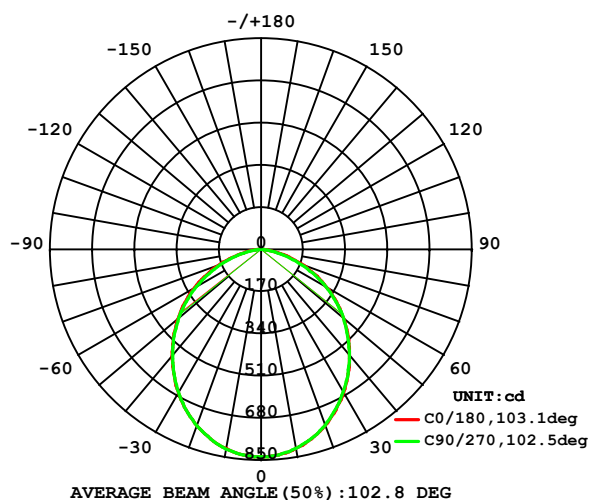


## LUMINAIRE PHOTOMETRIC TEST REPORT

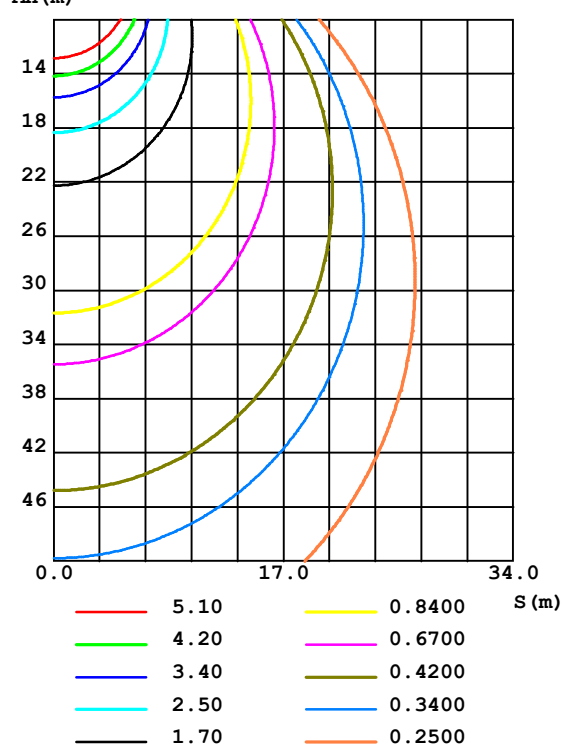
NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 91.14 lm/W
MODEL	SH-DL08HY-740-25	I <sub>max</sub> (cd)	836.3	S/MH(C0/180)	1.19	
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	1.19	
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	2088.5	η UP,DN(C0-180)	0.0,49.9	
NOMINAL FLUX(lm)	2088.51	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)	220.3	η down (%)	99.9	CIBSE SHR MAX	1.35	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



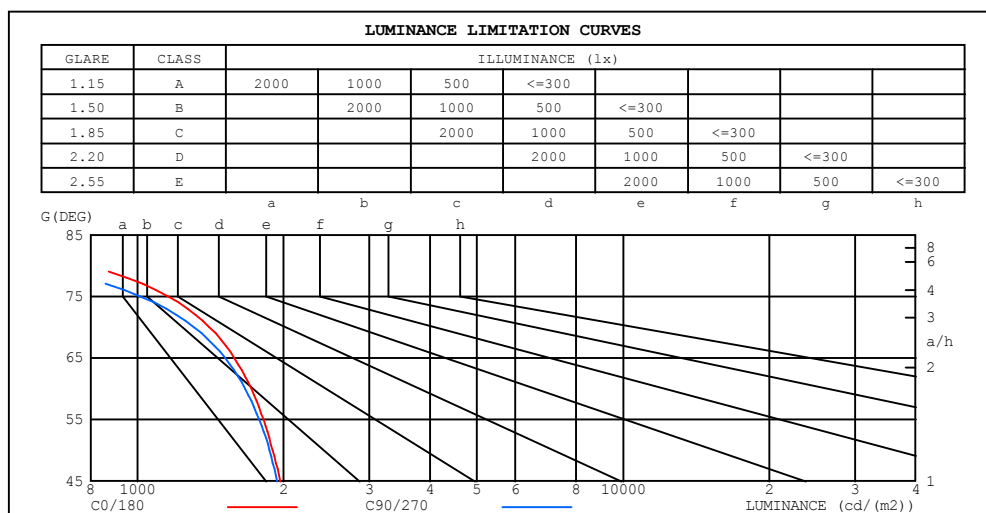
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:SHU  
Test Date:2014-05-21

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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	815.1	815.0	814.4	815.2	815.7	815.7	816.3	816.1	0- 10	78.83	78.83	3.77,3.77
20	755.8	755.1	754.2	756.1	756.8	755.9	756.7	757.2	10- 20	222.6	301.5	14.4,14.4
30	666.1	664.7	664.1	666.9	667.5	665.1	666.2	667.5	20- 30	328.8	630.2	30.2,30.2
40	556.5	555.1	554.6	558.3	558.4	554.7	555.8	558.1	30- 40	383.3	1014	48.5,48.5
50	435.7	434.3	434.0	438.6	438.5	434.1	434.3	437.1	40- 50	383.4	1397	66.9,66.9
60	306.1	303.6	300.7	309.7	311.0	305.1	301.2	306.5	50- 60	332.3	1729	82.8,82.8
70	171.8	166.9	161.5	171.3	176.9	169.0	163.1	168.7	60- 70	234.4	1964	94,94
80	48.89	43.19	36.39	45.13	52.54	45.00	38.41	43.72	70- 80	109.4	2073	99.3,99.3
90	0.0052	0	0	0	0	0	0	0	80- 90	13.64	2087	99.9,99.9
100	0	0	0	0	0	0	0	0	90-100	0.0000	2087	99.9,99.9
110	0	0.0001	0	0.0608	0.0400	0	0.0605	0	100-110	0.0026	2087	99.9,99.9
120	0.1597	0.2412	0.1816	0.3042	0.2795	0.1401	0.2627	0.1013	110-120	0.1009	2087	99.9,99.9
130	0.3790	0.4823	0.3224	0.4866	0.4794	0.2812	0.4843	0.3439	120-130	0.2617	2087	99.9,99.9
140	0.5190	0.6030	0.5043	0.6483	0.6390	0.4418	0.6863	0.4862	130-140	0.3823	2087	99.9,99.9
150	0.7387	0.8237	0.7267	0.8306	0.7992	0.5825	0.8072	0.6077	140-150	0.4046	2088	100,100
160	0.8383	0.9843	0.8274	0.9928	0.9583	0.8033	0.9081	0.8101	150-160	0.3781	2088	100,100
170	0.9983	1.145	0.9878	1.094	1.078	1.045	1.130	0.9319	160-170	0.2742	2088	100,100
180	1.098	1.145	1.110	1.135	1.098	1.125	1.130	1.074	170-180	0.1023	2089	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	312	151
80	788	580
75	1156	1014
70	1406	1308
65	1582	1513
60	1714	1666
55	1817	1781
50	1898	1870
45	1968	1940

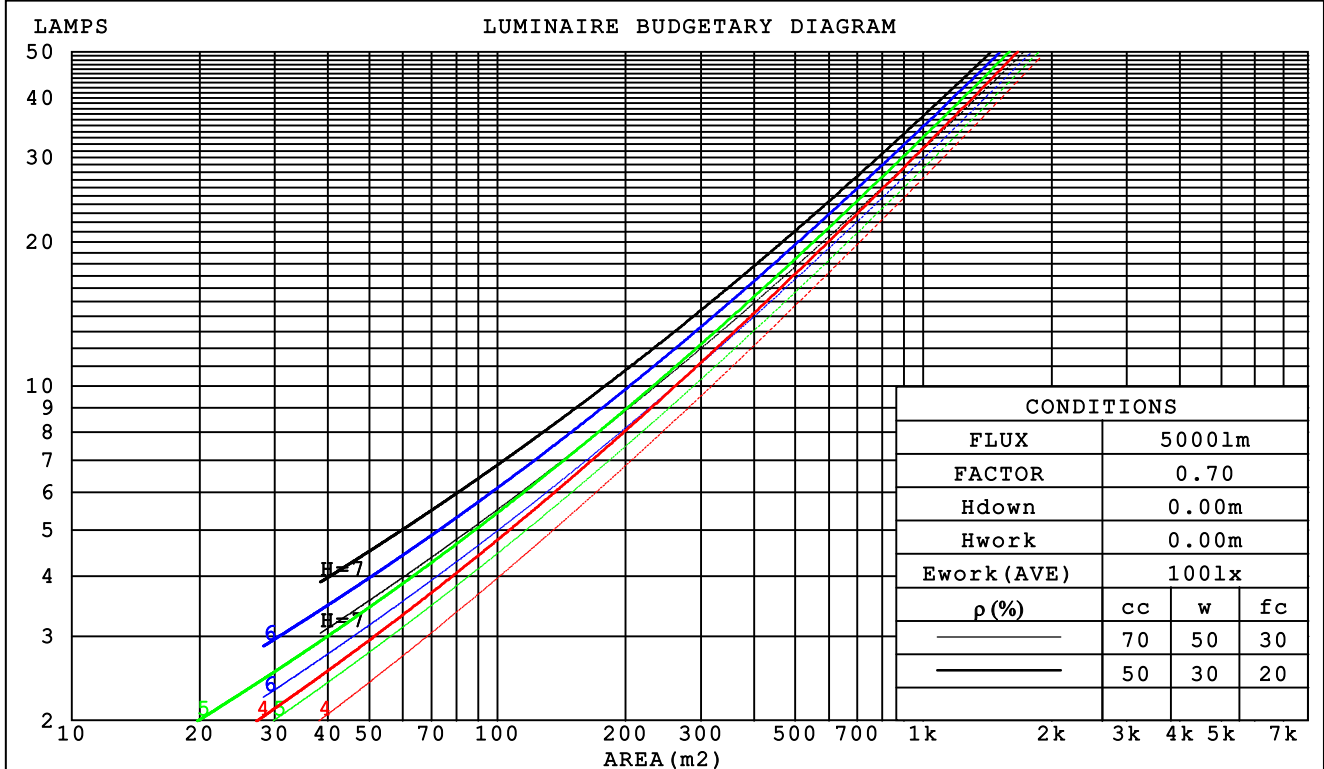
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: SHU  
Test Date: 2014-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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															



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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:

$\rho_{cc}$	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						Wall Exitance Coefficients (WEC)												
0.0																			
1.0	.284	.161	.051	.277	.158	.050	.263	.151	.048	.251	.145	.046	.240	.139	.045				
2.0	.273	.150	.046	.267	.147	.045	.255	.142	.044	.245	.137	.043	.235	.133	.042				
3.0	.256	.136	.041	.251	.134	.040	.240	.130	.040	.231	.127	.039	.222	.123	.038				
4.0	.238	.124	.036	.234	.122	.036	.224	.119	.036	.216	.116	.035	.208	.113	.034				
5.0	.222	.113	.033	.217	.112	.033	.209	.109	.032	.202	.107	.032	.195	.104	.031				
6.0	.207	.104	.030	.203	.102	.029	.196	.100	.029	.189	.098	.029	.183	.096	.029				
7.0	.193	.095	.027	.190	.094	.027	.183	.093	.027	.177	.091	.026	.172	.089	.026				
8.0	.181	.088	.025	.178	.088	.025	.172	.086	.025	.167	.084	.024	.162	.083	.024				
9.0	.170	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.023	.153	.077	.022				
10.0	.160	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.144	.073	.021				

$\rho_{cc}$	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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.191	.191	.191	.163	.163	.163	.112	.112	.112	.064	.064	.064	.020	.020	.020	
1.0	.179	.157	.137	.153	.135	.118	.105	.093	.082	.060	.054	.047	.019	.017	.015	
2.0	.170	.133	.101	.146	.114	.087	.100	.079	.061	.058	.046	.036	.019	.015	.012	
3.0	.163	.115	.077	.139	.099	.067	.096	.069	.047	.055	.040	.028	.018	.013	.009	
4.0	.155	.101	.061	.133	.088	.053	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.148	.091	.049	.127	.079	.043	.087	.055	.030	.051	.032	.018	.016	.011	.006	
6.0	.141	.083	.041	.121	.071	.036	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.076	.035	.115	.066	.030	.080	.046	.021	.046	.027	.013	.015	.009	.004	
8.0	.128	.070	.030	.110	.061	.026	.076	.043	.019	.044	.025	.011	.014	.008	.004	
9.0	.122	.065	.026	.105	.056	.023	.073	.040	.016	.042	.023	.010	.014	.008	.003	
10.0	.116	.061	.024	.100	.053	.021	.070	.037	.015	.041	.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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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						14.9	16.3	15.1	16.5	16.7	14.8	16.2	15.0	16.4	16.6
3H						16.1	17.5	16.4	17.7	17.9	15.9	17.3	16.2	17.5	17.8
4H						16.5	17.8	16.8	18.0	18.3	16.3	17.6	16.6	17.8	18.1
6H						16.7	17.9	17.0	18.2	18.4	16.4	17.6	16.7	17.9	18.1
8H						16.7	17.9	17.0	18.1	18.4	16.4	17.5	16.7	17.8	18.1
12H						16.7	17.8	17.0	18.1	18.4	16.3	17.4	16.7	17.7	18.0
4H 2H						15.4	16.7	15.7	16.9	17.2	15.3	16.6	15.6	16.8	17.1
3H						16.8	17.9	17.1	18.2	18.5	16.6	17.7	17.0	18.0	18.3
4H						17.3	18.3	17.6	18.6	18.9	17.1	18.1	17.4	18.4	18.7
6H						17.5	18.4	17.9	18.8	19.1	17.2	18.1	17.6	18.5	18.8
8H						17.5	18.4	18.0	18.7	19.1	17.2	18.0	17.6	18.4	18.8
12H						17.5	18.3	18.0	18.7	19.1	17.2	17.9	17.6	18.3	18.7
8H 4H						17.4	18.2	17.8	18.6	19.0	17.2	18.0	17.6	18.4	18.8
6H						17.7	18.4	18.2	18.8	19.2	17.4	18.1	17.9	18.5	19.0
8H						17.8	18.4	18.2	18.8	19.3	17.4	18.0	17.9	18.5	18.9
12H						17.8	18.3	18.2	18.7	19.2	17.4	17.9	17.9	18.4	18.9
12H 4H						17.4	18.1	17.8	18.5	18.9	17.2	17.9	17.6	18.3	18.7
6H						17.7	18.3	18.2	18.7	19.2	17.4	18.0	17.9	18.5	18.9
8H						17.8	18.3	18.2	18.7	19.2	17.4	18.0	17.9	18.4	18.9
Variations with the observer position at spacings:															
S = 1.0H						+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H						+ 0.2 / - 0.3					+ 0.2 / - 0.4				
2.0H						+ 0.3 / - 0.3					+ 0.4 / - 0.4				

CIE Pub.117 Corrected 2089 lm Total Lamp Luminous Flux. (8log(F/F0) = 2.6)

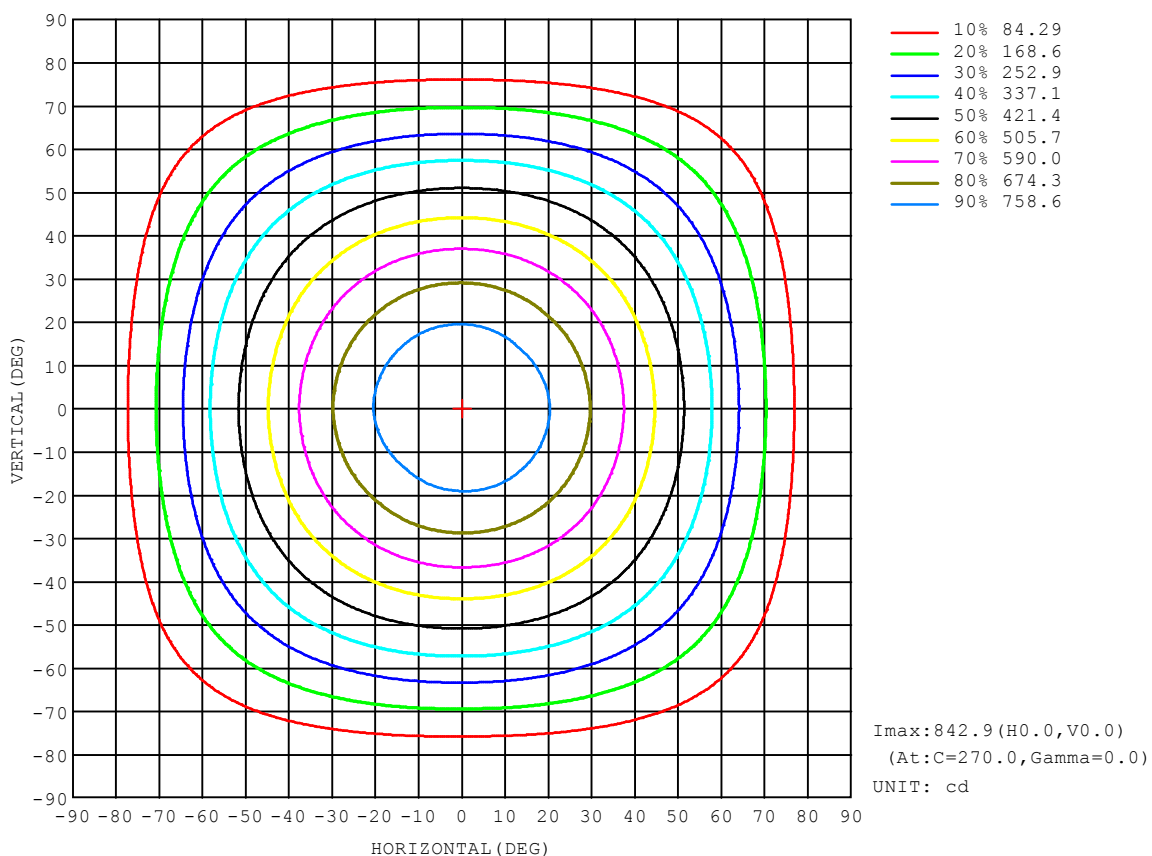
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:SHU  
Test Date:2014-05-21

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:

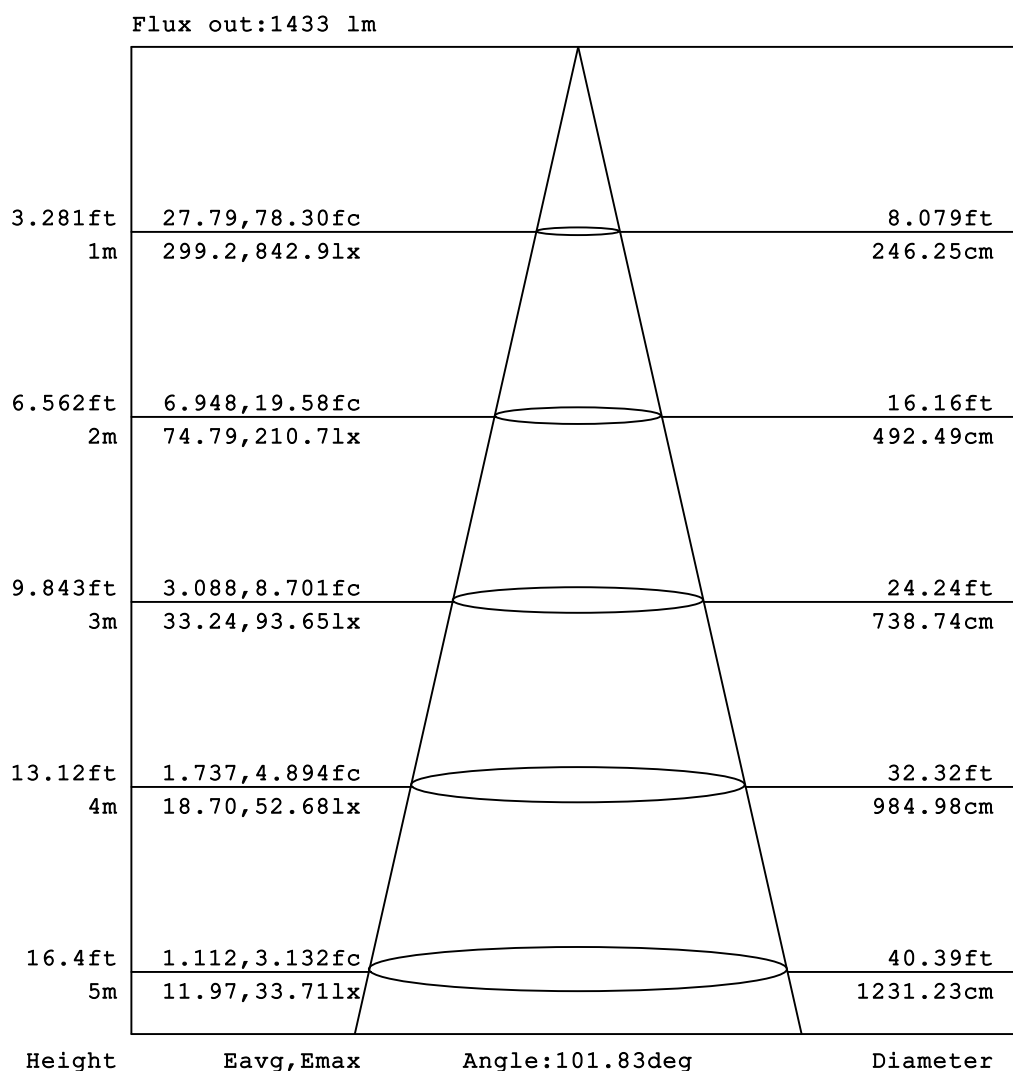


C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:SHU  
Test Date:2014-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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.

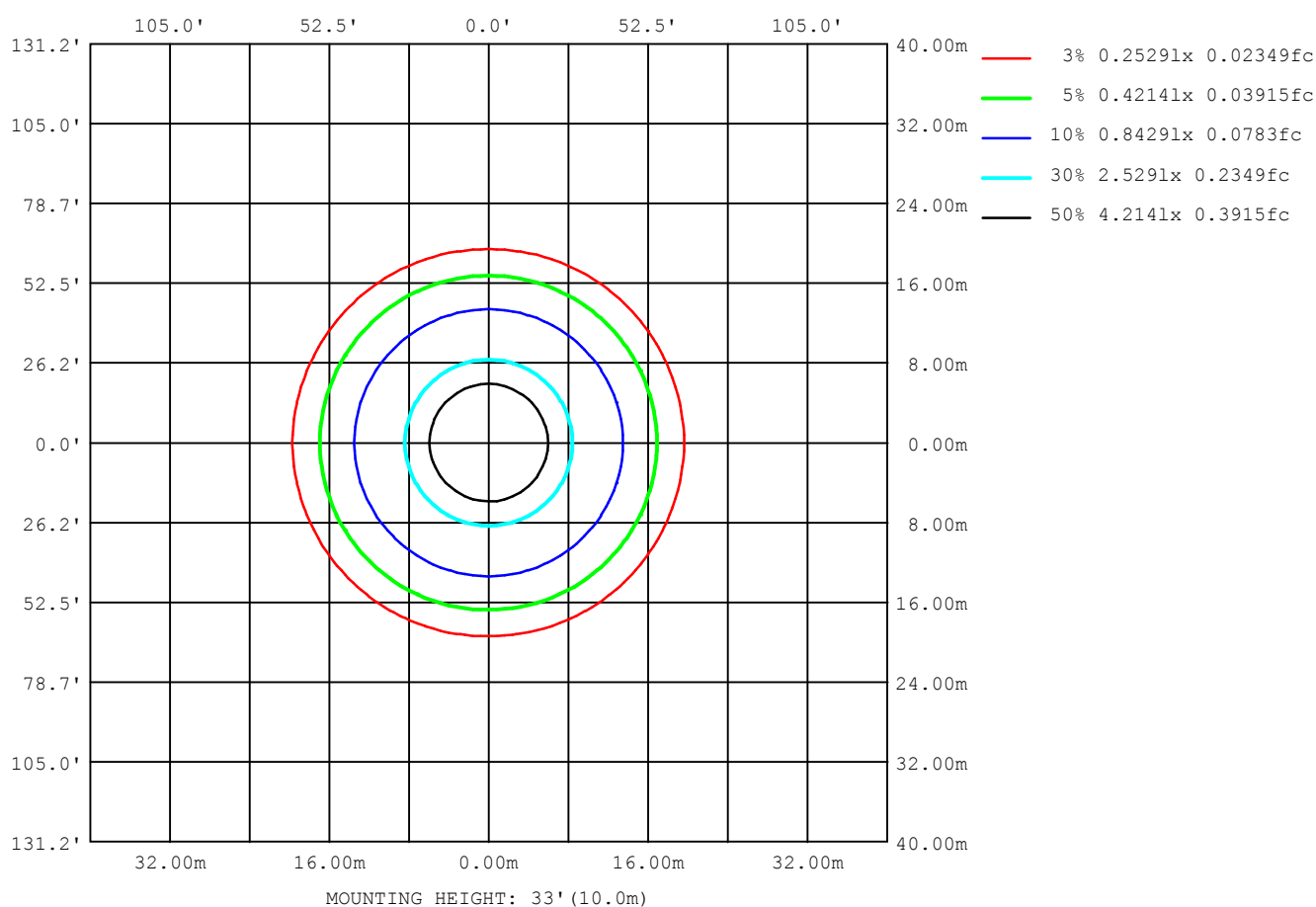
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: SHU  
Test Date: 2014-05-21

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

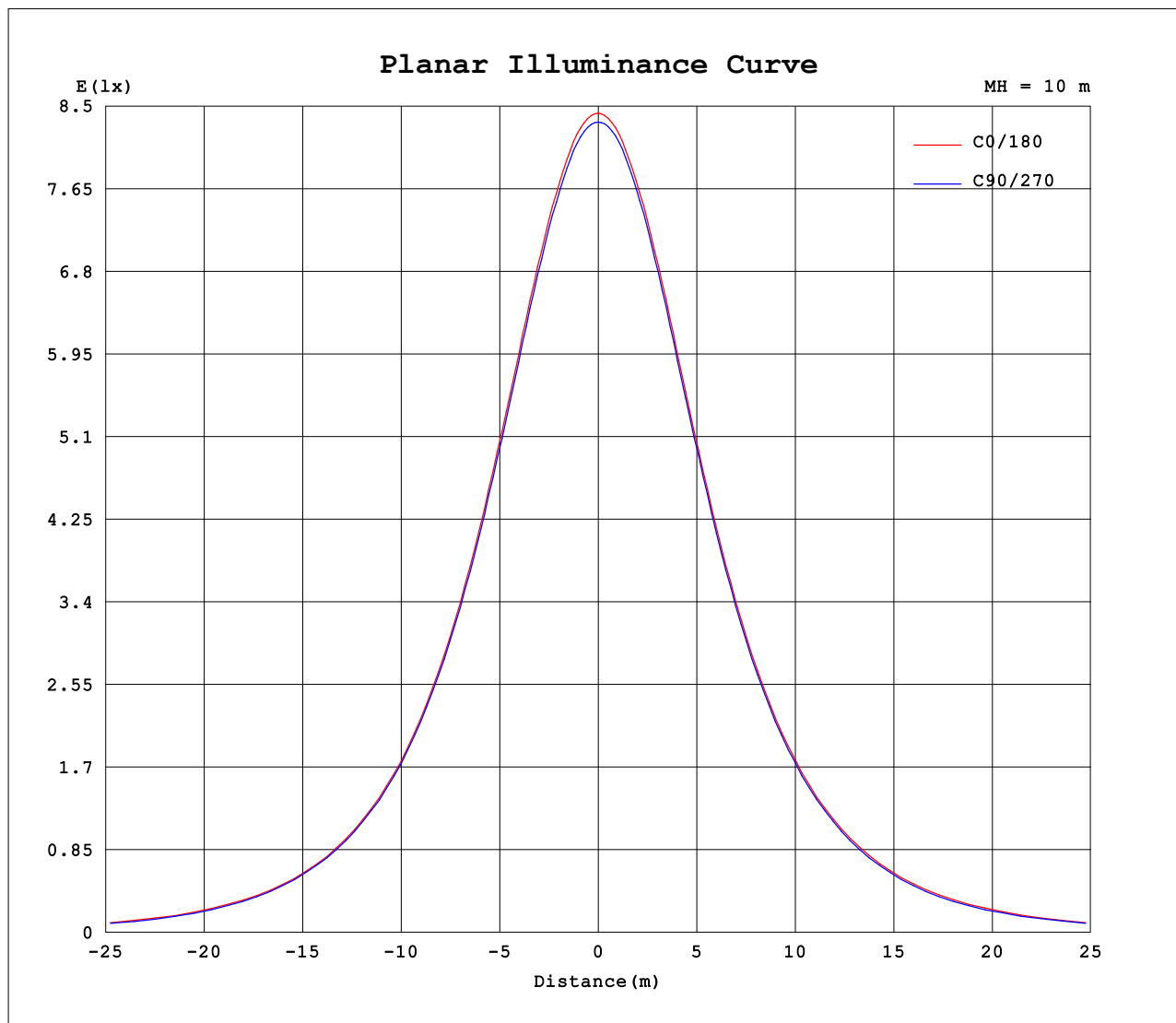
NAME: DOWNLIGHT	TYPE:DOWNLIGHT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: SUNWEA	SUR.:	PROTECTION ANGLE:



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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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	836	836	836	836	836	836	836	836										
5	831	831	830	831	831	831	831	831										
10	815	815	814	815	816	816	816	816										
15	790	789	789	790	791	790	791	791										
20	756	755	754	756	757	756	757	757										
25	714	713	712	715	715	714	715	716										
30	666	665	664	667	667	665	666	668										
35	613	612	611	614	615	612	613	615										
40	557	555	555	558	558	555	556	558										
45	497	496	495	499	499	495	496	499										
50	436	434	434	439	439	434	434	437										
55	372	371	369	376	376	371	370	374										
60	306	304	301	310	311	305	301	307										
65	239	235	231	240	244	237	232	238										
70	172	167	161	171	177	169	163	169										
75	107	101	94.7	104	111	103	96.9	102										
80	48.9	43.2	36.4	45.1	52.5	45.0	38.4	43.7										
85	9.71	6.58	4.77	6.84	11.0	7.09	5.05	6.77										
90	0.01	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	0.06	0.04	0.00	0.06	0.00										
115	0.08	0.16	0.00	0.18	0.14	0.04	0.14	0.02										
120	0.16	0.24	0.18	0.30	0.28	0.14	0.26	0.10										
125	0.24	0.36	0.18	0.39	0.38	0.18	0.38	0.22										
130	0.38	0.48	0.32	0.49	0.48	0.28	0.48	0.34										
135	0.44	0.58	0.40	0.57	0.56	0.40	0.57	0.49										
140	0.52	0.60	0.50	0.65	0.64	0.44	0.69	0.49										
145	0.64	0.72	0.57	0.71	0.74	0.50	0.75	0.55										
150	0.74	0.82	0.73	0.83	0.80	0.58	0.81	0.61										
155	0.76	0.90	0.77	0.87	0.88	0.76	0.91	0.73										
160	0.84	0.98	0.83	0.99	0.96	0.80	0.91	0.81										
165	0.94	1.04	0.87	1.07	1.04	0.88	1.05	0.91										
170	0.9983	1.15	0.99	1.09	1.08	1.04	1.13	0.93										
175	1.06	1.15	1.05	1.11	1.08	1.11	1.13	0.95										
180	1.10	1.15	1.11	1.13	1.10	1.12	1.13	1.07										

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: