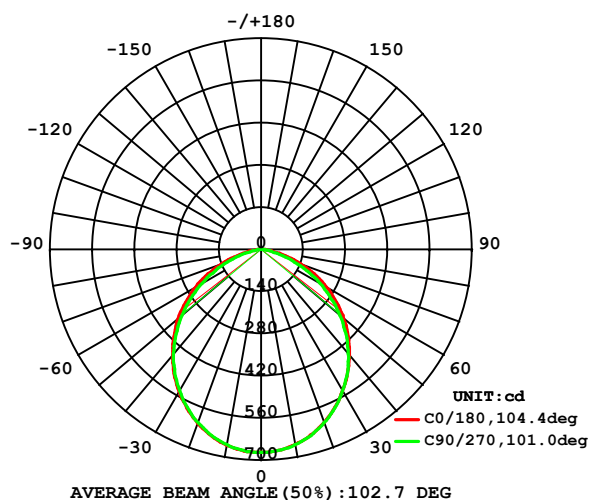


LUMINAIRE PHOTOMETRIC TEST REPORT

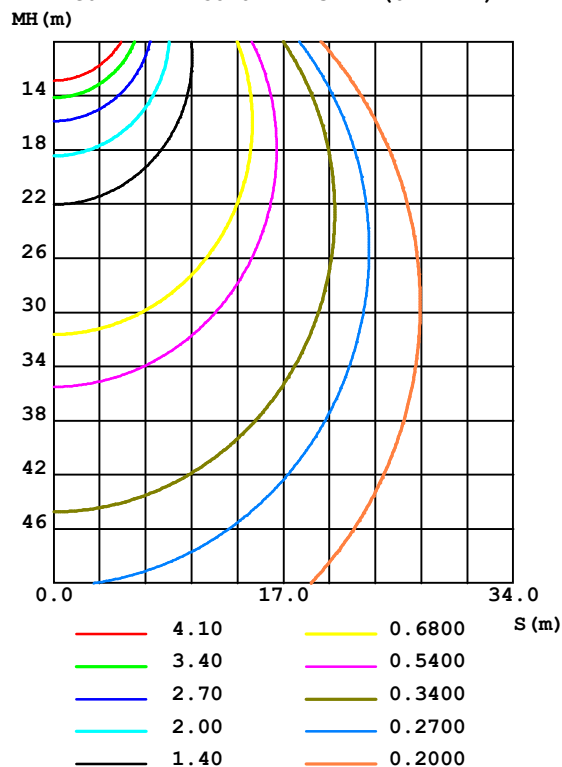
NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 85.35 lm/W
MODEL	SH-DL06HY-740-20	I _{max} (cd)	674.5	S/MH (C0/180)	1.20	
NOMINAL POWER(W)	20	LOR (%)	100.0	S/MH (C90/270)	1.20	
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1664.8	η UP, DN (C0-180)	0.0, 49.9	
NOMINAL FLUX (lm)	1664.78	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0	
LAMPS INSIDE	1	η up (%)	0.1	CIBSE SHR NOM	1.25	
TEST VOLTAGE (V)	220.6	η down (%)	99.9	CIBSE SHR MAX	1.35	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



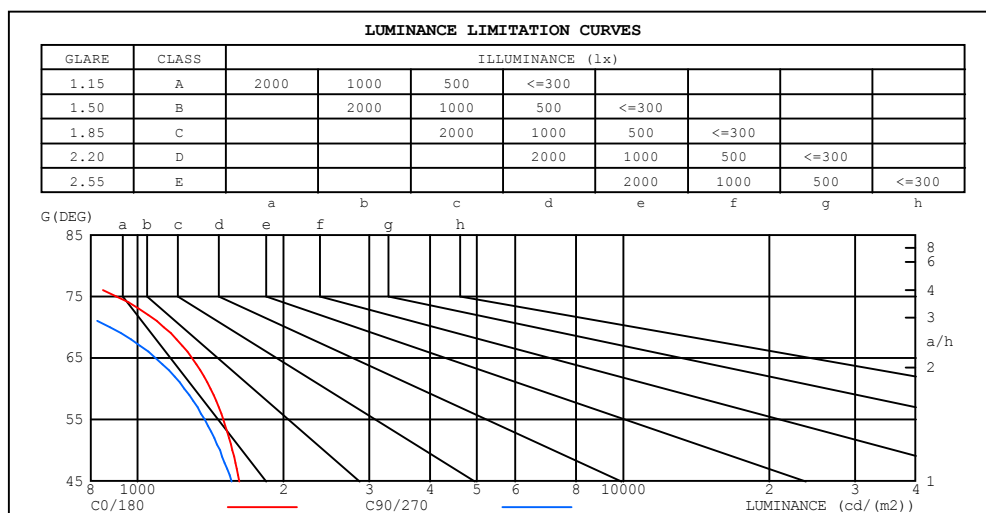
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SHU
Test Date: 2014-05-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity: 65.0%
Test Distance: 18.226m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	657.8	658.7	658.9	659.5	659.8	658.7	658.6	658.0	0- 10	63.63	63.63	3.82,3.82
20	612.1	613.1	613.3	614.7	614.9	613.3	612.9	612.2	10- 20	180.2	243.9	14.6,14.6
30	542.6	543.3	542.9	545.0	545.5	543.3	542.5	542.3	20- 30	267.5	511.4	30.7,30.7
40	456.3	455.6	452.0	457.3	458.7	455.2	452.3	455.0	30- 40	313.4	824.7	49.5,49.5
50	359.7	353.4	343.0	354.5	360.8	352.4	343.5	353.6	40- 50	312.5	1137	68.3,68.3
60	252.0	239.8	225.7	240.1	251.7	238.6	226.6	240.3	50- 60	265.2	1402	84.2,84.2
70	138.3	122.9	108.4	123.1	137.7	122.4	110.2	123.7	60- 70	179.0	1581	95,95
80	36.20	23.64	15.46	23.78	35.81	23.80	16.56	24.75	70- 80	74.51	1656	99.5,99.5
90	0.0036	0	0	0	0	0	0	0	80- 90	7.595	1663	99.9,99.9
100	0	0	0	0	0	0	0	0	90-100	0.0000	1663	99.9,99.9
110	0	0.0003	0	0	0.0001	0	0	0	100-110	0.0000	1663	99.9,99.9
120	0.0599	0.2212	0	0.1420	0.2193	0	0.1218	0.1014	110-120	0.0414	1664	99.9,99.9
130	0.1992	0.3816	0.1816	0.3041	0.3988	0.1607	0.3233	0.1825	120-130	0.1736	1664	99.9,99.9
140	0.3988	0.4218	0.4644	0.4460	0.4586	0.2404	0.5049	0.2433	130-140	0.2534	1664	100,100
150	0.4586	0.5624	0.5049	0.5474	0.5982	0.4419	0.5657	0.4661	140-150	0.2817	1664	100,100
160	0.5381	0.7642	0.5251	0.6898	0.6979	0.6218	0.6665	0.6283	150-160	0.2574	1664	100,100
170	0.7777	0.8034	0.6665	0.7704	0.7976	0.7430	0.7877	0.7904	160-170	0.2054	1665	100,100
180	0.8175	0.8034	0.8079	0.8313	0.8175	0.7833	0.8079	0.8110	170-180	0.0748	1665	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/ (m2)		
G(°)	C0/180	C90/270
85	225	89
80	584	246
75	905	589
70	1134	877
65	1294	1089
60	1413	1249
55	1502	1374
50	1569	1477
45	1622	1562

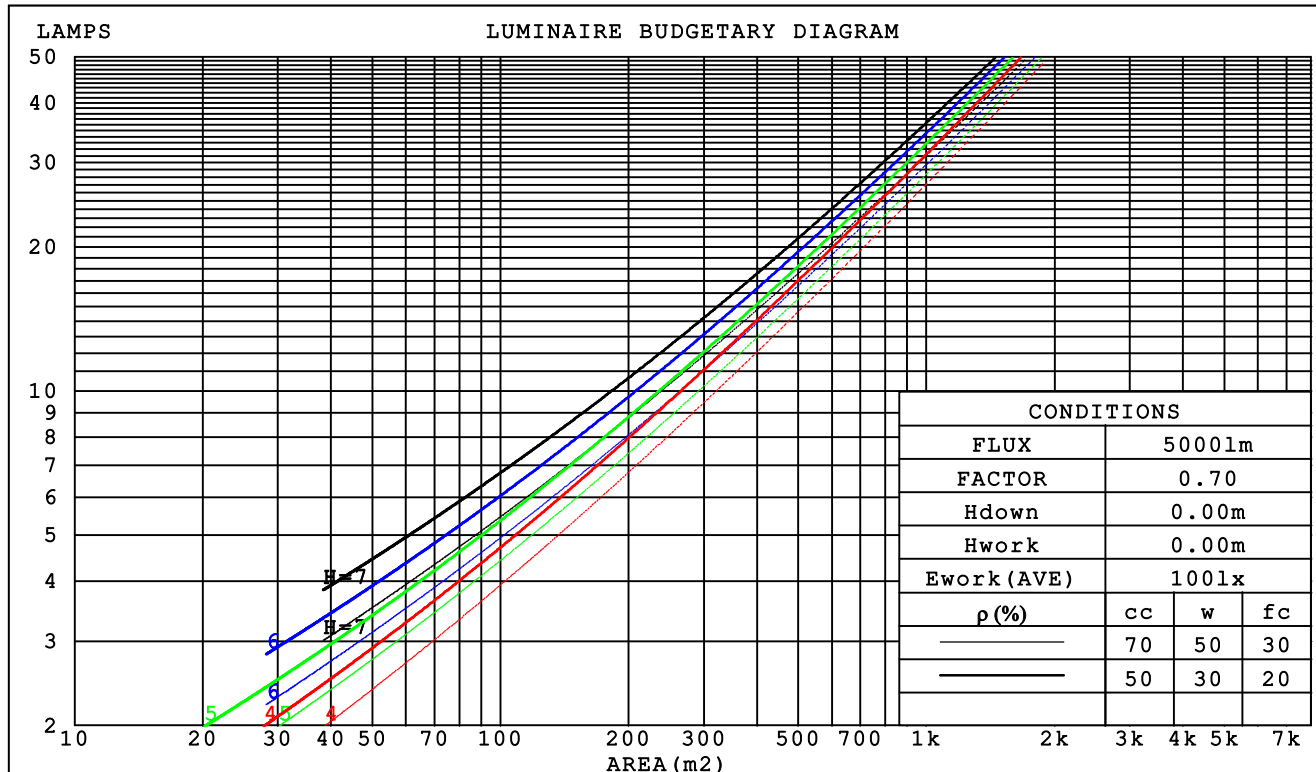
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SHU
Test Date:2014-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity:65.0%
Test Distance:18.226m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	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	1.06	1.02	.98	1.03	.00	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.87	.81	.91	.85	.80	.88	.83	.78	.84	.80	.77	.81	.78	.75	.73
3.0	.82	.74	.68	.81	.73	.68	.78	.72	.67	.75	.70	.65	.72	.68	.64	.62
4.0	.73	.65	.58	.72	.64	.58	.69	.63	.57	.67	.61	.56	.65	.60	.56	.54
5.0	.66	.57	.51	.64	.56	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.47
6.0	.59	.51	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.48	.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	.48	.41	.35	.47	.40	.35	.46	.39	.35	.45	.39	.34	.33
9.0	.45	.37	.32	.45	.37	.32	.43	.36	.32	.42	.36	.31	.41	.36	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.29	.38	.33	.28	.27



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: SHU
 Test Date: 2014-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity: 65.0%
 Test Distance: 18.226m [K=1.0000]
 Remarks:

WEC AND CCEC

NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	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						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.276	.157	.050	.269	.154	.049	.256	.147	.047	.244	.141	.045	.233	.135	.044		
2.0	.268	.147	.045	.262	.144	.044	.250	.139	.043	.239	.134	.042	.230	.130	.041		
3.0	.252	.134	.040	.247	.132	.040	.236	.128	.039	.227	.124	.038	.218	.121	.037		
4.0	.235	.122	.036	.230	.121	.036	.221	.117	.035	.213	.114	.035	.205	.112	.034		
5.0	.219	.112	.032	.215	.110	.032	.207	.108	.032	.200	.105	.031	.193	.103	.031		
6.0	.205	.103	.029	.201	.102	.029	.194	.099	.029	.187	.097	.029	.181	.095	.028		
7.0	.192	.095	.027	.188	.094	.027	.182	.092	.026	.176	.090	.026	.170	.088	.026		
8.0	.180	.088	.025	.177	.087	.025	.171	.085	.024	.166	.084	.024	.160	.082	.024		
9.0	.169	.082	.023	.166	.081	.023	.161	.080	.023	.156	.078	.022	.152	.077	.022		
10.0	.159	.076	.021	.157	.076	.021	.152	.075	.021	.148	.073	.021	.144	.072	.021		

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.191	.191	.191	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.179	.157	.138	.153	.135	.118	.105	.093	.082	.060	.054	.048	.019	.017	.015	
2.0	.170	.133	.102	.145	.114	.088	.100	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.162	.115	.077	.139	.099	.067	.095	.069	.047	.055	.040	.028	.018	.013	.009	
4.0	.154	.101	.061	.132	.088	.053	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.091	.049	.126	.079	.043	.087	.055	.030	.050	.032	.018	.016	.011	.006	
6.0	.140	.082	.041	.120	.071	.036	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.133	.075	.035	.115	.065	.030	.079	.046	.021	.046	.027	.013	.015	.009	.004	
8.0	.127	.070	.030	.109	.060	.026	.076	.042	.019	.044	.025	.011	.014	.008	.004	
9.0	.121	.065	.026	.104	.056	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.116	.060	.024	.100	.052	.021	.069	.037	.015	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SHU
Test Date:2014-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity:65.0%
Test Distance:18.226m [K=1.0000]
Remarks:

Uncorrected UGR Table

NAME: DOWNLIGHT						TYPE:DOWNLIGHT					WEIGHT:				
SPEC.:						DIM.:					SERIAL No.:027				
MFR.: SUNWEA						SUR.:					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						14.2	15.7	14.5	15.9	16.1	13.9	15.3	14.1	15.5	15.7
3H						15.4	16.8	15.7	17.0	17.2	14.8	16.1	15.1	16.4	16.6
4H						15.8	17.1	16.1	17.3	17.6	15.0	16.3	15.3	16.5	16.8
6H						15.9	17.1	16.3	17.4	17.7	15.0	16.2	15.3	16.5	16.7
8H						15.9	17.1	16.3	17.3	17.6	15.0	16.1	15.3	16.4	16.7
12H						15.9	17.0	16.2	17.3	17.6	14.9	16.0	15.3	16.3	16.6
4H 2H						14.7	15.9	15.0	16.2	16.4	14.4	15.6	14.7	15.9	16.1
3H						16.0	17.1	16.4	17.4	17.7	15.5	16.6	15.8	16.9	17.2
4H						16.5	17.5	16.8	17.8	18.1	15.7	16.7	16.1	17.1	17.4
6H						16.6	17.5	17.0	17.9	18.2	15.8	16.7	16.2	17.0	17.4
8H						16.7	17.5	17.1	17.8	18.2	15.7	16.6	16.2	16.9	17.3
12H						16.6	17.4	17.1	17.8	18.2	15.7	16.5	16.1	16.8	17.2
8H 4H						16.5	17.3	16.9	17.7	18.1	15.8	16.7	16.3	17.0	17.4
6H						16.8	17.4	17.2	17.8	18.3	15.9	16.6	16.4	17.0	17.4
8H						16.8	17.4	17.2	17.8	18.2	15.9	16.5	16.4	16.9	17.4
12H						16.8	17.3	17.2	17.7	18.2	15.9	16.4	16.3	16.8	17.3
12H 4H						16.5	17.2	16.9	17.6	18.0	15.8	16.6	16.2	17.0	17.4
6H						16.7	17.3	17.2	17.7	18.2	15.9	16.5	16.4	16.9	17.4
8H						16.8	17.3	17.2	17.7	18.2	15.9	16.4	16.4	16.8	17.3
Variations with the observer position at spacings:															
S = 1.0H						+ 0.2 / - 0.3					+ 0.3 / - 0.4				
1.5H						+ 0.2 / - 0.4					+ 0.2 / - 0.5				
2.0H						+ 0.4 / - 0.4					+ 0.5 / - 0.6				

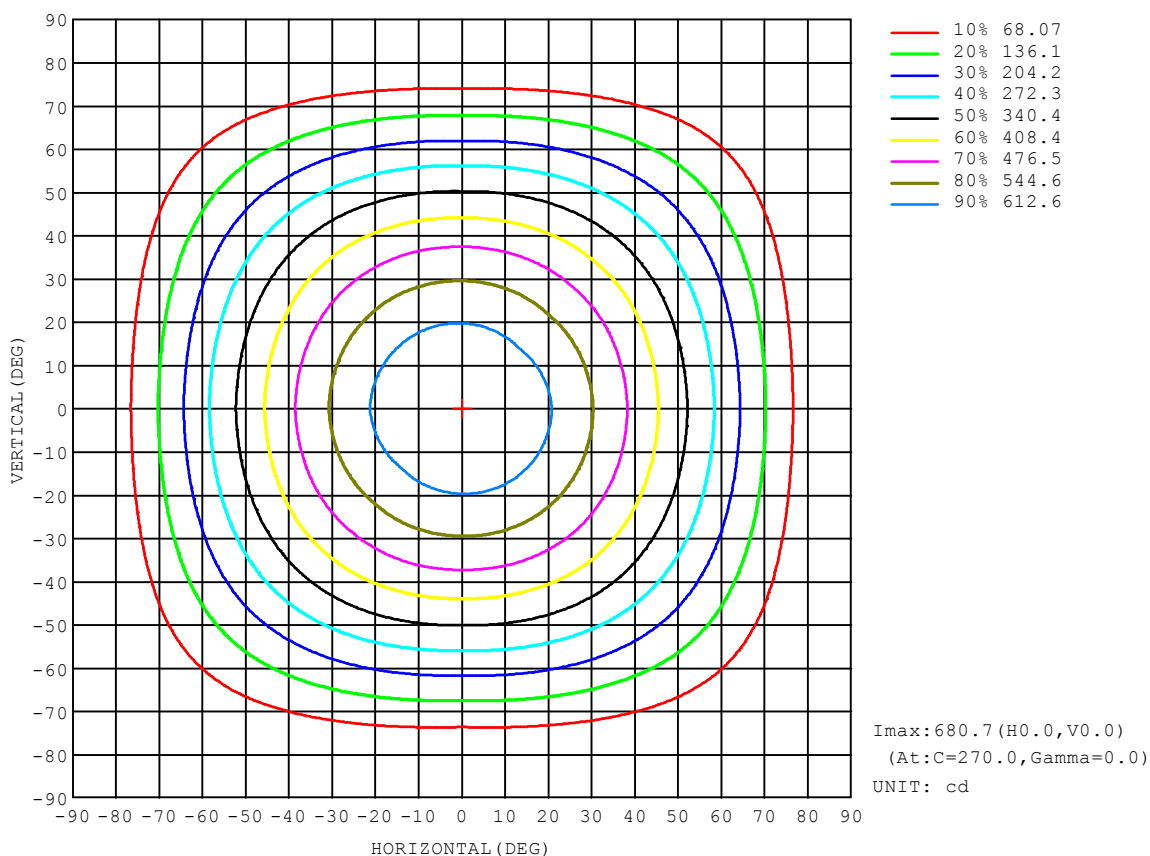
CIE Pub.117 Corrected 1665 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.8)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SHU
Test Date:2014-05-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity:65.0%
Test Distance:18.226m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	PROTECTION ANGLE:

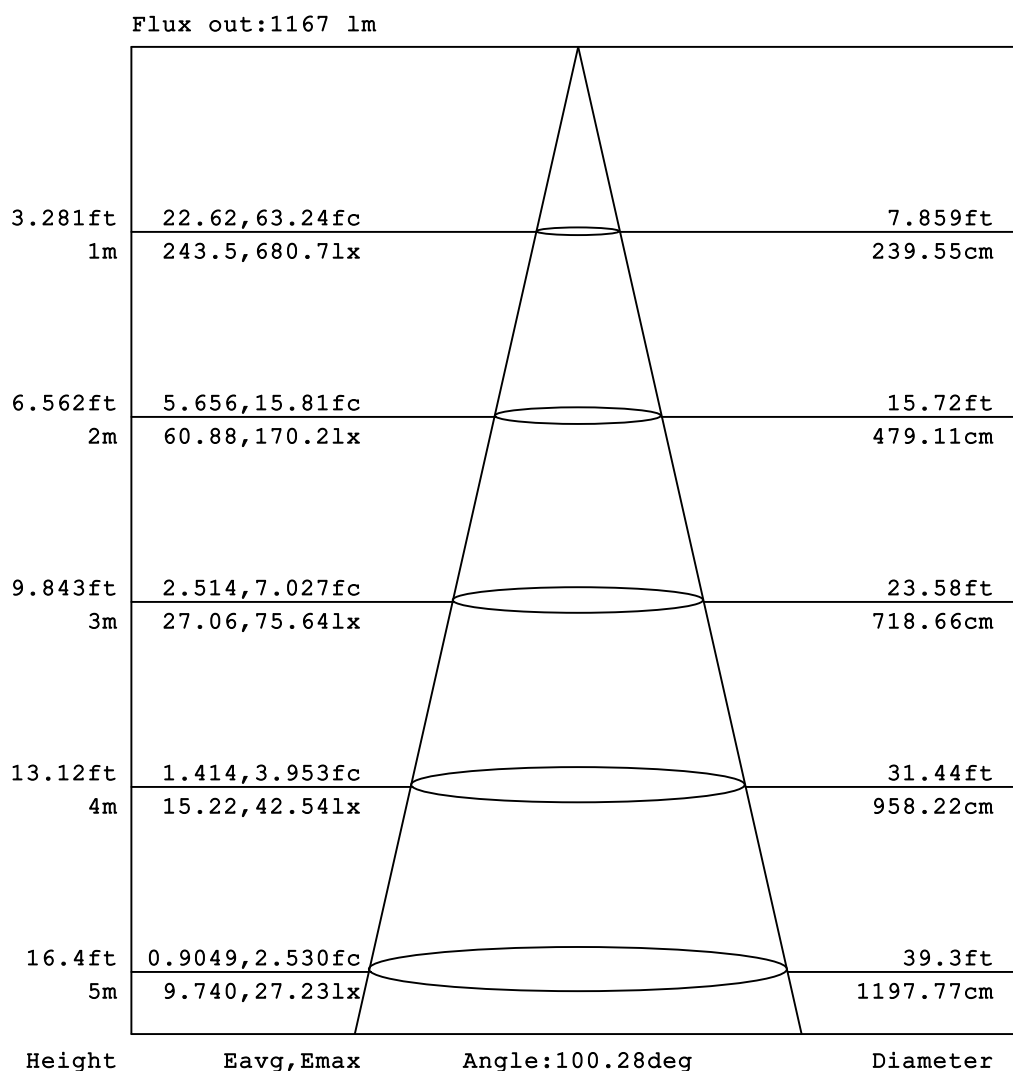


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SHU
Test Date:2014-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity:65.0%
Test Distance:18.226m [K=1.0000]
Remarks:

AAI Figure

NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	PROTECTION ANGLE:



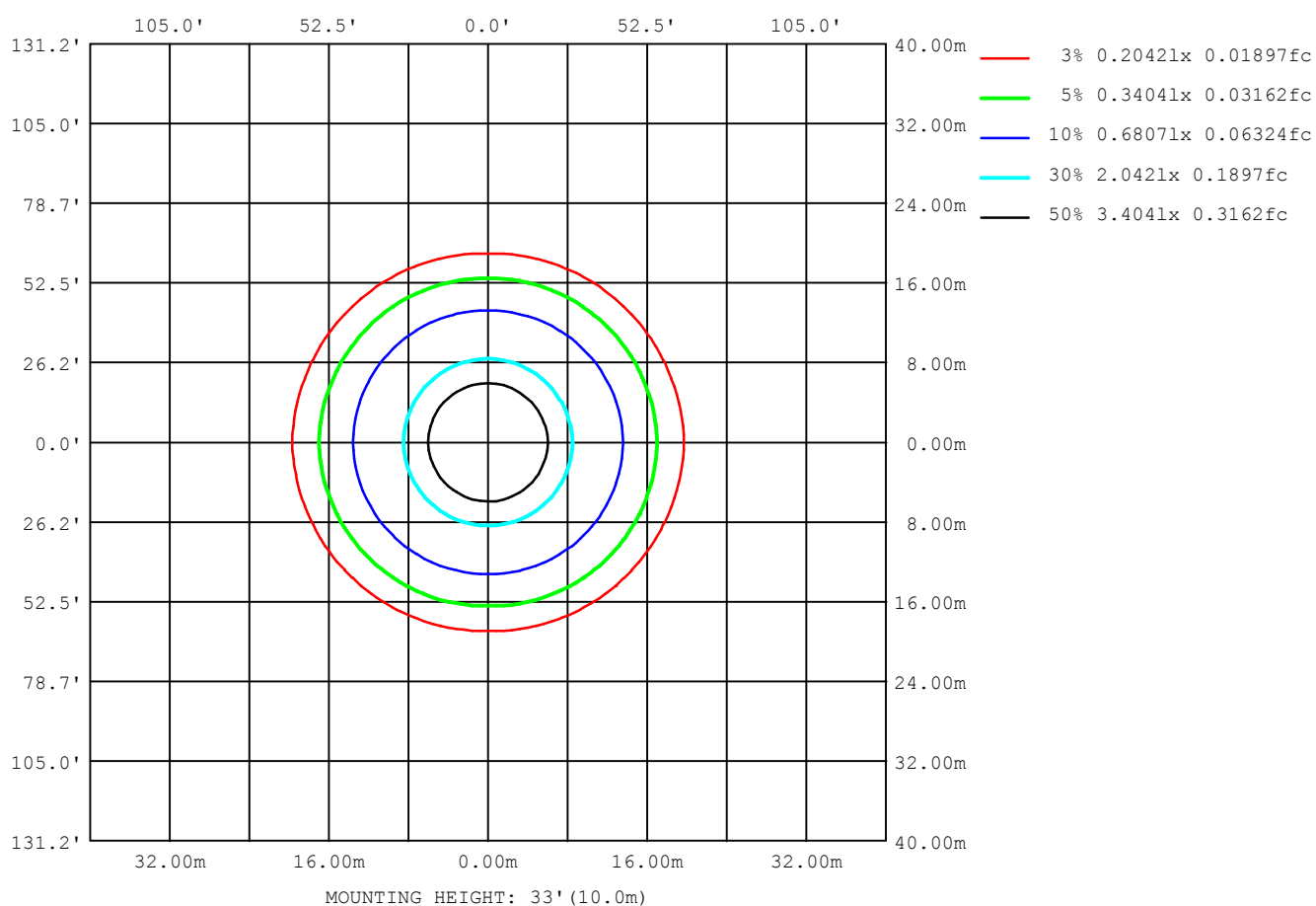
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SHU
Test Date:2014-05-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity:65.0%
Test Distance:18.226m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

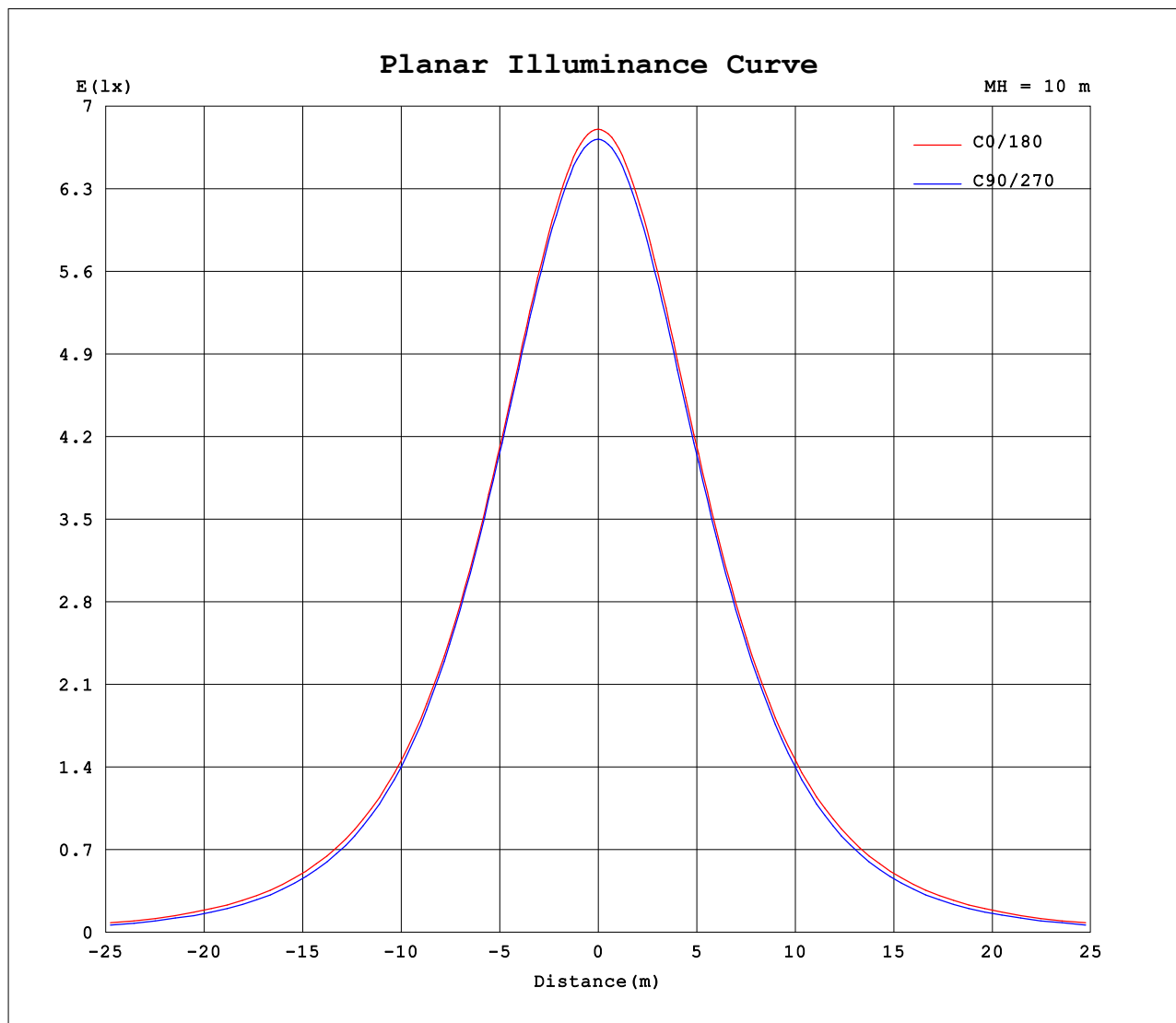
NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SHU
Test Date:2014-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity:65.0%
Test Distance:18.226m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SHU
Test Date: 2014-05-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity: 65.0%
Test Distance: 18.226m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	45	90	135	180	225	270	315										
0	675	675	675	675	675	675	675	675										
5	670	671	671	671	671	671	670	670										
10	658	659	659	659	660	659	659	658										
15	638	639	640	641	641	639	639	638										
20	612	613	613	615	615	613	613	612										
25	580	581	581	582	583	581	580	580										
30	543	543	543	545	546	543	543	542										
35	501	501	500	503	504	501	500	500										
40	456	456	452	457	459	455	452	455										
45	409	406	399	407	411	406	399	406										
50	360	353	343	354	361	352	343	354										
55	307	298	285	298	308	297	286	298										
60	252	240	226	240	252	239	227	240										
65	195	181	166	181	195	180	168	182										
70	138	123	108	123	138	122	110	124										
75	83.6	68.2	55.1	68.4	83.1	68.3	56.9	69.4										
80	36.2	23.6	15.5	23.8	35.8	23.8	16.6	24.8										
85	6.99	4.16	2.79	4.06	6.84	4.28	3.28	4.59										
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
115	0.00	0.10	0.00	0.04	0.08	0.00	0.06	0.00										
120	0.06	0.22	0.00	0.14	0.22	0.00	0.12	0.10										
125	0.14	0.30	0.14	0.22	0.32	0.10	0.22	0.10										
130	0.20	0.38	0.18	0.30	0.40	0.16	0.32	0.18										
135	0.28	0.42	0.26	0.34	0.46	0.16	0.42	0.22										
140	0.40	0.42	0.46	0.45	0.46	0.24	0.50	0.24										
145	0.46	0.48	0.44	0.47	0.52	0.32	0.50	0.36										
150	0.46	0.56	0.50	0.55	0.60	0.44	0.57	0.47										
155	0.50	0.64	0.50	0.63	0.64	0.48	0.63	0.47										
160	0.54	0.76	0.53	0.69	0.70	0.62	0.67	0.63										
165	0.80	0.80	0.63	0.79	0.76	0.74	0.73	0.75										
170	0.78	0.80	0.67	0.77	0.80	0.74	0.79	0.79										
175	0.78	0.80	0.73	0.81	0.82	0.78	0.81	0.79										
180	0.82	0.80	0.81	0.83	0.82	0.78	0.81	0.81										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SHU
Test Date:2014-05-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
Humidity:65.0%
Test Distance:18.226m [K=1.0000]
Remarks: