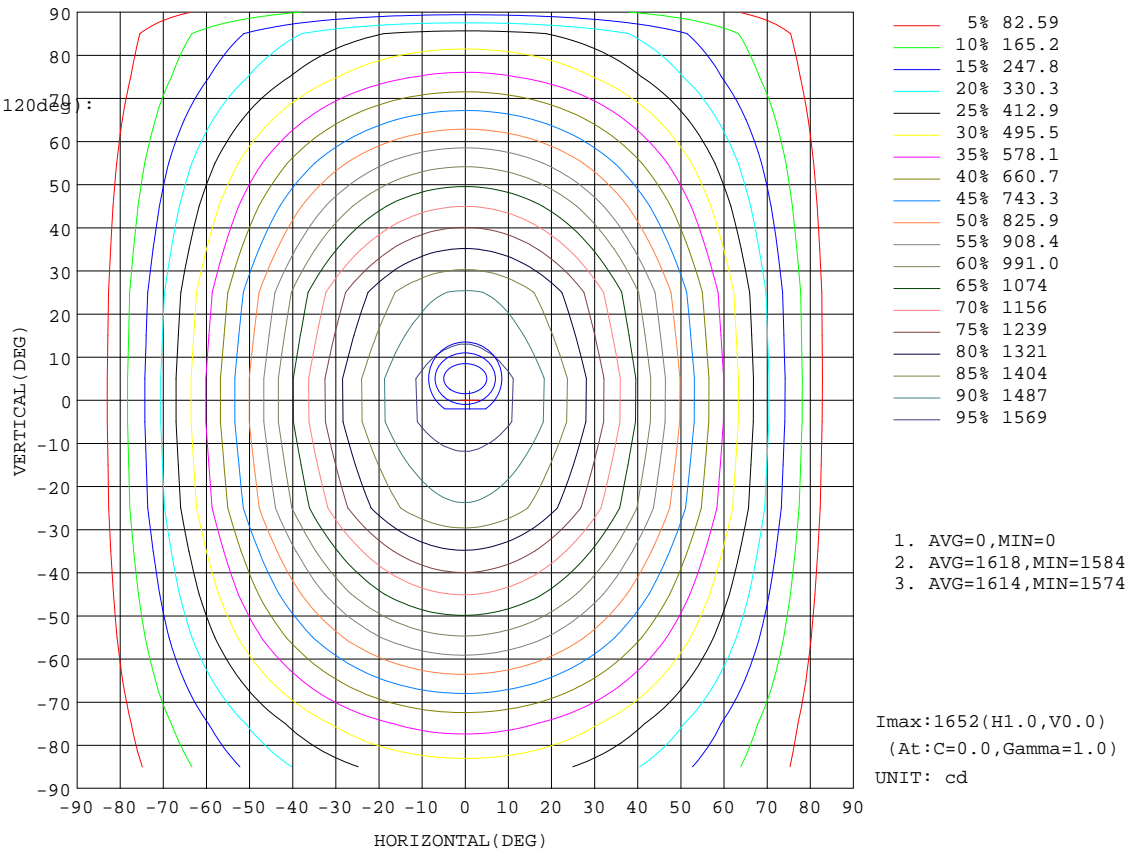
%lamp = 48.5%

Conical surface Flux(120deg):

3616.2 lm

%lum = 71.7%

%lamp = 71.7%

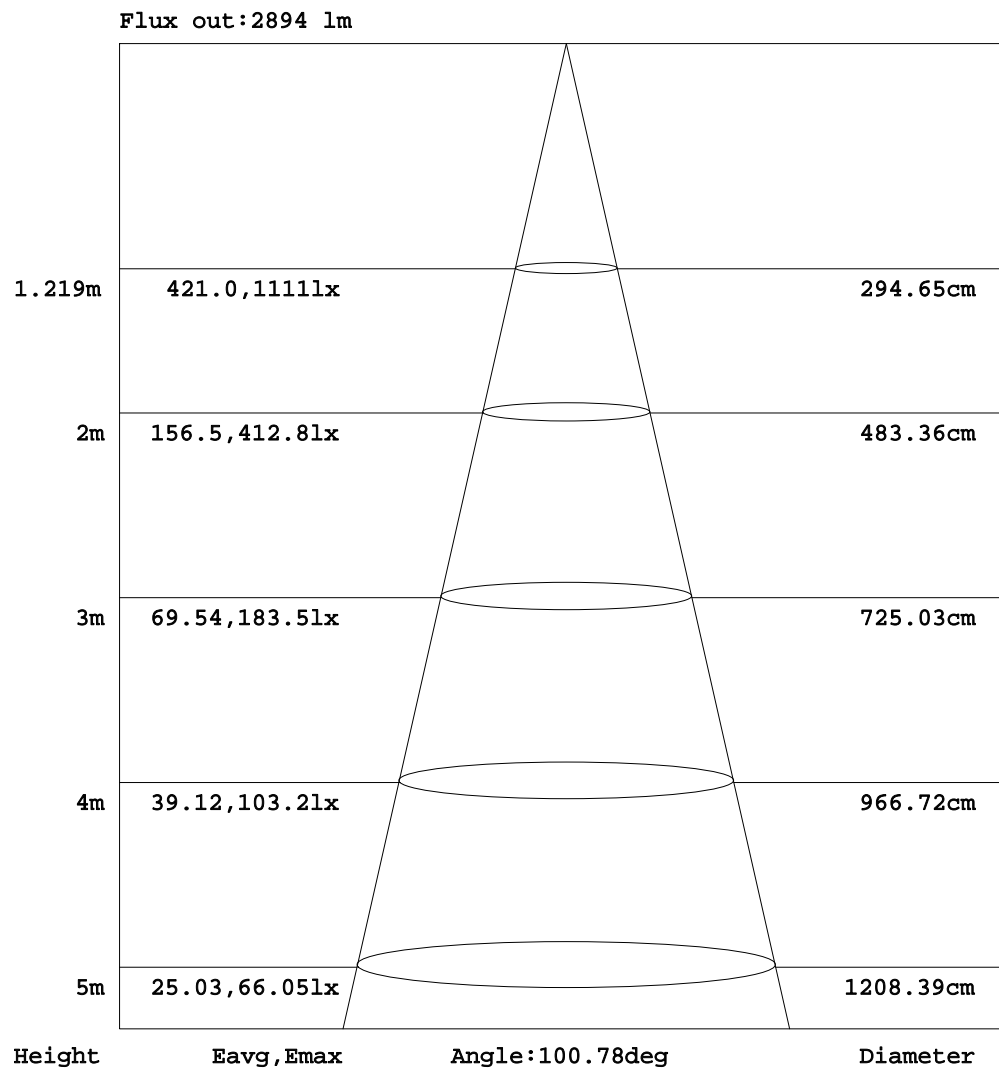


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-06-16

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:8.900m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:



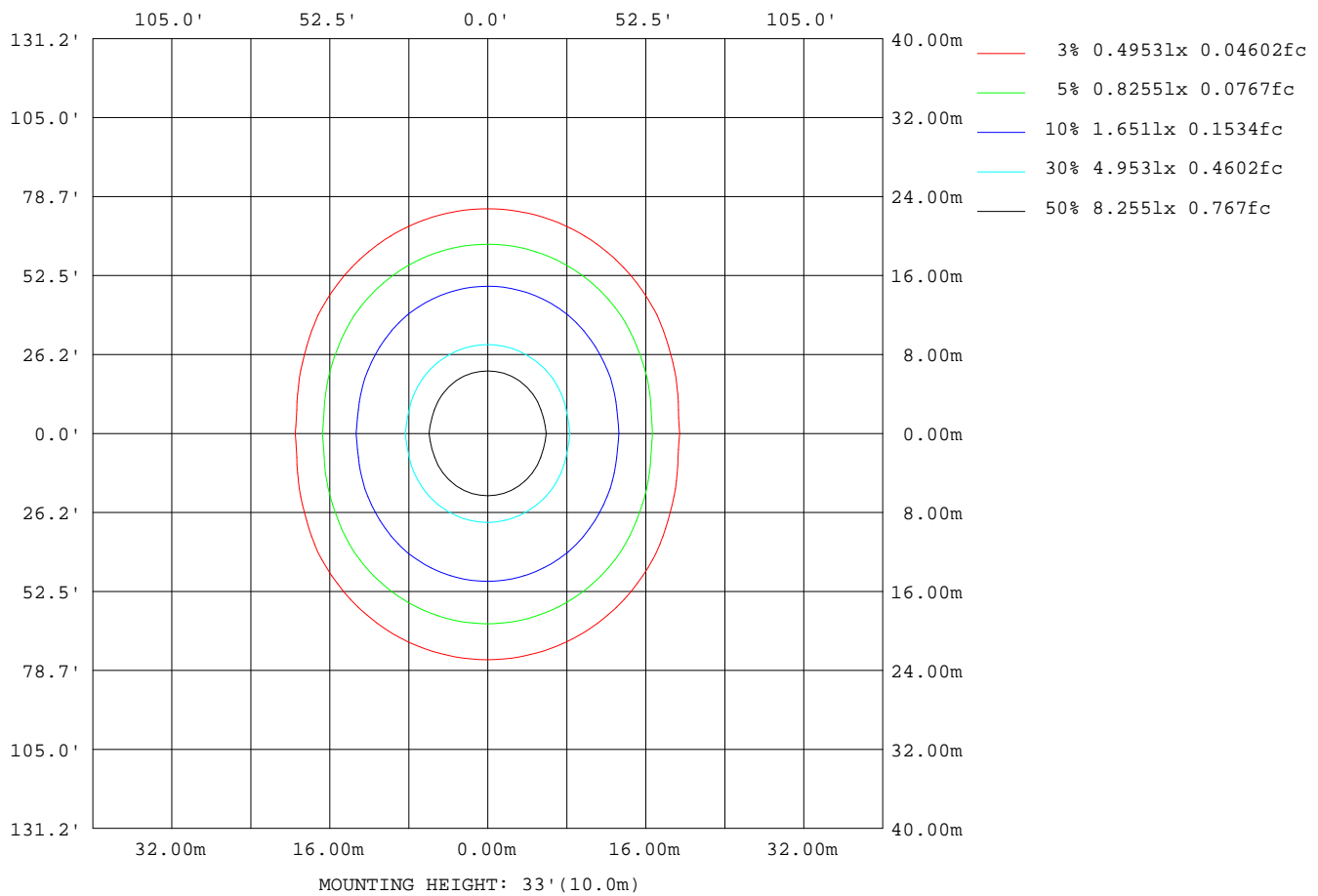
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.900m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity: 65.0%
 Test Distance: 8.900m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:

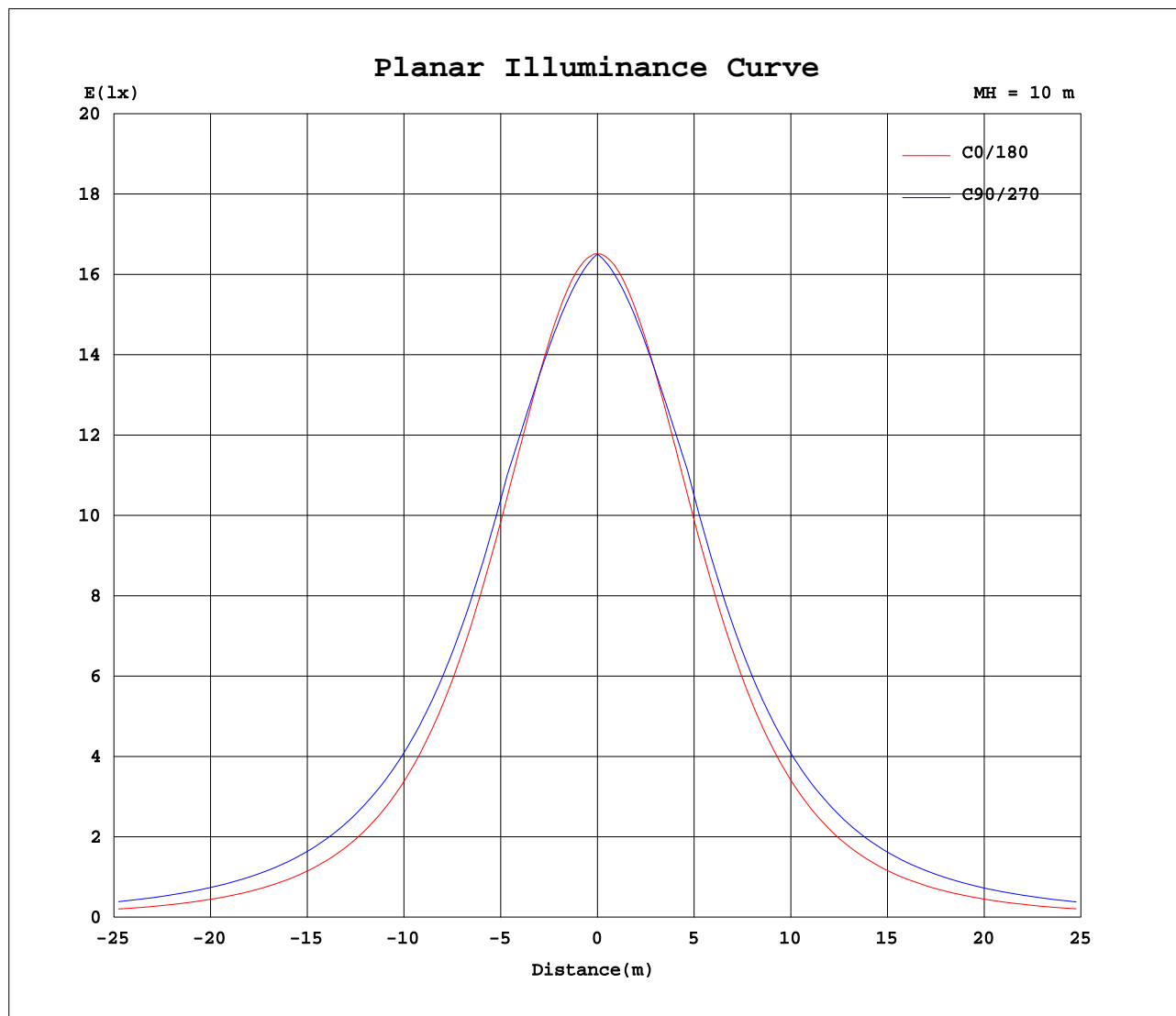
AvgL	cd/m2
L_0~180(65)av	3667
L_0~180(75)av	3012
L_0~180(85)av	2070
L_90~270(65)av	6247
L_90~270(75)av	7773
L_90~270(85)av	17375
L_45(65)av	5190
L_45(75)av	5994
L_45(85)av	11993

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.900m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-06-16

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity: 65.0%
Test Distance: 8.900m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.4V I:0.3087A P:37.11W PF:0.9986 Lamp Flux:5044.37x1 lm		
NAME: MLSN4-36/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:1182*66*14mm	PROTECTION ANGLE:

Table--2

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-06-16

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γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:8.900m [K=1.0000]
Remarks:

```