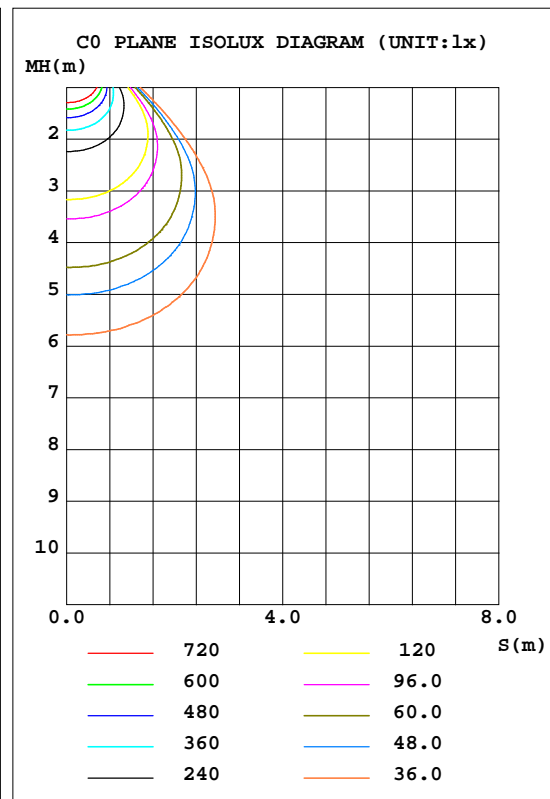
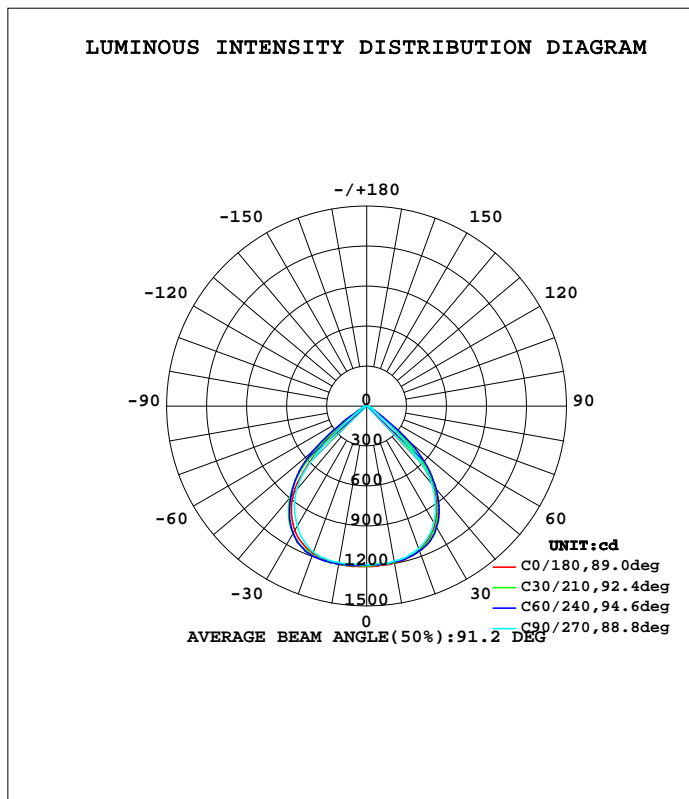


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.1V I:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 137.38 lm/W			
MODEL	DL96-6-18W	I <sub>max</sub> (cd)	1208	S/MH(C0/180)	1.30
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	2266.8	η UP, DN(C0-180)	0.0, 51.3
NOMINAL FLUX(lm)	2266.79	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 48.7
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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	\$lum,lamp
10	1208	1204	1193	1183	1196	1190	1184	1184	0- 10	113.8	113.8	5.02,5.02
20	1178	1193	1167	1157	1152	1157	1139	1154	10- 20	334.4	448.2	19.8,19.8
30	1078	1104	1041	1047	1023	1044	1011	1059	20- 30	515.9	964.1	42.5,42.5
40	852.6	892.9	819.8	815.9	775.2	806.1	758.3	840.1	30- 40	595.1	1559	68.8,68.8
50	342.8	499.2	298.9	405.5	258.2	381.4	241.4	436.9	40- 50	478.8	2038	89.9,89.9
60	63.16	88.60	56.90	70.63	49.24	61.94	51.37	79.58	50- 60	165.8	2204	97.2,97.2
70	33.86	34.27	29.89	27.57	23.96	25.76	26.94	31.80	60- 70	43.69	2248	99.2,99.2
80	8.131	8.153	6.053	4.519	3.125	3.740	4.704	6.694	70- 80	18.05	2266	99.9,99.9
90	0	0	0	0	0	0	0	0	80- 90	1.186	2267	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		

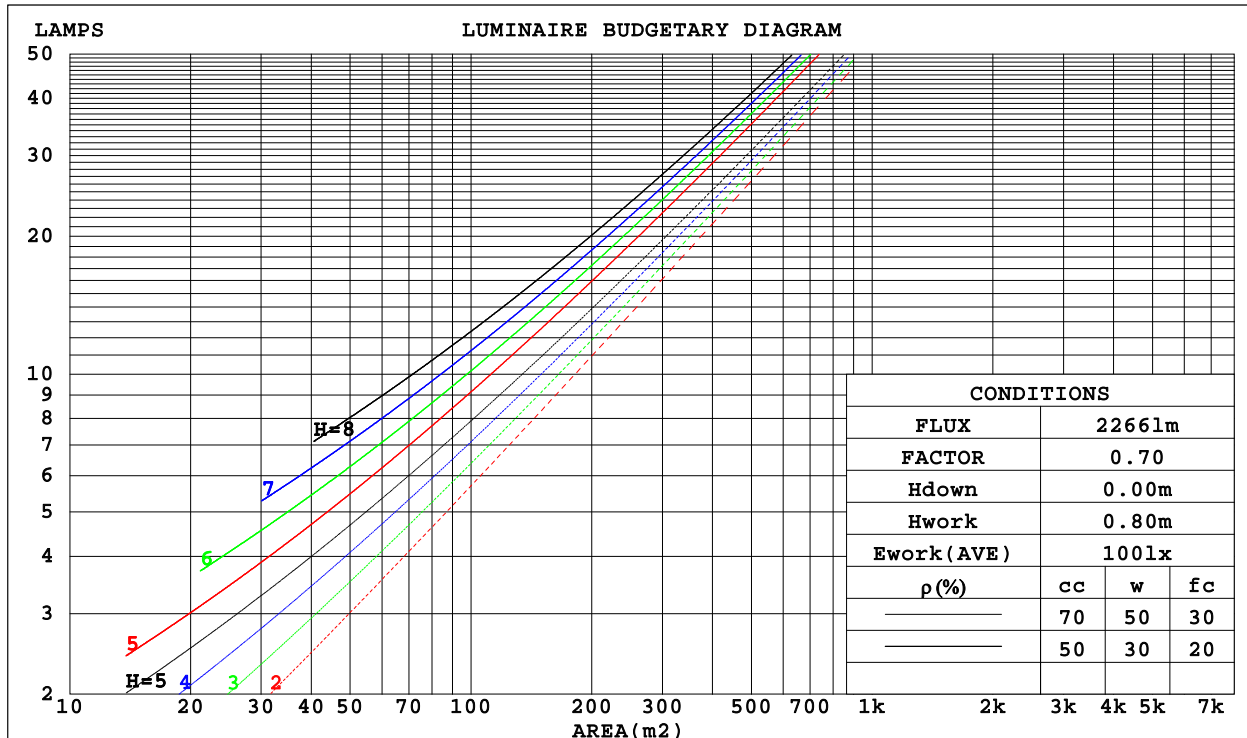
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-08-22

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.06	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.92	.90
2.0	.99	.94	.89	.97	.92	.88	.93	.90	.86	.90	.87	.84	.87	.85	.83	.81
3.0	.89	.83	.78	.88	.82	.78	.85	.80	.76	.83	.79	.75	.80	.77	.74	.72
4.0	.81	.74	.69	.80	.74	.69	.78	.72	.68	.76	.71	.67	.74	.70	.66	.64
5.0	.74	.67	.62	.73	.66	.61	.71	.65	.61	.69	.64	.60	.68	.63	.60	.58
6.0	.68	.61	.55	.67	.60	.55	.65	.59	.55	.64	.58	.54	.62	.58	.54	.52
7.0	.62	.55	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.58	.53	.49	.47
8.0	.58	.50	.45	.57	.50	.45	.56	.49	.45	.54	.49	.45	.53	.48	.44	.43
9.0	.53	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.44	.40	.39
10.0	.49	.42	.38	.49	.42	.38	.48	.42	.37	.47	.41	.37	.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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	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	.218	.124	.039	.212	.121	.038	.199	.114	.036	.187	.108	.035	.176	.102	.033	
2.0	.214	.117	.036	.208	.115	.035	.197	.110	.034	.187	.105	.033	.177	.100	.032	
3.0	.205	.109	.033	.200	.107	.032	.191	.103	.031	.182	.100	.031	.173	.096	.030	
4.0	.196	.102	.030	.191	.100	.030	.183	.097	.029	.175	.094	.028	.168	.091	.028	
5.0	.186	.095	.027	.182	.093	.027	.175	.091	.027	.168	.088	.026	.161	.086	.026	
6.0	.177	.089	.025	.173	.087	.025	.167	.085	.025	.160	.083	.024	.155	.081	.024	
7.0	.168	.083	.024	.165	.082	.023	.159	.080	.023	.153	.079	.023	.148	.077	.023	
8.0	.160	.078	.022	.157	.077	.022	.151	.076	.022	.146	.074	.021	.142	.073	.021	
9.0	.152	.073	.020	.149	.073	.020	.144	.071	.020	.140	.070	.020	.136	.069	.020	
10.0	.145	.069	.019	.142	.069	.019	.138	.068	.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	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.083	.130	.098	.072	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.144	.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	.130	.080	.044	.111	.069	.039	.077	.049	.027	.045	.029	.016	.014	.009	.005	
7.0	.124	.073	.037	.106	.063	.033	.074	.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	.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:2018-08-22

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:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm										
NAME: DL96-6-18W					TYPE:18W			WEIGHT:		
DIM.:					SPEC.:3000K			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	25.6	26.8	25.8	27.0	27.2	25.7	26.9	25.9	27.1	27.2
3H	25.5	26.6	25.8	26.8	27.0	25.5	26.7	25.8	26.9	27.1
4H	25.4	26.5	25.7	26.7	27.0	25.5	26.5	25.8	26.8	27.0
6H	25.4	26.3	25.7	26.6	26.9	25.4	26.4	25.7	26.6	26.9
8H	25.3	26.3	25.6	26.5	26.8	25.4	26.3	25.7	26.6	26.8
12H	25.3	26.2	25.6	26.5	26.7	25.3	26.2	25.6	26.5	26.8
4H 2H	25.4	26.5	25.7	26.7	27.0	25.5	26.5	25.8	26.8	27.0
3H	25.4	26.3	25.7	26.6	26.9	25.4	26.3	25.8	26.6	26.9
4H	25.4	26.2	25.7	26.5	26.8	25.4	26.2	25.8	26.5	26.8
6H	25.3	26.0	25.7	26.4	26.7	25.3	26.0	25.7	26.4	26.7
8H	25.3	25.9	25.7	26.3	26.7	25.3	25.9	25.7	26.3	26.7
12H	25.2	25.8	25.6	26.2	26.6	25.2	25.8	25.7	26.2	26.6
8H 4H	25.3	25.9	25.7	26.3	26.7	25.3	25.9	25.7	26.3	26.7
6H	25.2	25.8	25.7	26.2	26.6	25.2	25.8	25.7	26.2	26.6
8H	25.2	25.7	25.6	26.1	26.5	25.2	25.7	25.6	26.1	26.5
12H	25.1	25.5	25.6	26.0	26.5	25.1	25.6	25.6	26.0	26.5
12H 4H	25.2	25.8	25.6	26.2	26.6	25.2	25.8	25.7	26.2	26.6
6H	25.2	25.7	25.6	26.1	26.5	25.2	25.7	25.6	26.1	26.5
8H	25.1	25.6	25.6	26.0	26.5	25.2	25.6	25.6	26.0	26.5
Variations with the observer position at spacings:										
S = 1.0H	+ 2.3 / - 5.3					+ 2.4 / - 5.6				
1.5H	+ 1.3 / - 3.1					+ 1.0 / - 4.1				
2.0H	+ 4.6 / - 6.3					+ 4.3 / - 7.2				

CIE Pub.117 Corrected 2267 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.8)

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:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

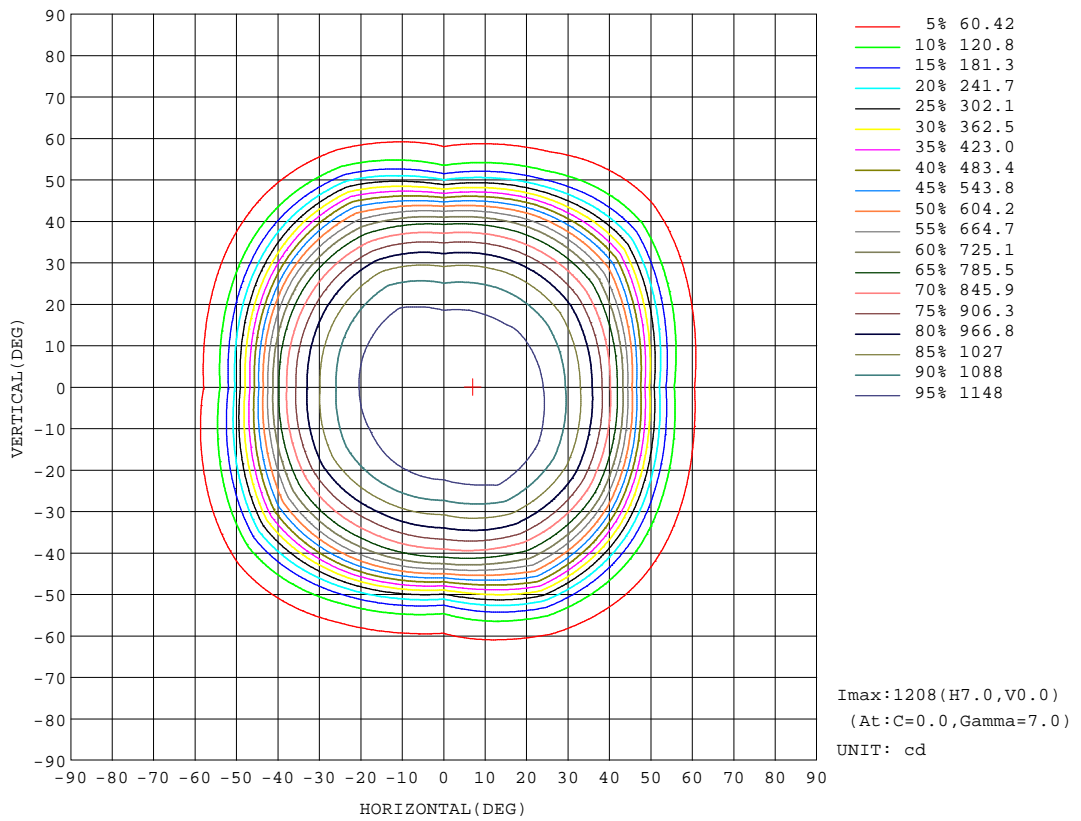
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	72	62	57	71	62	57	70	62	57	52
0.80	81	73	67	81	72	67	79	72	67	61
1.00	89	81	76	88	81	76	86	81	75	70
1.25	95	88	83	94	87	82	92	86	82	76
1.50	99	92	88	98	91	87	95	90	86	80
2.00	104	98	94	102	97	93	99	95	91	85
2.50	106	101	97	104	100	96	101	97	94	87
3.00	108	104	100	107	102	99	103	100	97	90
4.00	111	107	104	109	105	103	105	102	100	92
5.00	112	109	106	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:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:



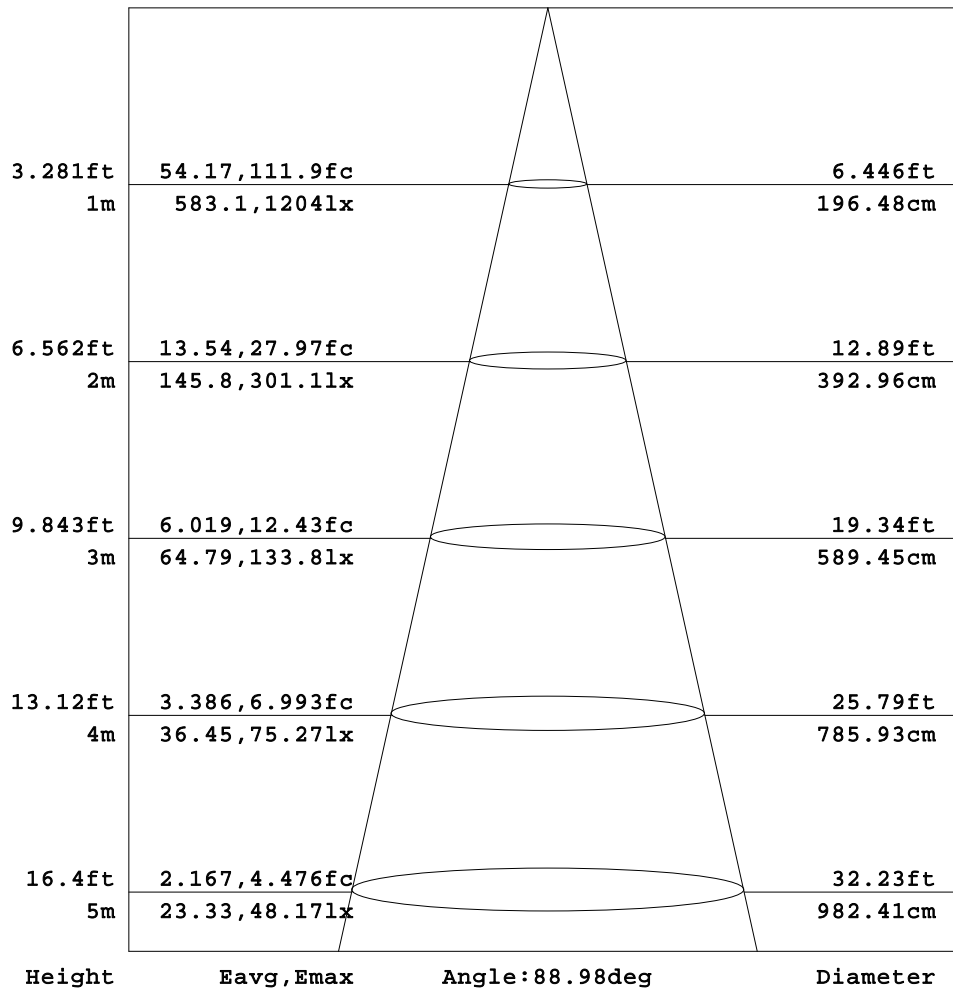
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-08-22

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:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:

Flux out:1832 lm



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

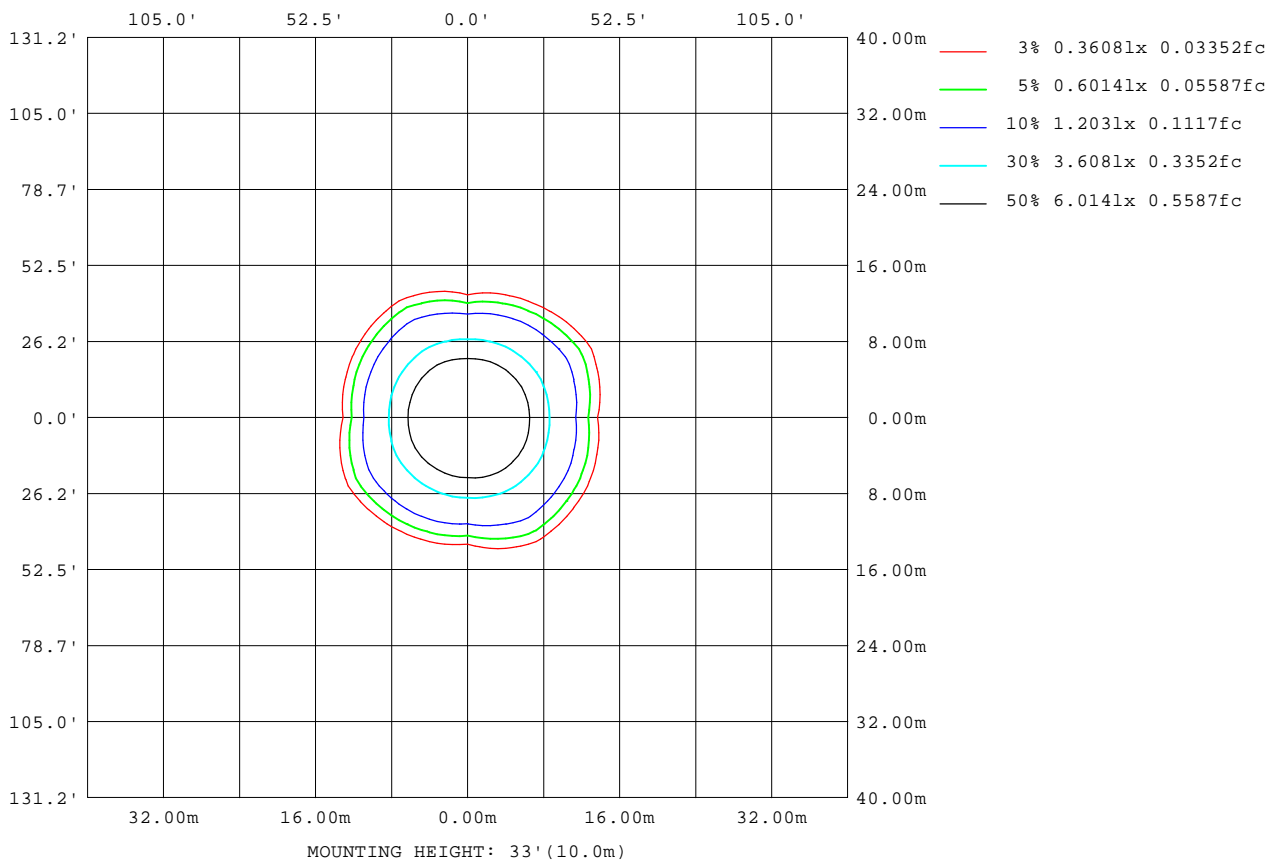
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-08-22

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

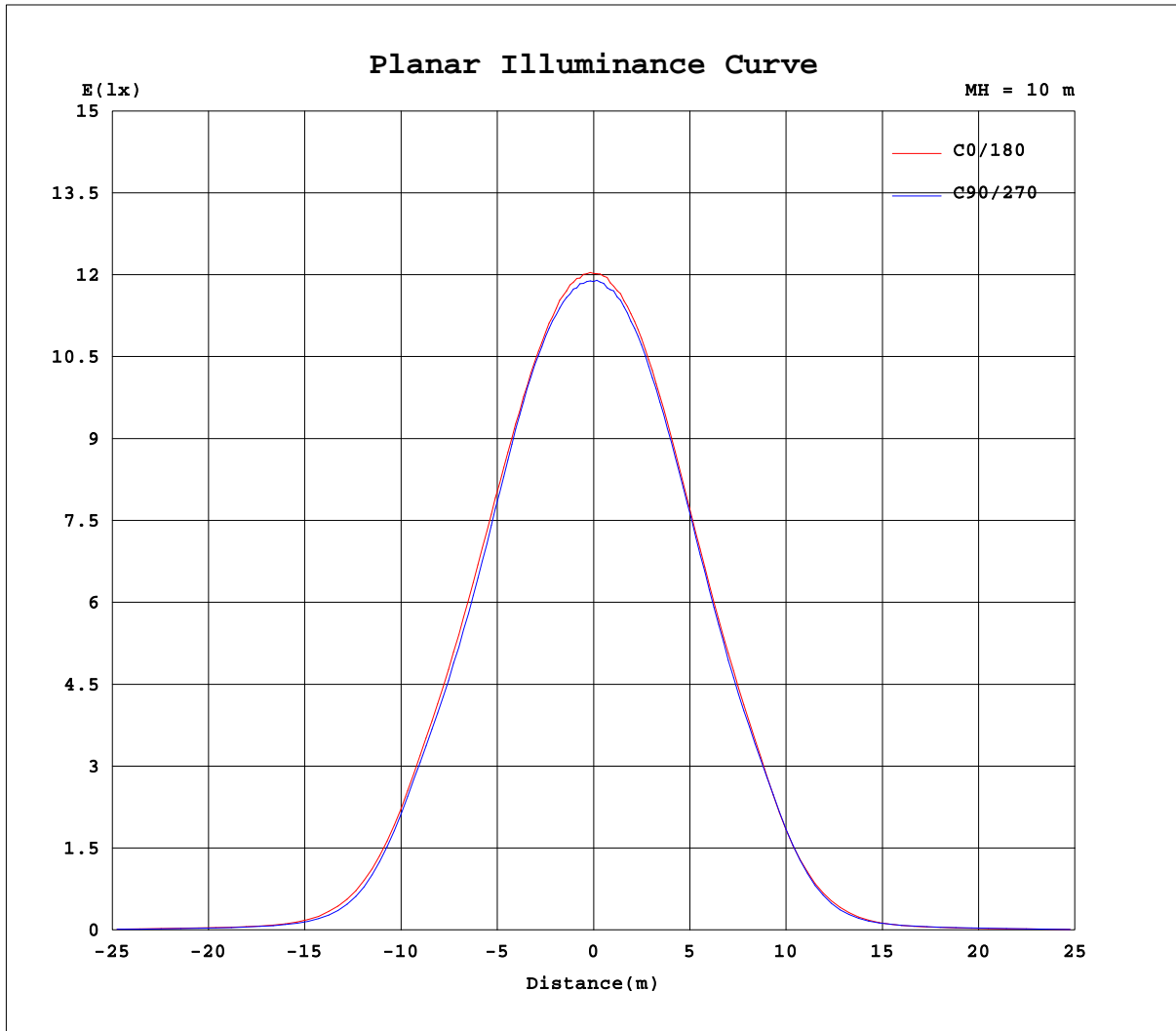
Test:U:110.1V I:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.1X0.1	PROTECTION ANGLE:



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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.1550A P:16.50W PF:0.9720 Lamp Flux:2266.79x1 lm		
NAME: DL96-6-18W	TYPE:18W	WEIGHT:
DIM.:	SPEC.:3000K	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	1203	1199	1193	1188	1184	1184	1203	1199	1193	1188	1184	1184							
5	1207	1201	1197	1190	1187	1182	1199	1194	1193	1186	1188	1185							
10	1208	1206	1203	1193	1185	1180	1196	1193	1187	1184	1183	1185							
15	1195	1203	1204	1186	1181	1170	1180	1181	1180	1169	1172	1176							
20	1178	1190	1196	1167	1162	1152	1152	1157	1157	1139	1148	1161							
25	1138	1159	1164	1116	1118	1115	1099	1110	1122	1088	1109	1128							
30	1078	1105	1104	1041	1042	1051	1023	1038	1050	1011	1046	1072							
35	985	1022	1011	943	939	953	923	935	949	900	950	986							
40	853	898	888	820	810	822	775	801	811	758	816	864							
45	630	725	739	603	638	659	521	598	647	524	642	710							
50	343	466	533	299	376	435	258	340	423	241	380	494							
55	136	214	264	113	152	211	98.3	141	184	90.7	150	253							
60	63.2	81.2	96.0	56.9	63.1	78.2	49.2	55.4	68.4	51.4	62.8	96.3							
65	45.6	47.5	48.5	42.1	40.7	40.0	36.7	37.6	39.2	39.3	42.7	47.5							
70	33.9	35.1	33.4	29.9	28.5	26.6	24.0	25.2	26.4	26.9	31.0	32.6							
75	21.4	22.0	20.0	17.5	15.9	14.3	12.5	13.2	14.2	15.3	18.2	19.7							
80	8.13	8.71	7.60	6.05	5.02	4.02	3.12	3.34	4.14	4.70	6.30	7.09							
85	0.32	0.30	0.07	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: