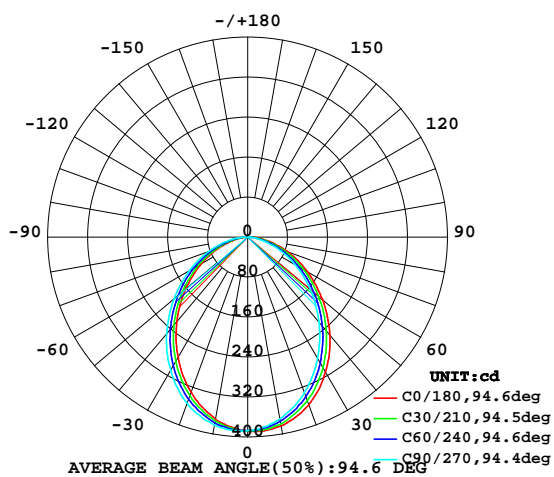


LUMINAIRE PHOTOMETRIC TEST REPORT

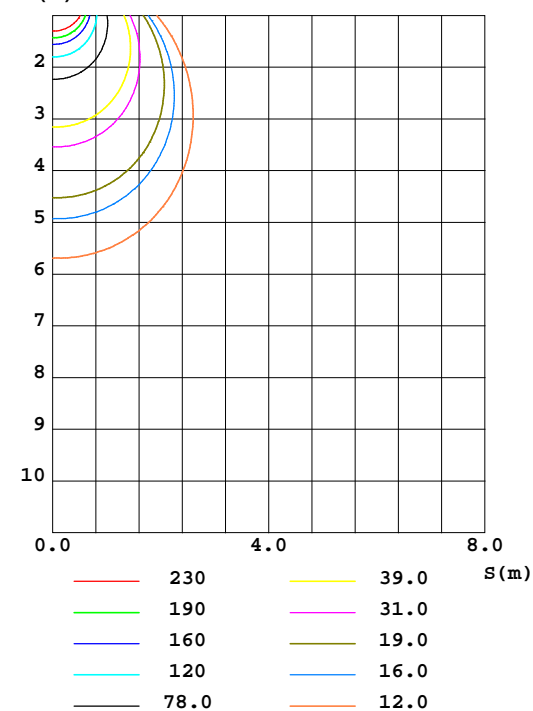
Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 109.62 lm/W			
MODEL	DL121-3-8W-P3	I _{max} (cd)	389.4	S/MH(C0/180)	1.20
NOMINAL POWER(W)	8	LOR(%)	100.0	S/MH(C90/270)	1.10
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	905.49	η UP,DN(C0-180)	0.0,48.3
NOMINAL FLUX(lm)	905.492	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.6	η down(%)	100.0	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-27

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	\$lum,lamp
10	383.7	376.8	369.2	366.0	369.9	375.6	381.9	385.0	0- 10	36.44	36.44	4.02,4.02
20	357.4	344.3	331.4	326.5	330.8	341.6	354.1	359.3	10- 20	101.8	138.3	15.3,15.3
30	311.8	296.0	280.2	273.3	278.5	292.6	308.4	315.9	20- 30	147.4	285.7	31.5,31.5
40	256.1	238.8	222.1	215.1	220.5	235.5	252.3	260.6	30- 40	166.7	452.3	50,50
50	196.5	179.7	163.7	156.7	162.0	176.2	192.6	200.8	40- 50	160.4	612.7	67.7,67.7
60	137.7	123.4	109.0	102.5	107.3	120.1	134.7	142.3	50- 60	134.0	746.7	82.5,82.5
70	84.16	71.82	59.40	53.67	57.53	68.69	81.33	88.08	60- 70	94.80	841.5	92.9,92.9
80	37.34	28.15	19.03	14.98	17.59	25.57	35.17	40.52	70- 80	50.61	892.2	98.5,98.5
90	4.059	0.8902	0.3283	0.3788	0.3283	0.3662	3.194	5.631	80- 90	13.33	905.5	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		

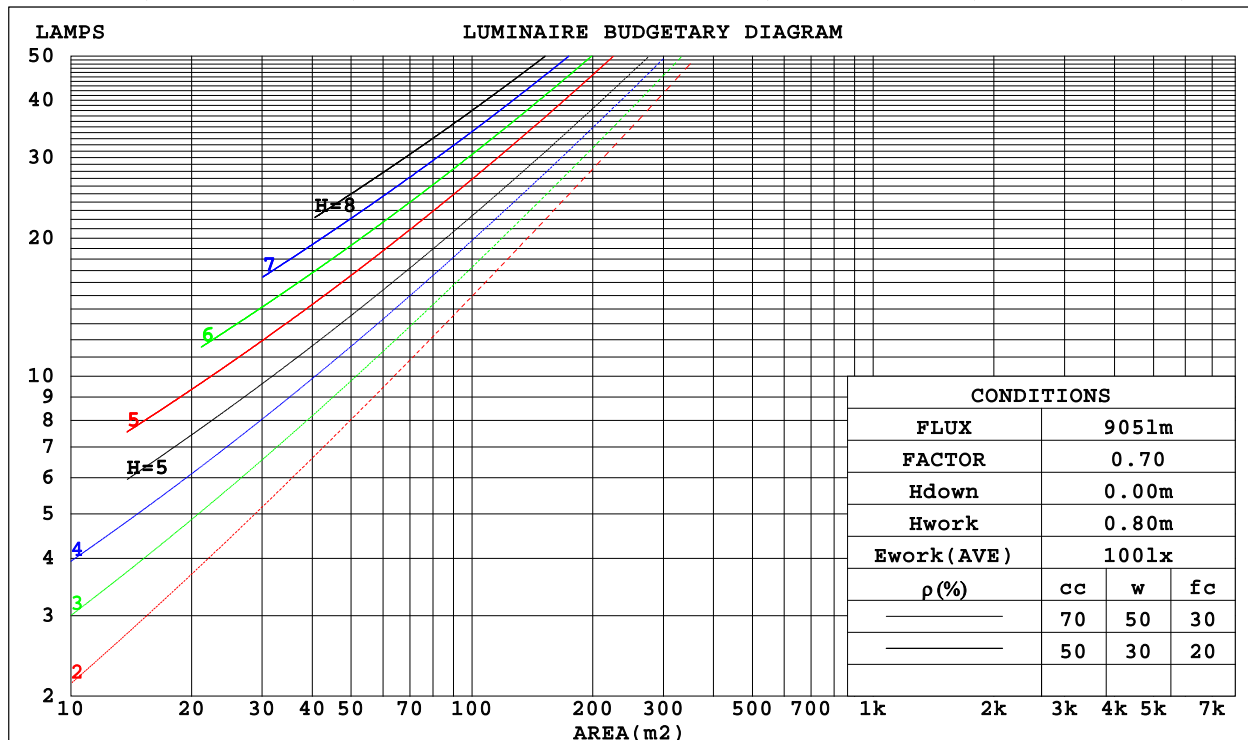
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-07-27

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.700m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	1.05	1.01	.97	1.03	.99	.96	.98	.95	.93	.95	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.80	.90	.84	.79	.87	.82	.78	.84	.79	.76	.81	.77	.74	.72
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.74	.69	.65	.72	.67	.64	.61
4.0	.73	.64	.58	.71	.64	.57	.69	.62	.57	.67	.61	.56	.65	.59	.55	.53
5.0	.65	.57	.50	.64	.56	.50	.62	.55	.49	.60	.54	.49	.58	.53	.48	.46
6.0	.59	.50	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.47	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.44	.39	.49	.43	.38	.36
8.0	.49	.41	.35	.49	.41	.35	.47	.40	.35	.46	.40	.35	.45	.39	.35	.33
9.0	.45	.37	.32	.45	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.30
10.0	.42	.34	.29	.41	.34	.29	.40	.34	.29	.40	.33	.29	.39	.33	.29	.27



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-07-27

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.700m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	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	.290	.165	.052	.283	.161	.051	.269	.155	.049	.257	.148	.048	.246	.143	.046		
2.0	.275	.150	.046	.268	.148	.046	.257	.143	.044	.246	.138	.043	.236	.134	.042		
3.0	.256	.136	.041	.250	.134	.040	.240	.130	.040	.231	.126	.039	.222	.123	.038		
4.0	.237	.123	.036	.232	.122	.036	.223	.119	.035	.215	.116	.035	.207	.113	.034		
5.0	.220	.112	.033	.216	.111	.032	.208	.108	.032	.201	.106	.031	.194	.104	.031		
6.0	.205	.103	.029	.201	.102	.029	.194	.100	.029	.188	.097	.029	.181	.095	.028		
7.0	.192	.095	.027	.188	.094	.027	.182	.092	.026	.176	.090	.026	.170	.088	.026		
8.0	.179	.088	.025	.176	.087	.025	.171	.085	.024	.165	.084	.024	.160	.082	.024		
9.0	.169	.082	.023	.166	.081	.023	.161	.079	.023	.156	.078	.022	.151	.077	.022		
10.0	.159	.076	.021	.156	.076	.021	.152	.074	.021	.147	.073	.021	.143	.072	.021		

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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.146	.114	.087	.100	.079	.060	.058	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.126	.069	.029	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.120	.064	.026	.104	.056	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.036	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-07-27

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.700m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm											
NAME: DL121-3-8W-P3					TYPE:8W			WEIGHT:			
DIM.:					SPEC.:4000K			SERIAL No.:			
MFR.:					SUR.:0.035			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	27.8	29.2	28.0	29.4	29.6	26.9	28.4	27.2	28.6	28.8	
	3H	29.2	30.5	29.5	30.8	31.0	28.0	29.4	28.3	29.6	29.8
	4H	29.8	31.1	30.1	31.3	31.6	28.4	29.7	28.7	29.9	30.2
	6H	30.2	31.4	30.5	31.7	32.0	28.6	29.8	28.9	30.1	30.4
	8H	30.4	31.5	30.7	31.8	32.1	28.6	29.8	29.0	30.1	30.4
	12H	30.5	31.6	30.8	31.9	32.2	28.6	29.7	29.0	30.0	30.3
4H	2H	28.2	29.5	28.5	29.7	30.0	27.5	28.8	27.9	29.1	29.3
	3H	29.8	30.9	30.2	31.2	31.5	28.8	30.0	29.2	30.2	30.5
	4H	30.5	31.5	30.9	31.9	32.2	29.3	30.3	29.7	30.7	31.0
	6H	31.1	32.0	31.5	32.4	32.7	29.6	30.5	30.0	30.9	31.2
	8H	31.3	32.2	31.7	32.5	32.9	29.7	30.5	30.1	30.9	31.3
	12H	31.5	32.3	31.9	32.7	33.1	29.7	30.5	30.1	30.9	31.3
8H	4H	30.7	31.5	31.1	31.9	32.3	29.6	30.4	30.0	30.8	31.2
	6H	31.4	32.1	31.8	32.5	32.9	30.0	30.7	30.5	31.1	31.6
	8H	31.7	32.3	32.2	32.7	33.2	30.2	30.8	30.6	31.2	31.6
	12H	32.0	32.5	32.4	32.9	33.4	30.2	30.7	30.7	31.2	31.7
12H	4H	30.7	31.4	31.1	31.8	32.2	29.6	30.4	30.1	30.8	31.2
	6H	31.4	32.0	31.9	32.5	32.9	30.1	30.7	30.6	31.1	31.6
	8H	31.8	32.3	32.2	32.7	33.2	30.3	30.8	30.7	31.2	31.7
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.3 / - 0.3					
1.5H	+ 0.1 / - 0.2					+ 0.2 / - 0.4					
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.5					

CIE Pub.117 Corrected 905.5 lm Total Lamp Luminous Flux.(8log(F/F0) = -0.3)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-27

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	PROTECTION ANGLE:

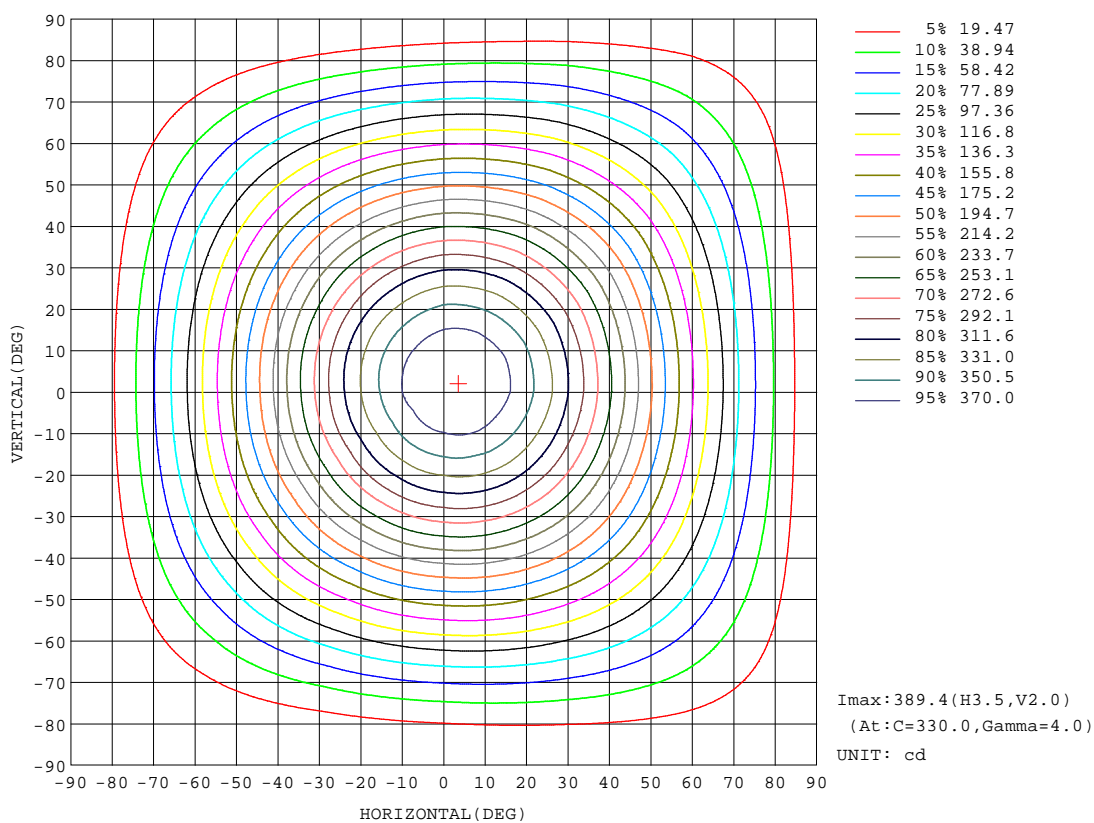
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	61	50	43	60	49	43	59	49	43	36
0.80	71	60	53	70	59	52	68	58	52	45
1.00	79	68	61	78	68	61	75	69	61	54
1.25	86	76	69	84	75	69	82	74	68	61
1.50	90	81	75	89	80	74	86	79	73	66
2.00	97	89	83	95	88	82	92	85	81	73
2.50	100	93	88	98	92	87	95	89	85	77
3.00	104	97	92	101	96	91	97	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	99	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-07-27

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.700m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	PROTECTION ANGLE:

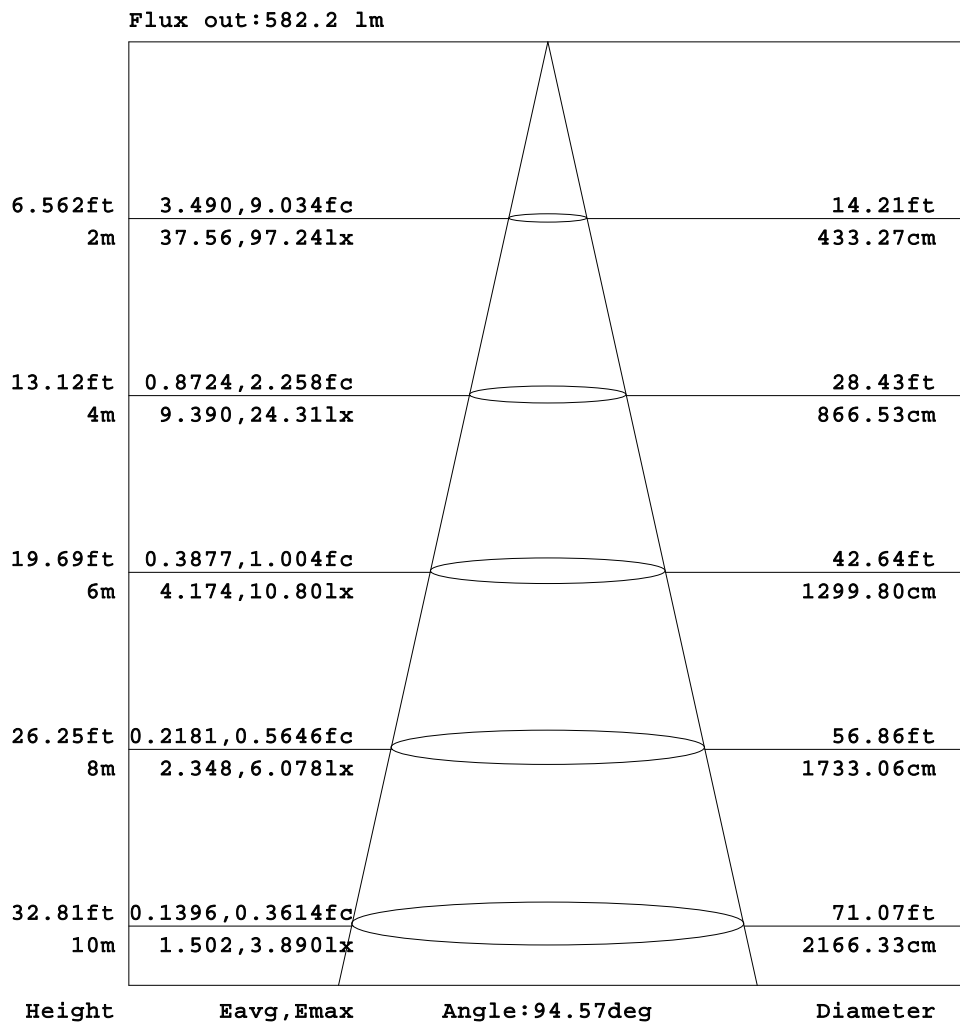


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-27

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	PROTECTION ANGLE:



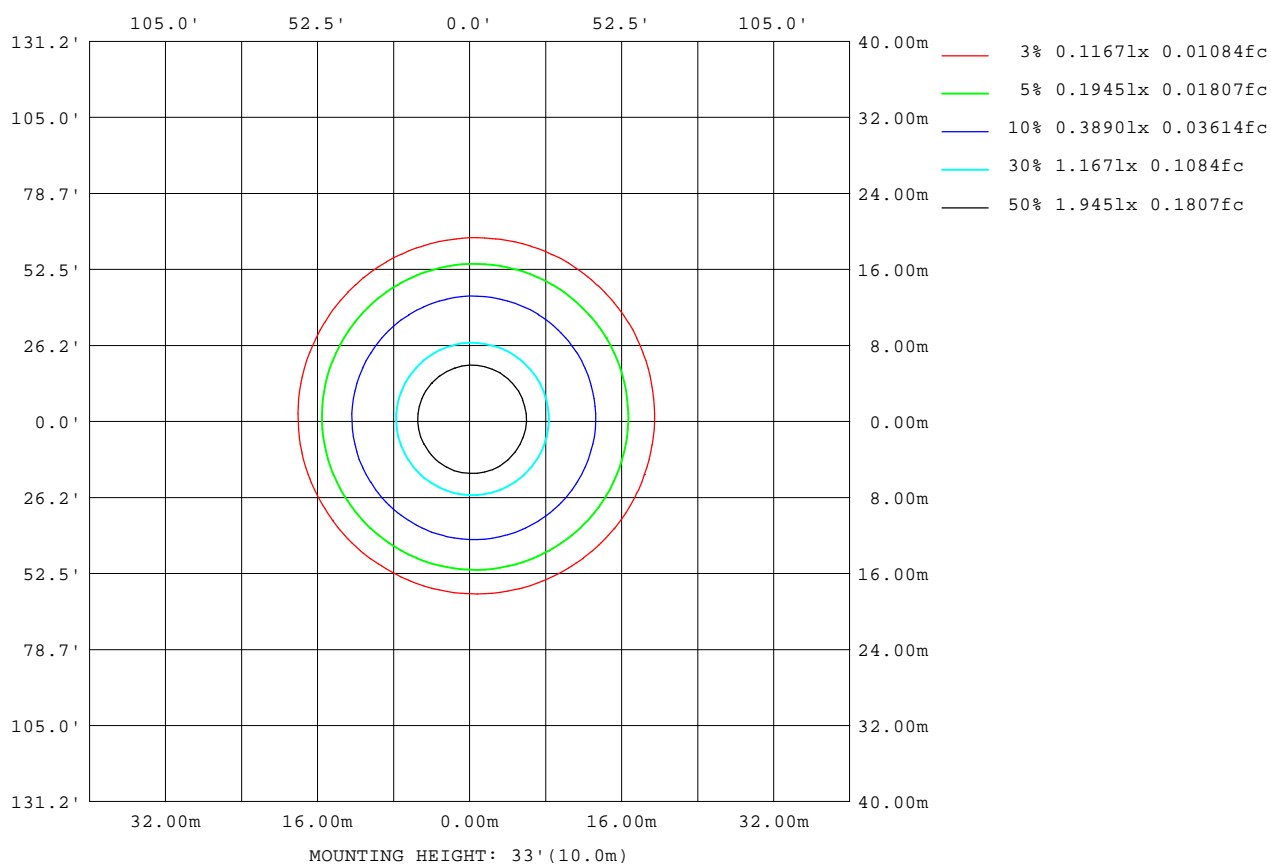
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-27

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.700m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

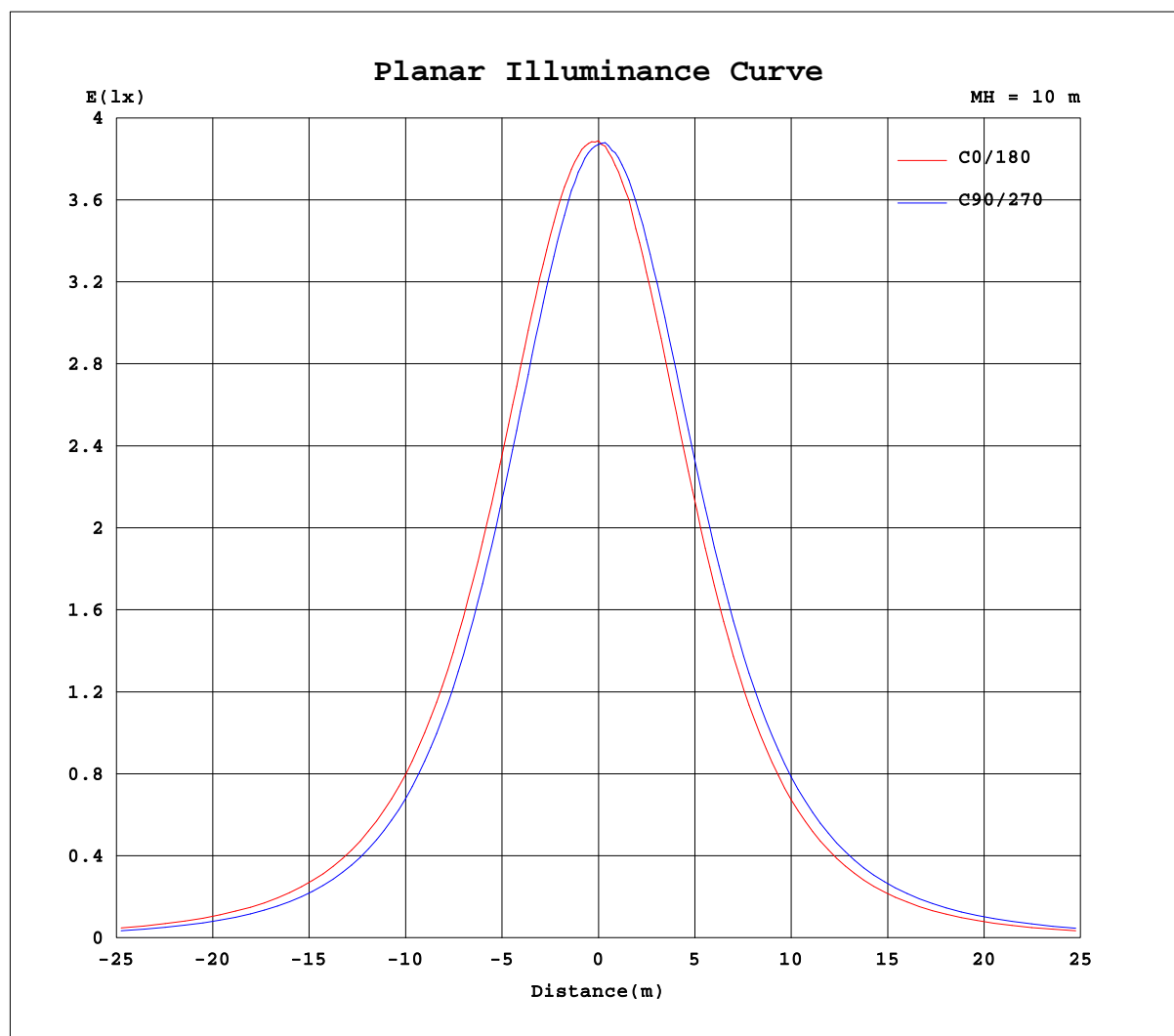
Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017-07-27

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.700m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017-07-27

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.700m [K=1.0000]
Remarks:

Test:U:240.6V I:0.0370A P:8.260W PF:0.9260 Lamp Flux:905.492x1 lm		
NAME: DL121-3-8W-P3	TYPE:8W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.:	SUR.:0.035	PROTECTION ANGLE:

UNIT: cd

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017-07-27

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.700m [K=1.0000]
Remarks:

```