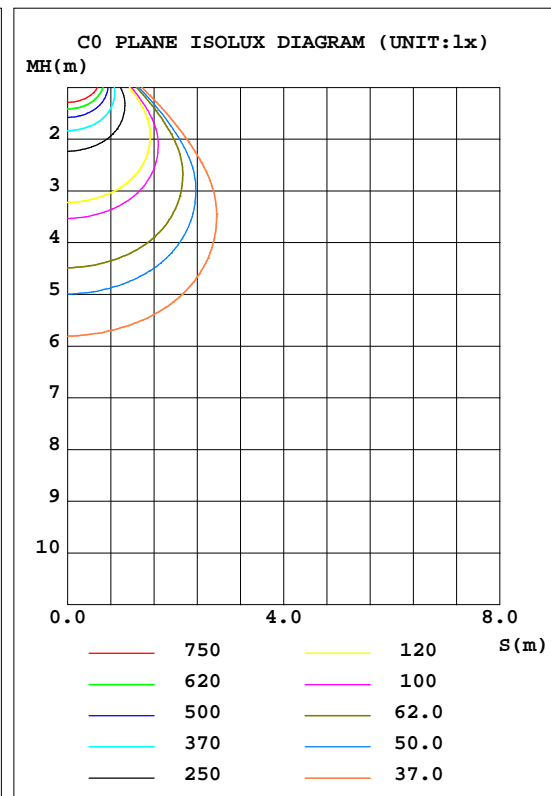
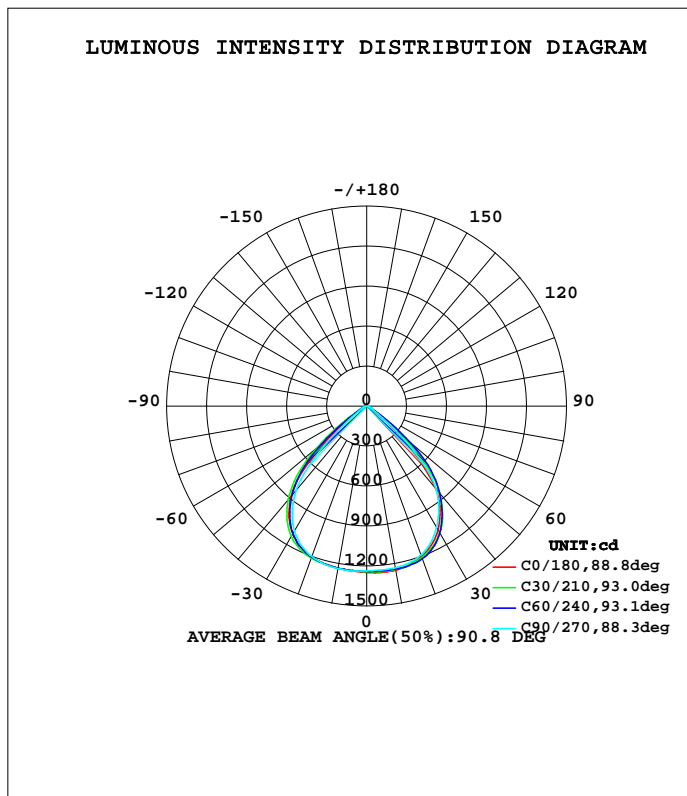


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.1V I:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 141.43 lm/W			
MODEL	DL96-6-18W	I _{max} (cd)	1254	S/MH(C0/180)	1.30
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	2333.6	η UP,DN(C0-180)	0.0,50.6
NOMINAL FLUX(lm)	2333.64	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.4
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:2018-08-22

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	1233	1235	1238	1240	1250	1244	1232	1221	0- 10	118.2	118.2	5.06,5.06
20	1206	1210	1200	1213	1201	1214	1190	1190	10- 20	346.6	464.8	19.9,19.9
30	1108	1118	1083	1107	1071	1099	1050	1092	20- 30	534.9	999.7	42.8,42.8
40	884.2	892.6	822.7	862.3	803.9	850.8	808.0	867.5	30- 40	617.4	1617	69.3,69.3
50	362.1	467.4	256.8	399.7	247.0	405.3	276.5	464.8	40- 50	491.0	2108	90.3,90.3
60	64.21	83.02	52.49	62.06	48.61	64.60	54.48	87.36	50- 60	165.1	2273	97.4,97.4
70	34.08	33.07	28.30	26.48	23.86	26.28	27.93	32.53	60- 70	43.35	2317	99.3,99.3
80	5.619	5.577	4.231	2.912	2.333	2.341	3.128	4.406	70- 80	16.47	2333	100,100
90	0	0	0	0	0	0	0	0	80- 90	0.6066	2334	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		

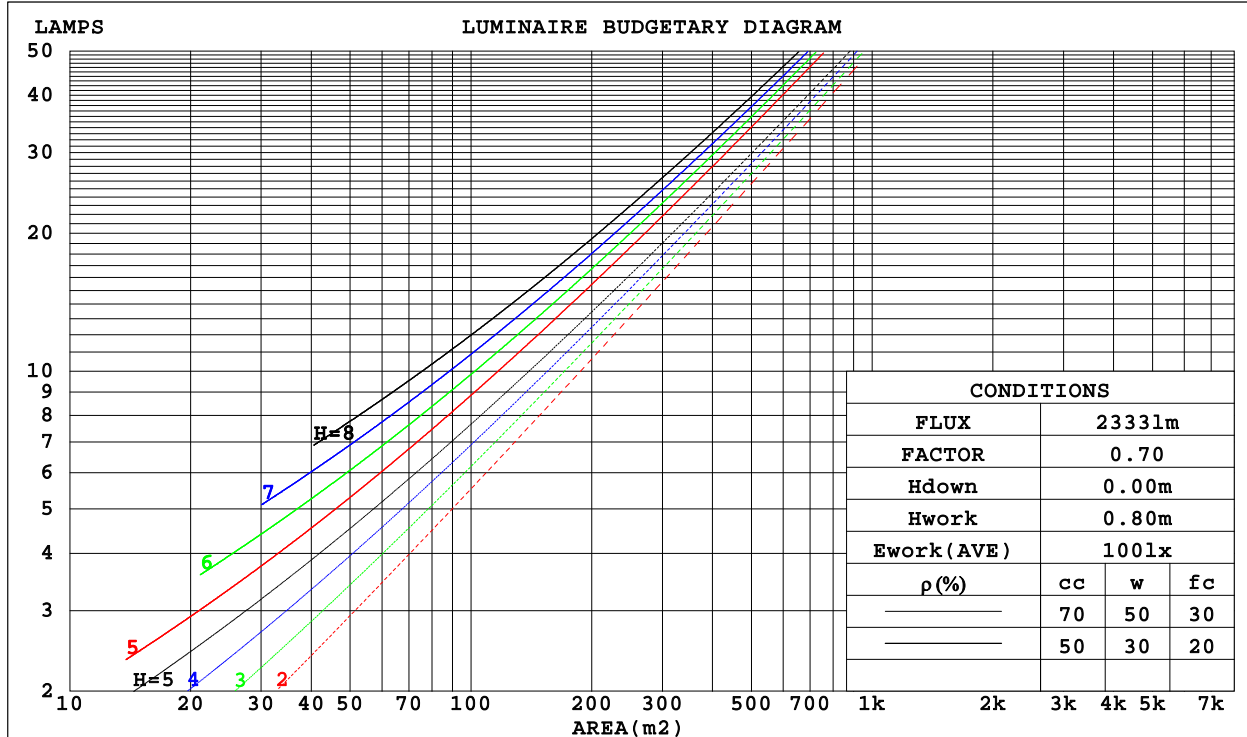
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-22

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:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	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	1.09	1.06	1.03	1.07	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.92	.91
2.0	.99	.94	.89	.97	.92	.88	.94	.90	.86	.90	.87	.85	.88	.85	.83	.81
3.0	.90	.83	.78	.88	.82	.78	.85	.81	.77	.83	.79	.75	.80	.77	.74	.72
4.0	.82	.75	.69	.80	.74	.69	.78	.72	.68	.76	.71	.67	.74	.70	.66	.65
5.0	.74	.67	.62	.73	.67	.62	.71	.65	.61	.70	.64	.60	.68	.63	.60	.58
6.0	.68	.61	.55	.67	.60	.55	.66	.59	.55	.64	.59	.54	.63	.58	.54	.52
7.0	.63	.55	.50	.62	.55	.50	.60	.54	.50	.59	.53	.49	.58	.53	.49	.47
8.0	.58	.50	.45	.57	.50	.45	.56	.50	.45	.55	.49	.45	.54	.48	.45	.43
9.0	.53	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.45	.41	.39
10.0	.50	.43	.38	.49	.42	.38	.48	.42	.38	.47	.42	.38	.46	.41	.37	.36



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-22

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:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	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	.217	.123	.039	.210	.120	.038	.197	.113	.036	.186	.107	.034	.175	.101	.033	
2.0	.213	.117	.036	.207	.114	.035	.196	.109	.034	.186	.104	.033	.176	.100	.031	
3.0	.204	.109	.033	.199	.107	.032	.190	.103	.031	.181	.099	.030	.172	.095	.030	
4.0	.195	.101	.030	.190	.100	.029	.182	.096	.029	.174	.093	.028	.167	.091	.028	
5.0	.185	.094	.027	.181	.093	.027	.174	.091	.027	.167	.088	.026	.160	.086	.026	
6.0	.176	.088	.025	.173	.087	.025	.166	.085	.025	.160	.083	.024	.154	.081	.024	
7.0	.167	.083	.023	.164	.082	.023	.158	.080	.023	.153	.078	.023	.148	.077	.023	
8.0	.159	.078	.022	.156	.077	.022	.151	.075	.022	.146	.074	.021	.141	.073	.021	
9.0	.151	.073	.020	.149	.073	.020	.144	.071	.020	.140	.070	.020	.135	.069	.020	
10.0	.144	.069	.019	.142	.069	.019	.138	.067	.019	.134	.066	.019	.130	.065	.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	.142	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.108	.138	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.084	.130	.098	.072	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.143	.100	.066	.123	.086	.058	.085	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.136	.089	.054	.117	.077	.047	.081	.054	.033	.047	.032	.020	.015	.010	.006	
6.0	.129	.080	.045	.111	.069	.039	.077	.049	.027	.045	.029	.016	.014	.009	.005	
7.0	.123	.073	.038	.106	.063	.033	.073	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.118	.067	.032	.102	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.097	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.025	.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:2018-08-22

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:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm										
NAME: DL96-6-18W					TYPE:18W			WEIGHT:		
DIM.:					SPEC.:4000K			SERIAL No.:1		
MFR.:					SUR.:0.1X0.1			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	25.7	26.9	25.9	27.1	27.3	25.0	26.2	25.3	26.4	26.6
3H	25.6	26.7	25.9	26.9	27.1	24.9	26.0	25.2	26.2	26.5
4H	25.5	26.6	25.8	26.8	27.0	24.9	25.9	25.2	26.1	26.4
6H	25.4	26.4	25.8	26.7	26.9	24.8	25.8	25.1	26.0	26.3
8H	25.4	26.3	25.7	26.6	26.9	24.7	25.7	25.1	25.9	26.2
12H	25.3	26.2	25.7	26.5	26.8	24.7	25.6	25.0	25.9	26.1
4H 2H	25.5	26.5	25.8	26.8	27.0	24.9	25.9	25.2	26.2	26.4
3H	25.4	26.3	25.8	26.6	26.9	24.8	25.7	25.2	26.0	26.3
4H	25.4	26.2	25.8	26.5	26.8	24.8	25.6	25.1	25.9	26.2
6H	25.3	26.0	25.7	26.4	26.7	24.7	25.4	25.1	25.8	26.1
8H	25.3	26.0	25.7	26.3	26.7	24.7	25.3	25.1	25.7	26.1
12H	25.2	25.8	25.7	26.2	26.6	24.6	25.2	25.0	25.6	26.0
8H 4H	25.3	26.0	25.7	26.3	26.7	24.7	25.3	25.1	25.7	26.1
6H	25.2	25.8	25.7	26.2	26.6	24.6	25.1	25.0	25.5	26.0
8H	25.2	25.7	25.6	26.1	26.5	24.6	25.0	25.0	25.5	25.9
12H	25.1	25.5	25.6	26.0	26.5	24.5	24.9	25.0	25.4	25.8
12H 4H	25.3	25.9	25.7	26.2	26.6	24.6	25.2	25.1	25.6	26.0
6H	25.2	25.7	25.6	26.1	26.5	24.6	25.0	25.0	25.5	25.9
8H	25.1	25.5	25.6	26.0	26.5	24.5	24.9	25.0	25.4	25.8
Variations with the observer position at spacings:										
S = 1.0H	+ 2.3 / - 5.4					+ 2.4 / - 6.3				
1.5H	+ 1.2 / - 2.8					+ 1.6 / - 4.7				
2.0H	+ 4.6 / - 7.0					+ 4.8 / - 6.8				

CIE Pub.117 Corrected 2334 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.9)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-22

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:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

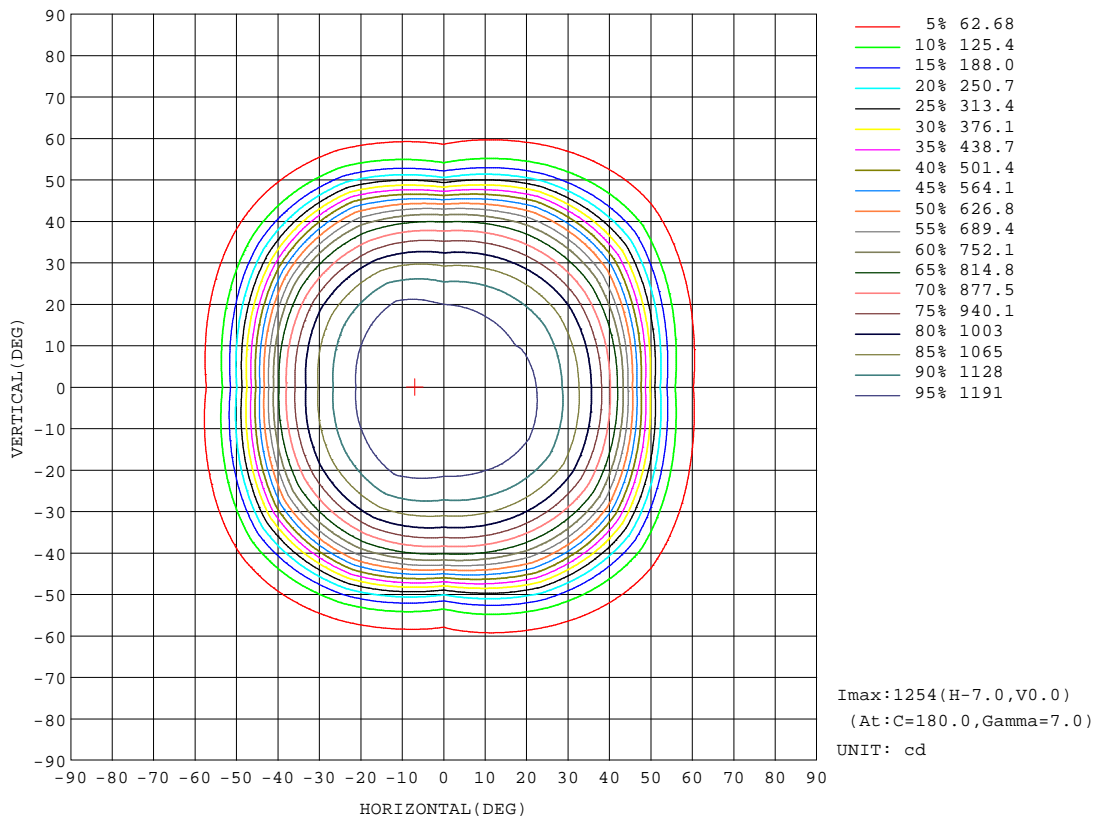
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	72	63	57	71	63	57	70	62	57	52
0.80	82	73	68	81	73	67	79	72	67	62
1.00	89	81	76	88	81	76	86	81	75	70
1.25	95	88	83	94	87	83	92	86	82	77
1.50	99	93	88	98	92	87	95	90	86	81
2.00	104	98	94	102	97	93	99	95	92	86
2.50	106	101	97	105	100	96	101	97	94	88
3.00	109	104	100	107	102	99	103	100	97	90
4.00	111	107	104	109	106	103	105	102	100	92
5.00	113	109	107	110	107	105	106	104	102	94
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:2018-08-22

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:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:



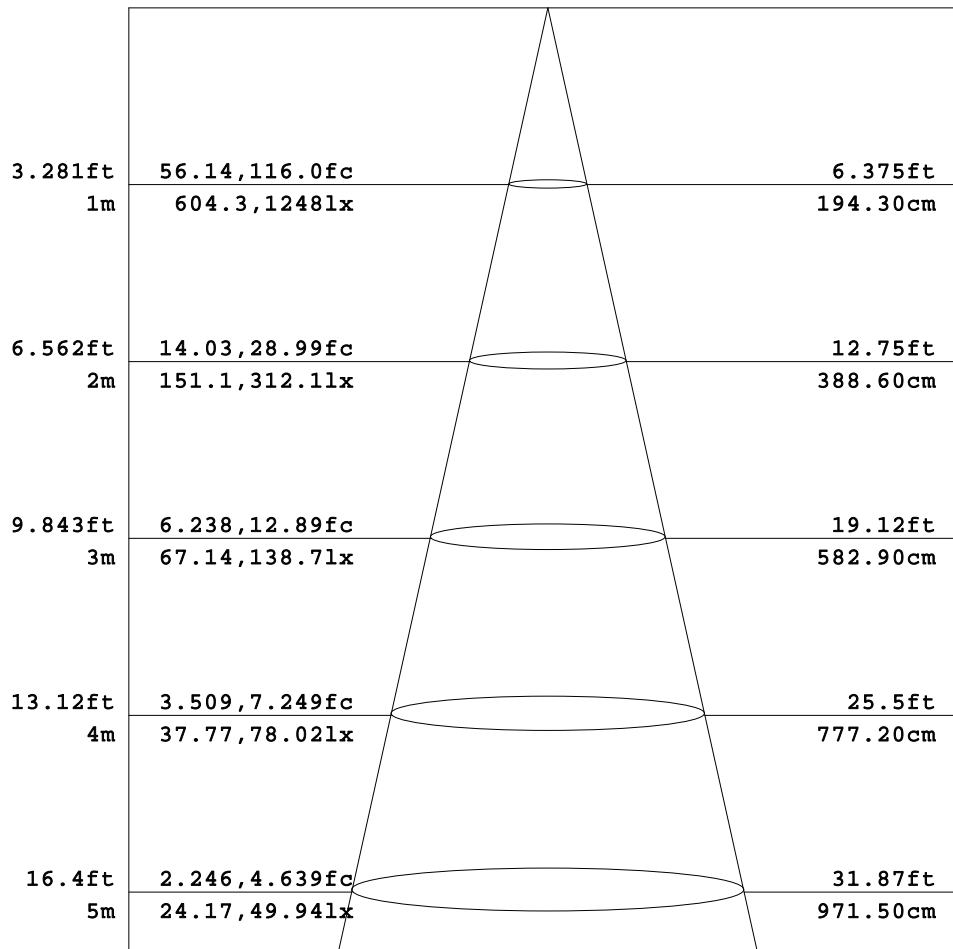
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-22

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:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

Flux out:1898 lm



Height Eavg, Emax Angle:88.34deg Diameter

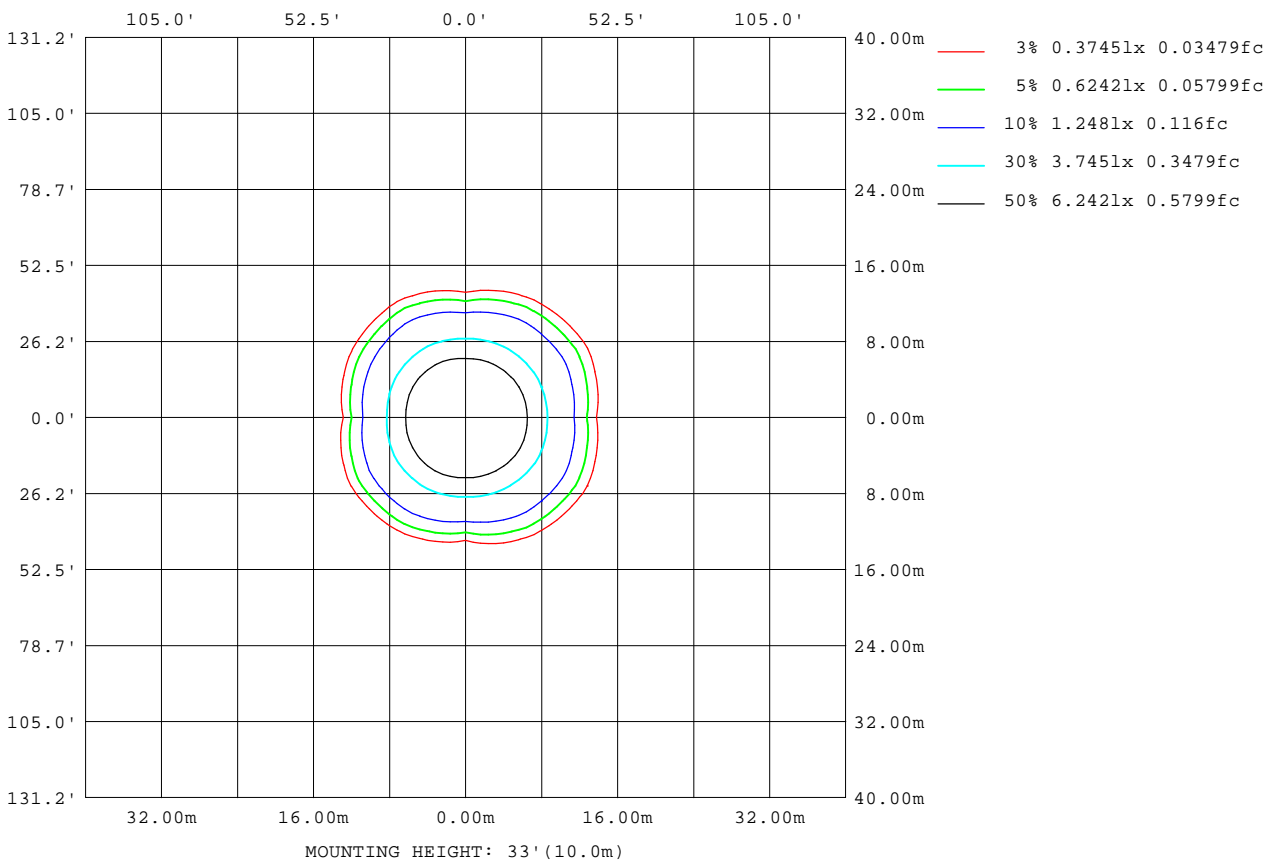
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-22

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

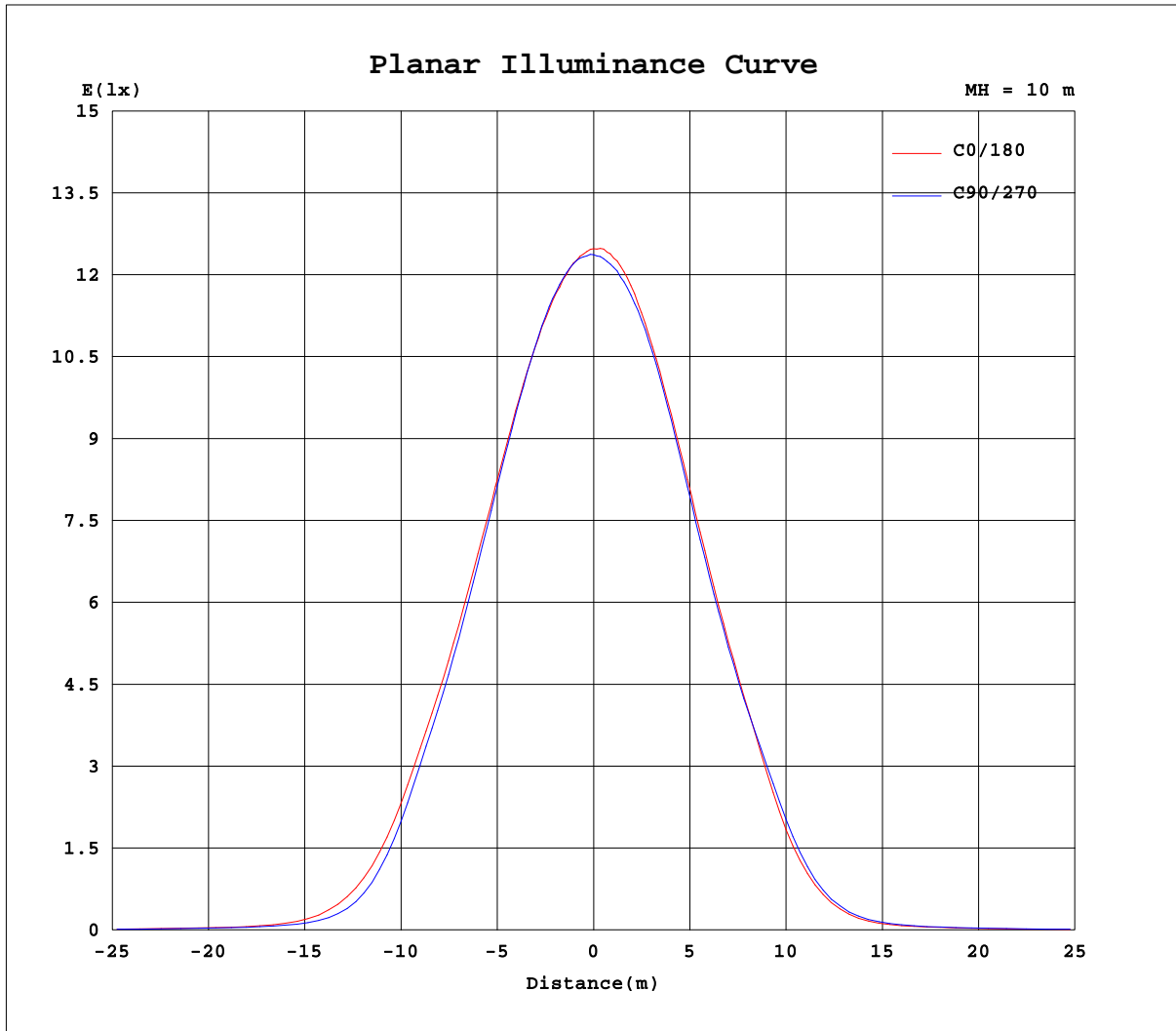
Test:U:110.1V I:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-22

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: 2018-08-22

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:0.1540A P:16.50W PF:0.9720 Lamp Flux:2333.64x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1248	1242	1240	1237	1235	1232	1248	1242	1240	1237	1235	1232							
5	1242	1241	1238	1241	1238	1237	1253	1247	1240	1234	1230	1224							
10	1233	1235	1235	1238	1242	1238	1250	1245	1243	1232	1223	1218							
15	1226	1227	1226	1228	1238	1230	1233	1232	1238	1221	1213	1209							
20	1206	1214	1206	1200	1219	1207	1201	1209	1218	1190	1189	1190							
25	1169	1185	1170	1158	1181	1167	1151	1168	1174	1133	1148	1162							
30	1108	1129	1107	1083	1116	1098	1071	1099	1099	1050	1078	1106							
35	1017	1043	1008	973	1011	997	961	994	988	943	978	1013							
40	884	915	870	823	863	862	804	850	851	808	851	884							
45	659	744	694	565	671	672	522	648	684	575	686	718							
50	362	493	441	257	395	404	247	376	434	277	444	486							
55	148	242	196	94.8	155	174	89.6	158	184	106	198	247							
60	64.2	91.9	74.1	52.5	60.9	63.3	48.6	59.8	69.4	54.5	77.9	96.8							
65	45.7	47.5	44.4	40.1	39.2	38.1	36.1	38.0	40.6	40.8	45.1	48.0							
70	34.1	34.4	31.7	28.3	27.1	25.9	23.9	25.3	27.2	27.9	31.7	33.3							
75	18.0	19.8	17.8	15.1	14.4	13.0	11.0	12.3	13.1	13.1	16.5	18.3							
80	5.62	6.02	5.14	4.23	3.21	2.61	2.33	2.15	2.53	3.13	3.98	4.83							
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
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
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-08-22

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: