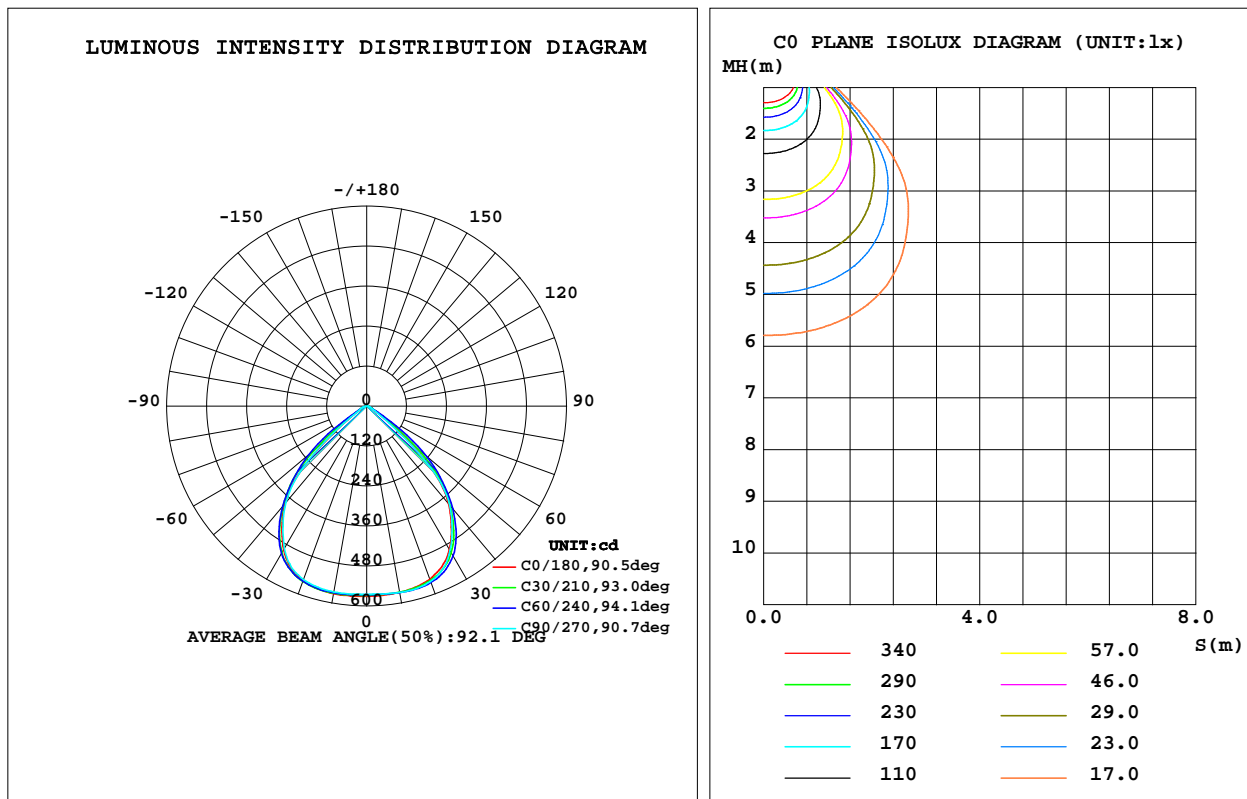


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065x0.065	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 109.98 lm/W			
MODEL	DL96-3-10W	I _{max} (cd)	572.2	S/MH(C0/180)	1.27
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	1094.3	η UP, DN(C0-180)	0.0, 49.8
NOMINAL FLUX(lm)	1094.34	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	110.1	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [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	571.7	569.6	566.7	562.3	568.0	567.9	567.7	566.1	0- 10	54.09	54.09	4.94,4.94
20	557.8	560.0	554.6	551.5	553.0	560.1	560.3	560.5	10- 20	159.8	213.9	19.5,19.5
30	498.4	509.8	493.5	503.2	496.5	513.5	501.0	514.6	20- 30	247.8	461.7	42.2,42.2
40	383.5	390.9	376.5	388.9	383.8	396.6	387.3	397.2	30- 40	282.4	744.1	68,68
50	151.6	214.6	154.4	216.6	163.2	219.0	152.8	216.0	40- 50	232.2	976.2	89.2,89.2
60	26.93	39.08	27.62	42.23	28.95	40.73	26.53	38.25	50- 60	87.63	1064	97.2,97.2
70	12.82	13.86	13.43	14.12	13.88	13.56	12.15	12.67	60- 70	21.14	1085	99.1,99.1
80	3.212	3.211	3.238	3.338	3.941	3.328	2.683	2.714	70- 80	8.339	1093	99.9,99.9
90	0	0	0	0	0	0	0	0	80- 90	0.9822	1094	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		

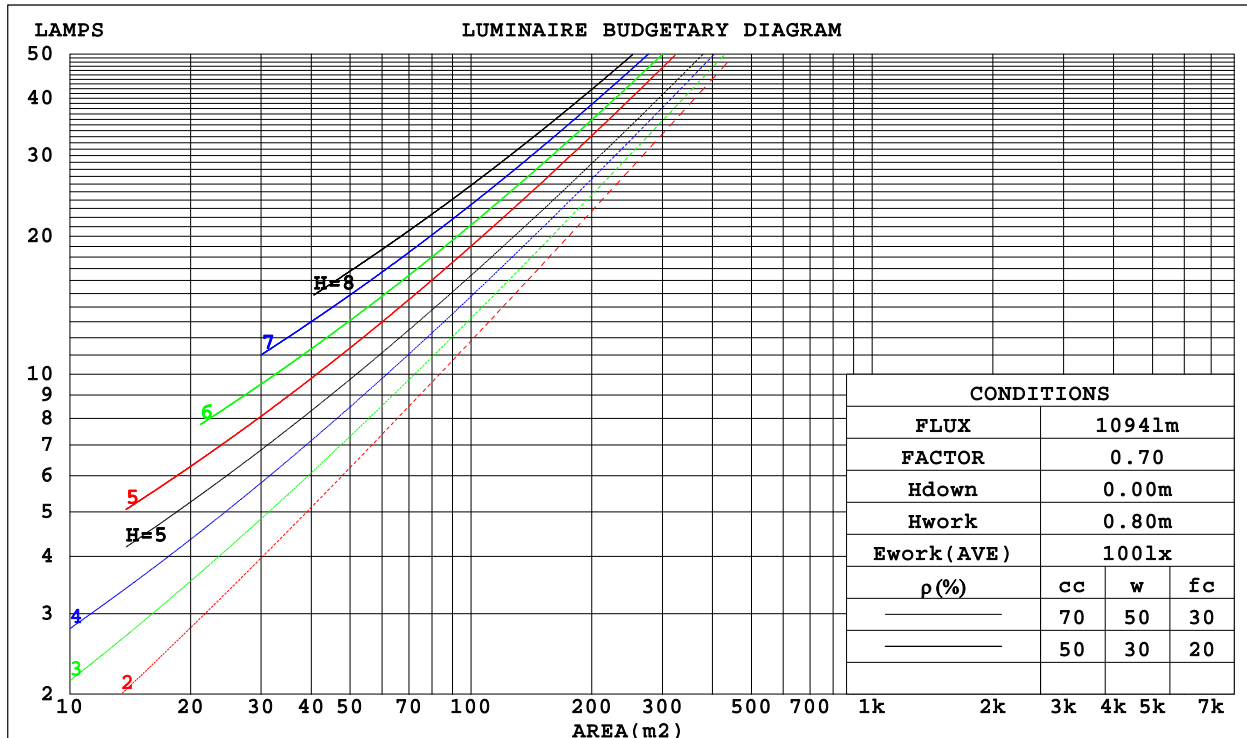
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065X0.065	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	1.00
1.0	1.09	1.06	1.03	1.06	1.04	1.01	1.02	1.00	.98	.98	.97	.95	.95	.94	.92	.90
2.0	.98	.93	.89	.97	.92	.88	.93	.89	.86	.90	.87	.84	.87	.85	.82	.81
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.82	.78	.75	.80	.77	.74	.72
4.0	.81	.74	.69	.80	.73	.68	.78	.72	.68	.75	.71	.67	.73	.69	.66	.64
5.0	.74	.67	.61	.73	.66	.61	.71	.65	.60	.69	.64	.60	.68	.63	.59	.57
6.0	.68	.60	.55	.67	.60	.55	.65	.59	.54	.64	.58	.54	.62	.57	.53	.52
7.0	.62	.55	.49	.61	.54	.49	.60	.54	.49	.59	.53	.49	.57	.52	.48	.47
8.0	.57	.50	.45	.57	.50	.45	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.44	.40	.49	.44	.40	.39
10.0	.49	.42	.37	.49	.42	.37	.48	.41	.37	.47	.41	.37	.46	.41	.37	.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065X0.065	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	.220	.125	.040	.213	.121	.039	.200	.115	.037	.188	.109	.035	.177	.103	.033	
2.0	.215	.118	.036	.209	.115	.035	.198	.110	.034	.188	.105	.033	.179	.101	.032	
3.0	.206	.110	.033	.201	.108	.032	.192	.104	.032	.183	.100	.031	.175	.097	.030	
4.0	.197	.102	.030	.192	.101	.030	.184	.097	.029	.176	.094	.028	.169	.092	.028	
5.0	.187	.095	.028	.183	.094	.027	.176	.091	.027	.169	.089	.026	.162	.087	.026	
6.0	.177	.089	.025	.174	.088	.025	.167	.086	.025	.161	.084	.025	.155	.082	.024	
7.0	.169	.083	.024	.165	.082	.023	.160	.081	.023	.154	.079	.023	.149	.077	.023	
8.0	.160	.078	.022	.157	.077	.022	.152	.076	.022	.147	.075	.021	.142	.073	.021	
9.0	.152	.074	.021	.150	.073	.020	.145	.072	.020	.141	.070	.020	.136	.069	.020	
10.0	.145	.070	.019	.143	.069	.019	.138	.068	.019	.134	.067	.019	.131	.066	.019	

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	.174	.157	.141	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.083	.130	.098	.072	.090	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.144	.100	.066	.123	.086	.057	.085	.060	.040	.049	.035	.024	.016	.011	.008	
5.0	.137	.089	.054	.117	.077	.047	.081	.054	.033	.047	.032	.020	.015	.010	.006	
6.0	.130	.080	.044	.112	.069	.039	.077	.049	.027	.045	.029	.016	.014	.009	.005	
7.0	.124	.073	.037	.107	.063	.033	.074	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.118	.067	.032	.102	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.098	.054	.024	.068	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.024	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm										
NAME: DL96-3-10W					TYPE:10W			WEIGHT:		
DIM.:					SPEC.:3000K			SERIAL No.:1		
MFR.:					SUR.:0.065x0.065			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	25.4	26.6	25.6	26.8	27.0	25.6	26.9	25.9	27.1	27.3
3H	25.3	26.4	25.5	26.6	26.8	25.5	26.7	25.8	26.9	27.1
4H	25.2	26.3	25.5	26.5	26.7	25.5	26.5	25.8	26.8	27.0
6H	25.1	26.1	25.4	26.4	26.6	25.4	26.4	25.7	26.6	26.9
8H	25.1	26.0	25.4	26.3	26.6	25.4	26.3	25.7	26.6	26.8
12H	25.0	25.9	25.4	26.2	26.5	25.3	26.2	25.6	26.5	26.8
4H 2H	25.2	26.3	25.5	26.5	26.8	25.5	26.5	25.8	26.8	27.0
3H	25.2	26.1	25.5	26.4	26.6	25.4	26.3	25.7	26.6	26.9
4H	25.1	25.9	25.5	26.2	26.6	25.4	26.2	25.7	26.5	26.8
6H	25.1	25.8	25.4	26.1	26.5	25.3	26.0	25.7	26.3	26.7
8H	25.0	25.7	25.4	26.0	26.4	25.3	25.9	25.7	26.3	26.6
12H	25.0	25.6	25.4	26.0	26.4	25.2	25.8	25.6	26.2	26.6
8H 4H	25.0	25.7	25.4	26.0	26.4	25.2	25.9	25.6	26.3	26.6
6H	25.0	25.5	25.4	25.9	26.3	25.2	25.7	25.6	26.1	26.5
8H	24.9	25.4	25.4	25.8	26.3	25.1	25.6	25.6	26.0	26.5
12H	24.9	25.3	25.4	25.7	26.2	25.1	25.5	25.6	26.0	26.4
12H 4H	25.0	25.6	25.4	25.9	26.3	25.2	25.8	25.6	26.2	26.6
6H	24.9	25.4	25.4	25.8	26.3	25.1	25.6	25.6	26.0	26.5
8H	24.9	25.3	25.4	25.7	26.2	25.1	25.5	25.6	26.0	26.4
Variations with the observer position at spacings:										
S = 1.0H	+ 2.2 / - 5.7					+ 2.2 / - 5.5				
1.5H	+ 1.3 / - 3.6					+ 1.1 / - 3.3				
2.0H	+ 4.7 / - 6.7					+ 4.3 / - 7.1				

CIE Pub.117 Corrected 1094 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:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065x0.065	PROTECTION ANGLE:

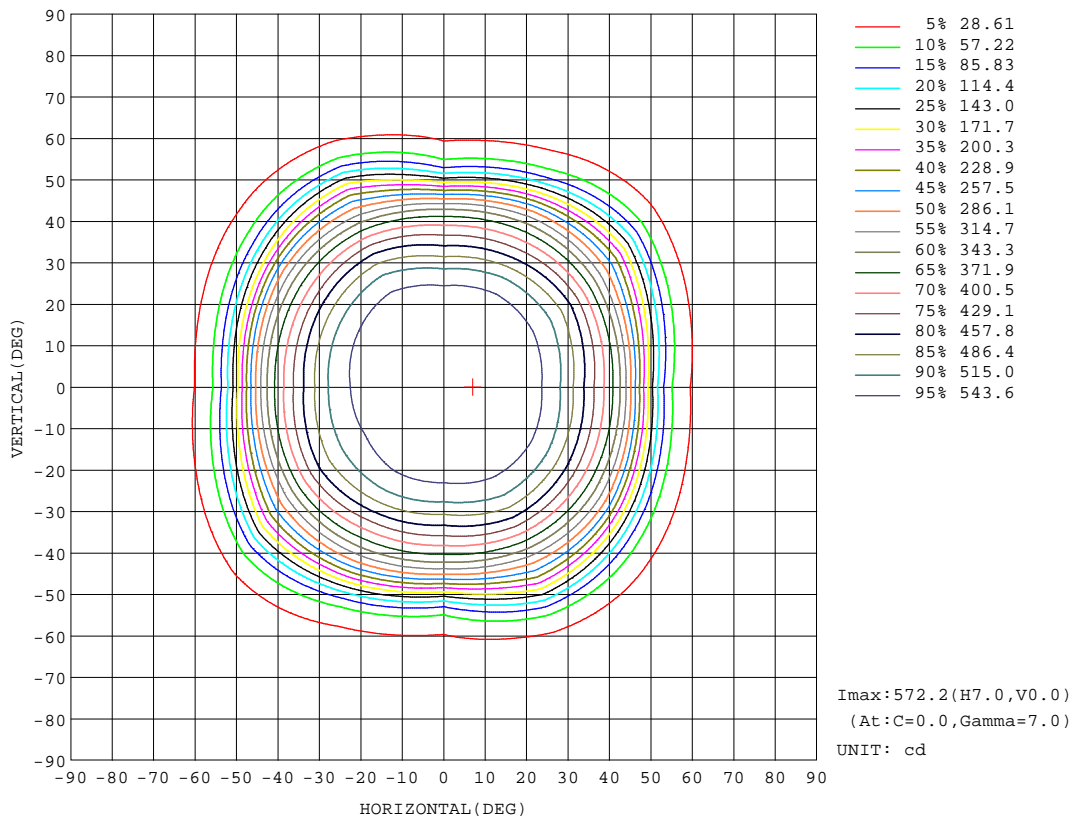
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	71	62	56	70	62	56	69	61	56	51
0.80	81	72	67	80	72	66	79	71	66	61
1.00	89	81	75	88	80	75	86	81	75	69
1.25	95	87	82	94	87	82	91	85	81	76
1.50	99	92	87	97	91	87	95	90	86	80
2.00	104	98	93	102	97	93	99	95	91	85
2.50	106	101	97	104	99	96	101	97	94	87
3.00	108	104	100	106	102	99	103	99	97	90
4.00	111	107	104	109	105	102	105	102	100	92
5.00	112	109	106	110	107	105	106	104	102	93
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:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065x0.065	PROTECTION ANGLE:



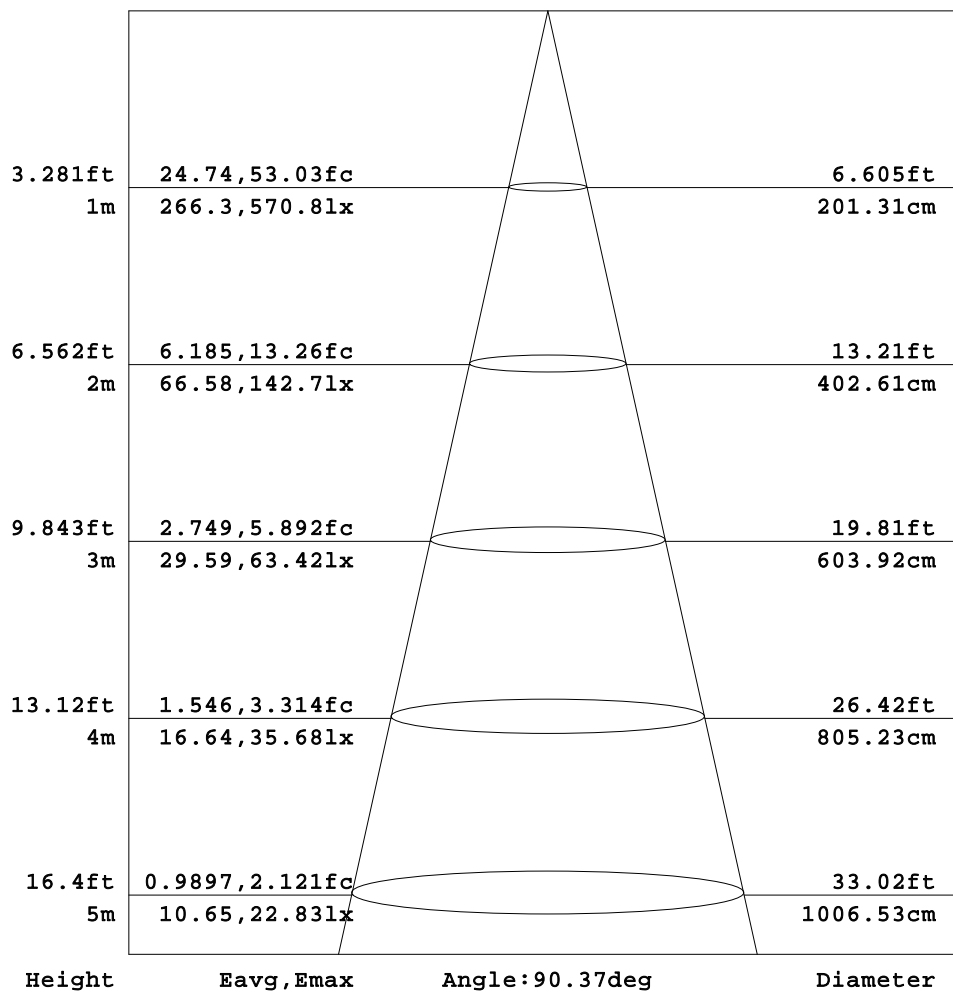
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

AAI Figure

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065x0.065	PROTECTION ANGLE:

Flux out:897.2 lm



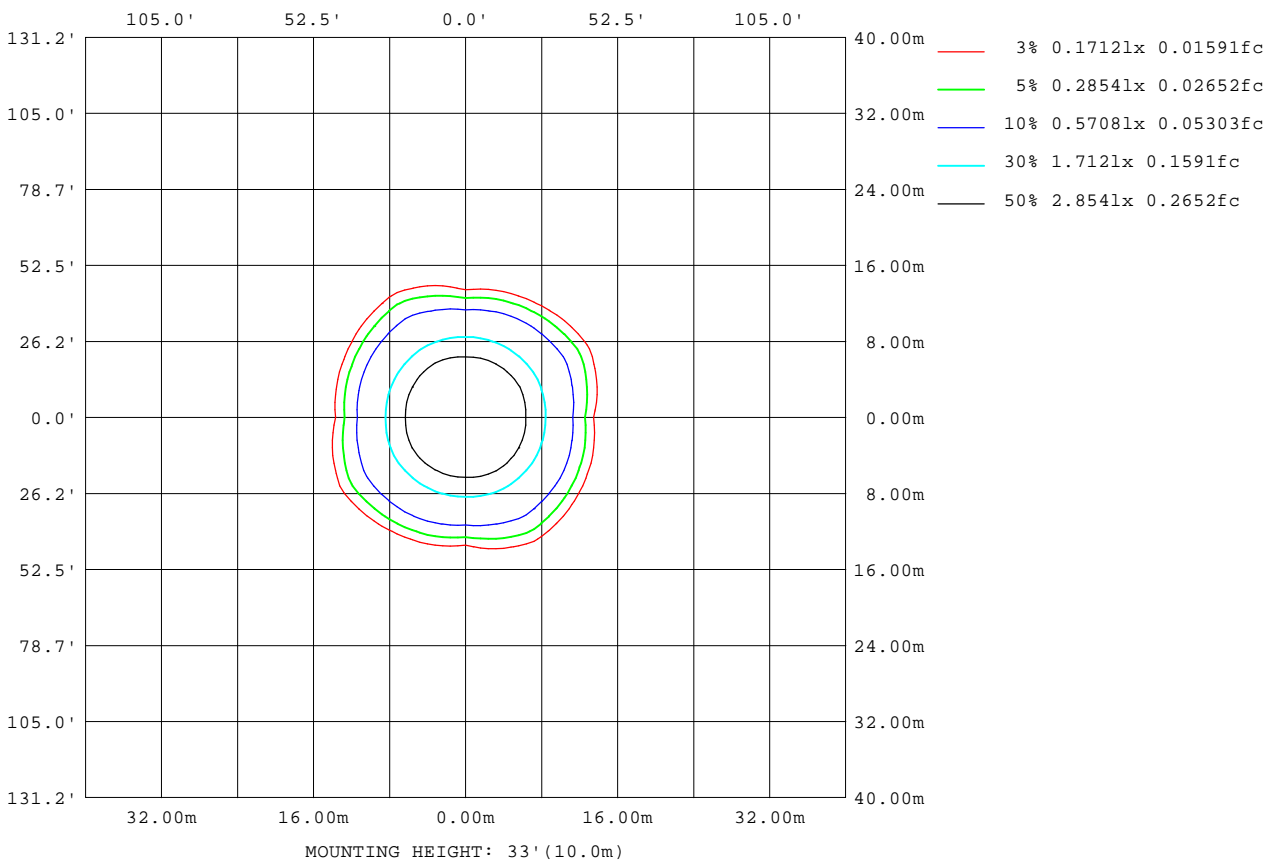
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

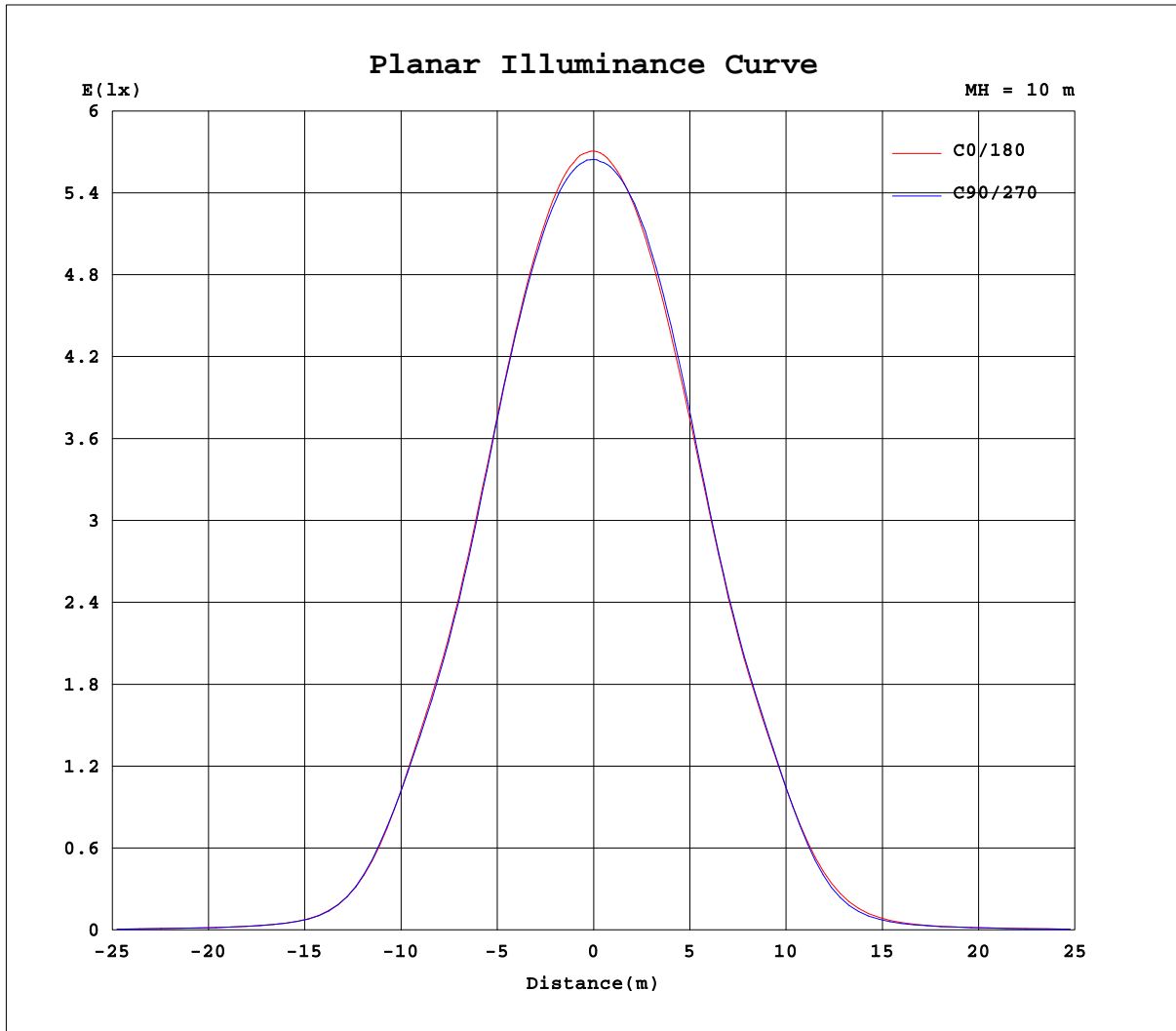
Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065x0.065	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [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: 2018-08-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.600m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:110.1V I:0.0930A P:9.950W PF:0.9690 Lamp Flux:1094.34x1 lm		
NAME: DL96-3-10W	TYPE:10W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.065X0.065	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	571	568	566	565	563	562	571	568	566	565	563	562						
5	572	569	568	566	563	561	570	567	566	566	565	564						
10	572	570	569	567	564	561	568	567	569	568	567	565						
15	568	568	567	563	561	557	563	564	568	568	568	564						
20	558	561	559	555	554	549	553	557	563	560	562	559						
25	536	542	542	534	536	533	533	540	549	541	547	545						
30	498	508	511	494	501	505	497	508	519	501	513	516						
35	444	456	460	438	446	461	443	456	469	447	457	469						
40	383	390	392	377	382	396	384	391	402	387	394	400						
45	290	314	314	289	308	317	295	315	323	296	317	319						
50	152	201	228	154	201	232	163	202	236	153	200	232						
55	58.1	88.3	122	56.4	85.2	130	65.3	89.5	128	55.7	80.4	122						
60	26.9	33.9	44.2	27.6	33.2	51.2	29.0	34.7	46.7	26.5	31.5	45.0						
65	18.3	19.8	21.9	19.2	20.2	22.8	19.2	19.7	21.7	17.8	18.8	20.6						
70	12.8	13.7	14.0	13.4	13.9	14.3	13.9	13.8	13.3	12.2	12.5	12.8						
75	7.37	8.14	7.59	7.83	7.92	8.80	8.41	8.33	7.50	6.80	6.84	7.45						
80	3.21	3.63	2.79	3.24	2.58	4.10	3.94	3.86	2.79	2.68	2.17	3.26						
85	0.49	0.56	0.45	0.47	0.42	0.87	0.86	0.76	0.42	0.32	0.23	0.38						
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 30.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Temperature:25.3DEG	Humidity:65.0%
Operators:DAMIN	Test Distance:9.600m [K=1.0000]
Test Date:2018-08-23	Remarks: