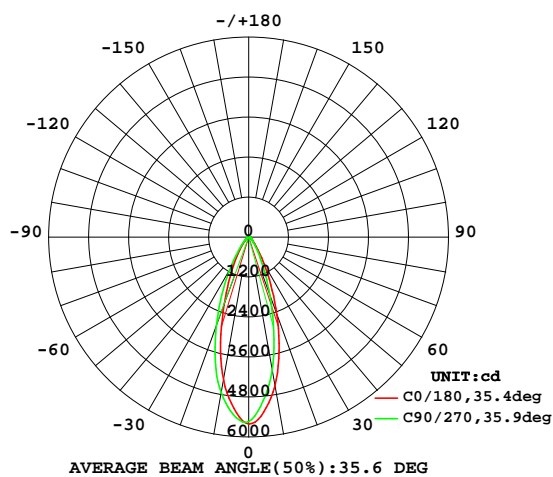


## LUMINAIRE PHOTOMETRIC TEST REPORT

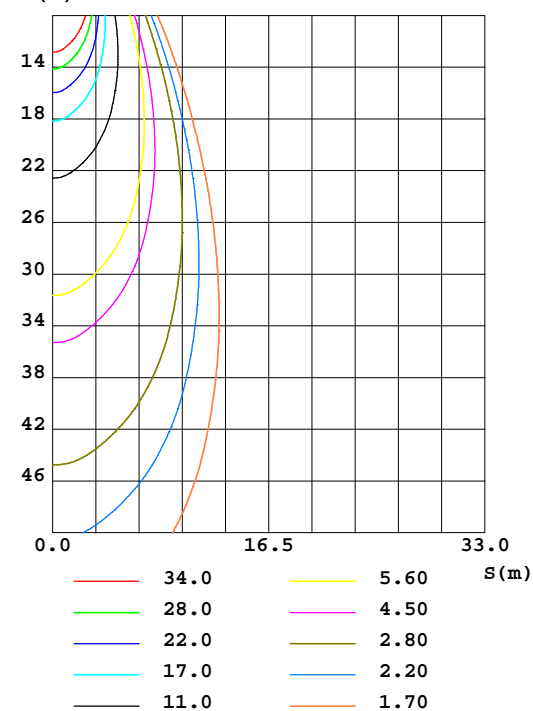
Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 83.93 lm/W			
MODEL	TL-812-35W-2CCT-RC-WH	I <sub>max</sub> (cd)	5608	S/MH(C0/180)	0.60
NOMINAL POWER(W)	34	LOR(%)	100.0	S/MH(C90/270)	0.52
RATED VOLTAGE(V)	228	TOTAL FLUX(lm)	2787.1	η UP,DN(C0-180)	0.2,45.6
NOMINAL FLUX(lm)	2787.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.2,53.9
LAMPS INSIDE	1	η up(%)	0.4	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	228.6	η down(%)	99.6	CIBSE SHR MAX	0.60

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:DAMIN  
 Test Date:2018-08-27

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
 Humidity:65.0%  
 Test Distance:7.810m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	4538	4274	4078	4163	4364	4636	4753	4609	0- 10	469.7	469.7	16.9,16.9
20	2491	2096	1881	1959	2170	2608	2839	2740	10- 20	931.2	1401	50.3,50.3
30	928.9	724.1	653.3	718.6	812.1	1001	1169	1137	20- 30	691.4	2092	75.1,75.1
40	311.0	273.4	249.7	277.0	287.0	327.1	363.1	355.0	30- 40	335.4	2428	87.1,87.1
50	131.4	120.3	117.4	123.4	130.3	140.1	145.7	141.9	40- 50	153.6	2581	92.6,92.6
60	77.62	74.34	71.34	72.90	74.40	78.65	81.90	80.53	50- 60	88.09	2669	95.8,95.8
70	48.40	45.18	43.24	44.28	47.02	50.20	52.85	51.34	60- 70	61.06	2730	98,98
80	21.15	19.60	18.40	20.57	22.93	25.08	26.02	23.97	70- 80	36.59	2767	99.3,99.3
90	0	0	0	0	0	0	0	0	80- 90	8.418	2775	99.6,99.6
100	0	0	0	0	0	0	0	0	90-100	0	2775	99.6,99.6
110	0	0	0	0	0	0	0	0	100-110	0	2775	99.6,99.6
120	0	0	0	0	0	0	0	0	110-120	0	2775	99.6,99.6
130	0	0.4327	0.8942	0.6920	0.0007	0	0	0	120-130	0.0206	2775	99.6,99.6
140	3.825	4.516	4.944	4.751	3.773	3.111	2.655	2.871	130-140	1.393	2777	99.6,99.6
150	7.205	7.596	7.792	7.827	7.127	6.673	6.383	6.466	140-150	3.468	2780	99.8,99.8
160	8.624	8.480	8.533	8.912	8.389	8.456	8.539	8.528	150-160	3.691	2784	99.9,99.9
170	8.413	8.076	8.211	8.845	8.115	8.403	8.768	8.917	160-170	2.432	2786	100,100
180	8.456	8.384	8.614	9.114	8.456	8.365	8.619	9.109	170-180	0.8076	2787	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

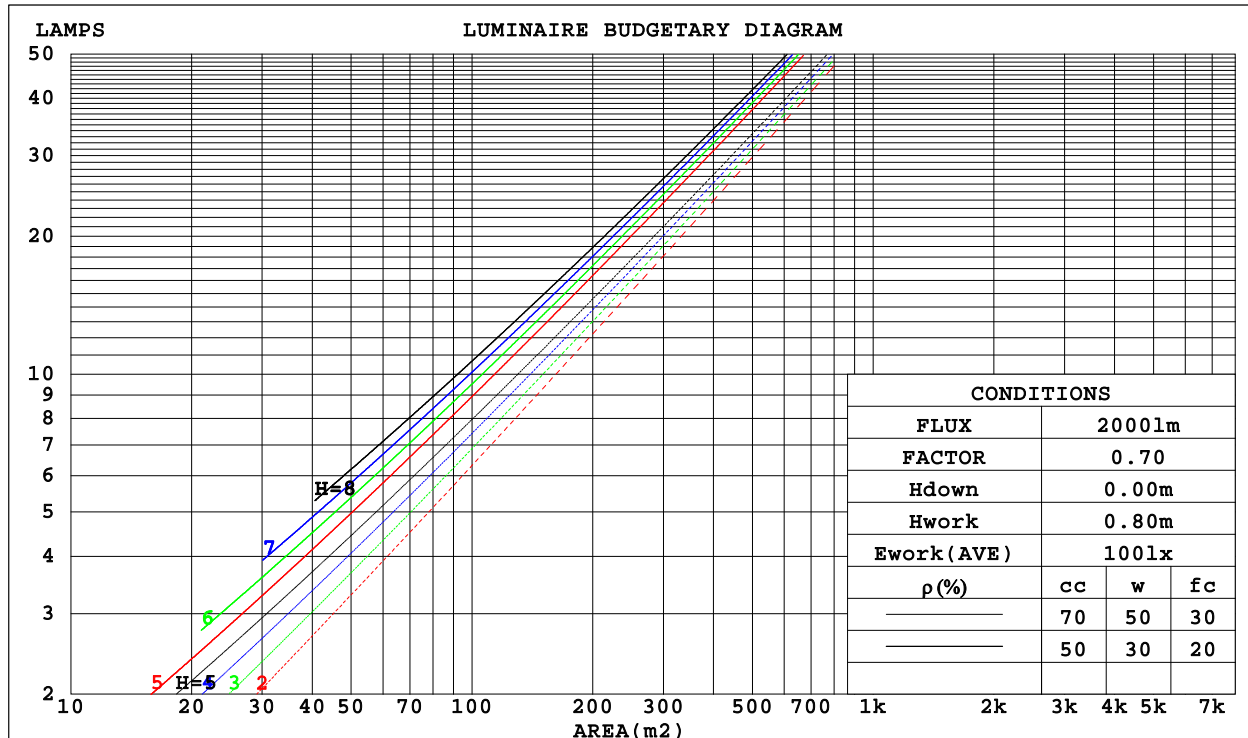
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-08-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
 Humidity:65.0%  
 Test Distance:7.810m [K=1.0000]  
 Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	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						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	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.95	.93	
2.0	1.03	.99	.95	1.01	.97	.94	.98	.95	.92	.95	.92	.90	.92	.90	.88	.86	
3.0	.96	.91	.87	.94	.90	.86	.92	.88	.85	.89	.86	.83	.87	.84	.82	.81	
4.0	.90	.85	.80	.89	.84	.80	.87	.82	.79	.85	.81	.78	.83	.80	.77	.75	
5.0	.85	.79	.75	.84	.79	.75	.82	.77	.74	.80	.76	.73	.79	.75	.73	.71	
6.0	.80	.74	.70	.79	.74	.70	.78	.73	.69	.76	.72	.69	.75	.71	.69	.67	
7.0	.76	.70	.66	.75	.70	.66	.74	.69	.66	.73	.69	.65	.72	.68	.65	.64	
8.0	.72	.67	.63	.72	.66	.63	.71	.66	.62	.70	.65	.62	.69	.65	.62	.60	
9.0	.69	.63	.60	.68	.63	.59	.67	.63	.59	.67	.62	.59	.66	.62	.59	.57	
10.0	.66	.60	.57	.65	.60	.57	.65	.60	.56	.64	.59	.56	.63	.59	.56	.55	



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2018-08-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
 Humidity: 65.0%  
 Test Distance: 7.810m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.184	.105	.033	.177	.101	.032	.164	.094	.030	.152	.088	.028	.142	.082	.026	
2.0	.174	.095	.029	.168	.093	.029	.157	.087	.027	.147	.083	.026	.138	.078	.025	
3.0	.163	.087	.026	.158	.085	.026	.149	.081	.025	.141	.077	.024	.133	.073	.023	
4.0	.154	.080	.023	.149	.078	.023	.141	.075	.022	.134	.072	.022	.127	.069	.021	
5.0	.145	.074	.021	.141	.072	.021	.134	.070	.021	.128	.067	.020	.122	.065	.020	
6.0	.137	.069	.020	.134	.068	.019	.128	.065	.019	.122	.063	.019	.117	.061	.018	
7.0	.130	.064	.018	.127	.063	.018	.122	.062	.018	.117	.060	.017	.112	.058	.017	
8.0	.124	.060	.017	.121	.060	.017	.116	.058	.017	.112	.057	.016	.107	.055	.016	
9.0	.118	.057	.016	.115	.056	.016	.111	.055	.016	.107	.054	.015	.103	.052	.015	
10.0	.112	.054	.015	.110	.053	.015	.107	.052	.015	.103	.051	.015	.099	.050	.014	

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	.194	.194	.194	.166	.166	.166	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.175	.161	.148	.150	.138	.127	.102	.095	.088	.059	.055	.051	.019	.018	.017	
2.0	.160	.136	.116	.137	.117	.100	.094	.081	.070	.054	.047	.041	.017	.015	.013	
3.0	.147	.117	.093	.126	.101	.080	.087	.070	.056	.050	.041	.033	.016	.013	.011	
4.0	.137	.102	.076	.117	.088	.066	.081	.062	.046	.047	.036	.027	.015	.012	.009	
5.0	.127	.091	.063	.109	.078	.055	.075	.055	.039	.044	.032	.023	.014	.010	.008	
6.0	.120	.081	.054	.103	.070	.047	.071	.049	.033	.041	.029	.020	.013	.009	.006	
7.0	.113	.073	.046	.097	.064	.040	.067	.045	.028	.039	.026	.017	.013	.009	.006	
8.0	.107	.067	.040	.092	.058	.035	.064	.041	.025	.037	.024	.015	.012	.008	.005	
9.0	.101	.062	.035	.087	.054	.031	.060	.038	.022	.035	.022	.013	.011	.007	.004	
10.0	.096	.057	.031	.083	.050	.027	.058	.035	.019	.034	.021	.012	.011	.007	.004	

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2018-08-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
Humidity:65.0%  
Test Distance:7.810m [K=1.0000]  
Remarks:

### Uncorrected UGR Table

Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm											
NAME: S1-CN002(180528)					TYPE:			WEIGHT:			
DIM.:					SPEC.:			SERIAL No.:			
MFR.:					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	2H	15.0	15.9	15.2	16.1	16.3	14.3	15.2	14.5	15.4	15.6
	3H	15.8	16.7	16.1	16.9	17.1	15.2	16.0	15.4	16.2	16.5
	4H	16.2	17.0	16.5	17.3	17.5	15.6	16.4	15.9	16.6	16.9
	6H	16.5	17.3	16.8	17.5	17.8	15.9	16.7	16.2	16.9	17.2
	8H	16.6	17.4	16.9	17.6	17.9	16.0	16.7	16.3	17.0	17.2
	12H	16.6	17.3	17.0	17.6	17.9	16.0	16.7	16.3	16.9	17.2
4H	2H	15.2	16.0	15.5	16.3	16.5	14.6	15.4	14.9	15.7	15.9
	3H	16.3	17.0	16.6	17.3	17.6	15.7	16.4	16.1	16.7	17.0
	4H	16.8	17.4	17.2	17.7	18.1	16.3	16.9	16.6	17.2	17.6
	6H	17.2	17.8	17.6	18.2	18.5	16.7	17.3	17.1	17.6	18.0
	8H	17.4	17.9	17.8	18.3	18.6	16.8	17.3	17.2	17.7	18.1
	12H	17.4	17.9	17.8	18.3	18.7	16.8	17.3	17.2	17.7	18.1
8H	4H	16.9	17.5	17.3	17.8	18.2	16.5	17.0	16.9	17.4	17.7
	6H	17.5	17.9	17.9	18.3	18.8	17.0	17.5	17.5	17.9	18.3
	8H	17.7	18.1	18.2	18.5	19.0	17.2	17.6	17.6	18.0	18.4
	12H	17.7	18.1	18.2	18.5	19.0	17.2	17.5	17.7	18.0	18.4
12H	4H	16.9	17.4	17.4	17.8	18.2	16.5	17.0	16.9	17.3	17.7
	6H	17.5	17.9	18.0	18.3	18.8	17.1	17.4	17.5	17.9	18.3
	8H	17.7	18.1	18.2	18.5	19.0	17.2	17.6	17.7	18.0	18.5
Variations with the observer position at spacings:											
S = 1.0H	+ 0.8 / - 0.7					+ 0.5 / - 0.6					
1.5H	+ 1.5 / - 0.6					+ 0.8 / - 0.6					
2.0H	+ 0.9 / - 0.4					+ 0.8 / - 0.5					

CIE Pub.117 Corrected 2787 lm Total Lamp Luminous Flux.(8log(F/F0) = 3.6)

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2018-08-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
Humidity:65.0%  
Test Distance:7.810m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

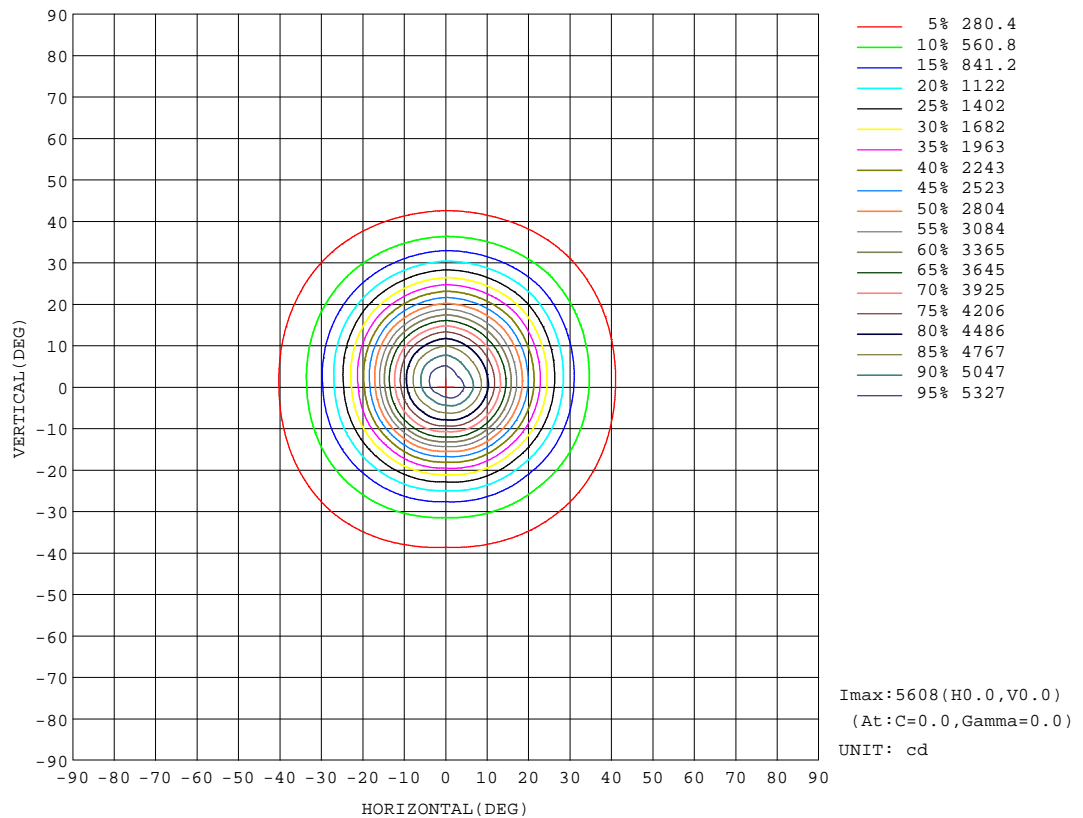
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	84	77	72	83	76	72	82	76	72	68
0.80	91	85	81	91	84	80	89	84	80	76
1.00	96	90	86	95	89	86	94	89	85	81
1.25	101	95	91	99	94	90	97	93	89	85
1.50	103	98	94	102	97	94	100	96	93	88
2.00	107	102	98	105	101	98	102	99	96	90
2.50	109	104	101	107	103	100	104	101	98	92
3.00	110	107	103	109	105	102	105	102	100	93
4.00	113	110	107	111	108	106	107	105	103	95
5.00	114	112	109	112	110	108	108	106	105	97
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2018-08-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
Humidity:65.0%  
Test Distance:7.810m [K=1.0000]  
Remarks:

ISOCANDELA DIAGRAM

Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

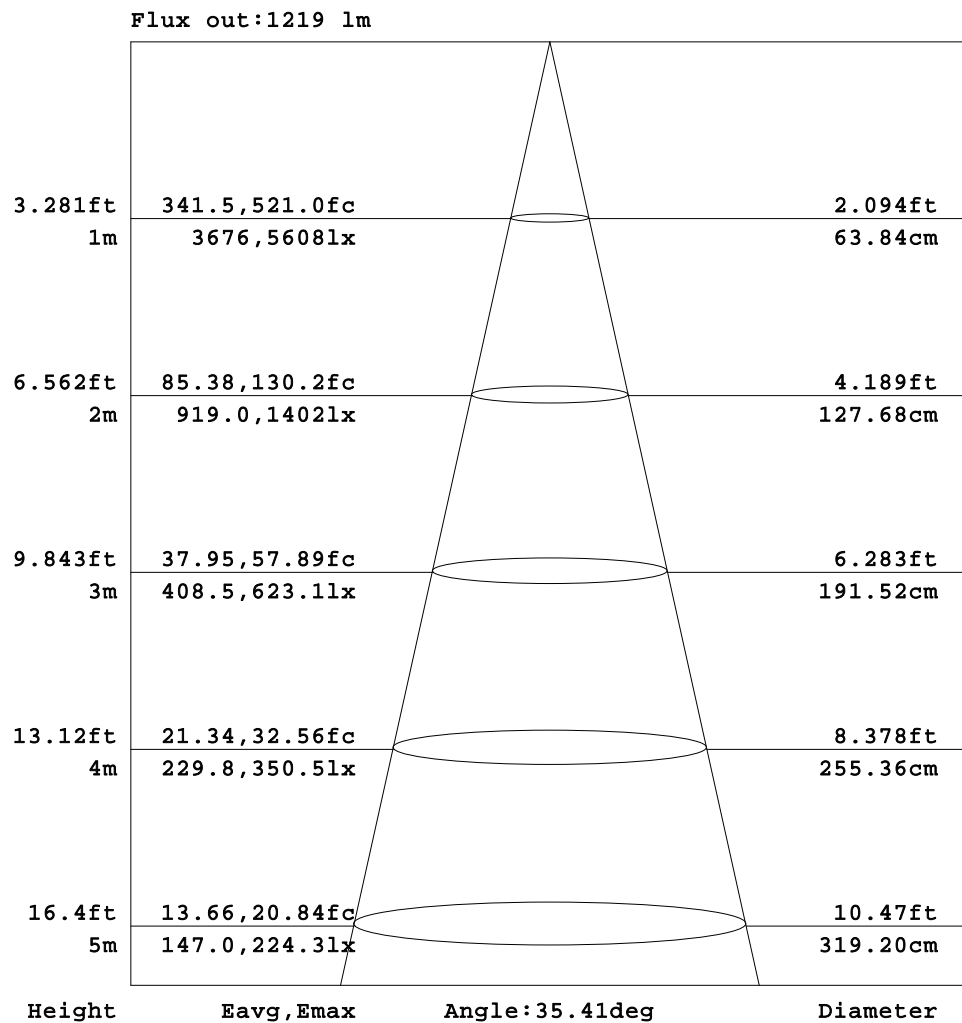


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2018-08-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
 Humidity: 65.0%  
 Test Distance: 7.810m [K=1.0000]  
 Remarks:

### AAI Figure

Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



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

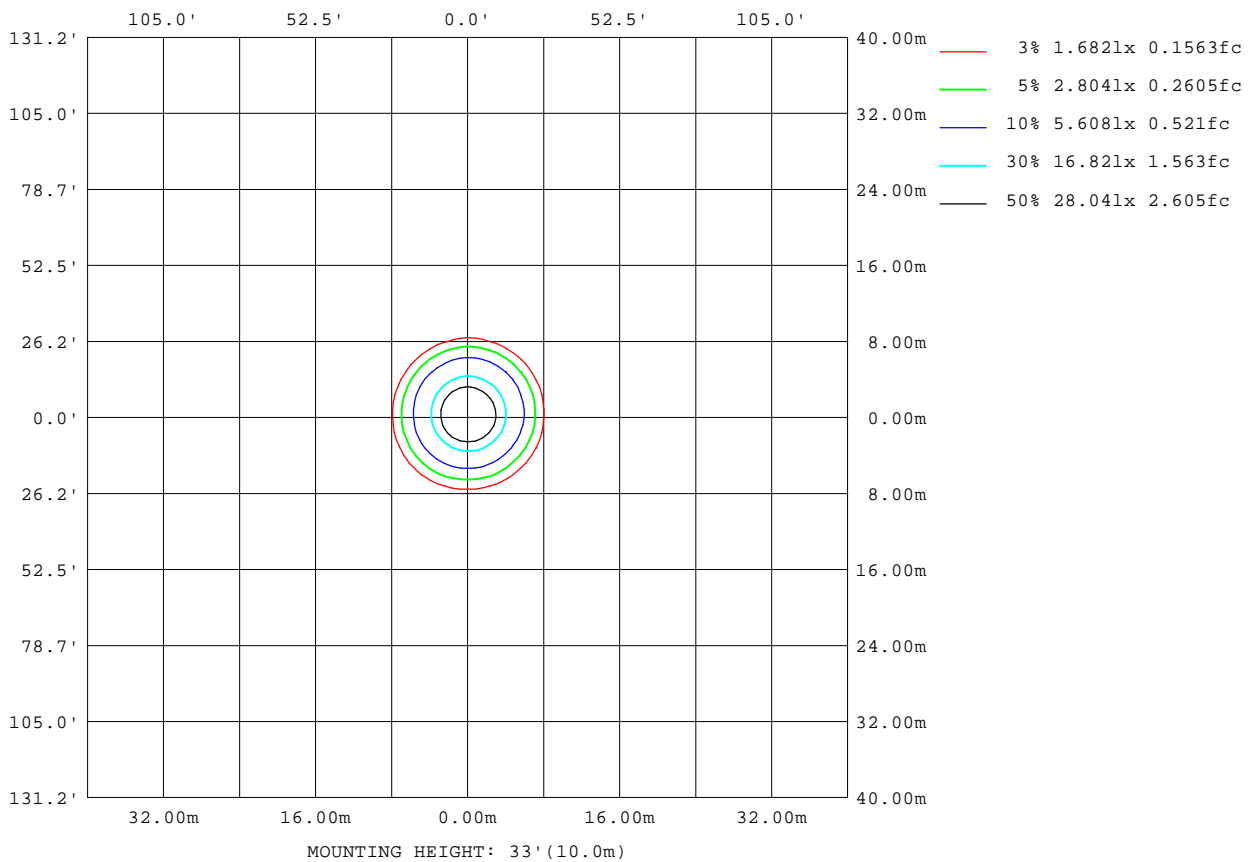
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2018-08-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
Humidity: 65.0%  
Test Distance: 7.810m [K=1.0000]  
Remarks:



ISOLUX DIAGRAM

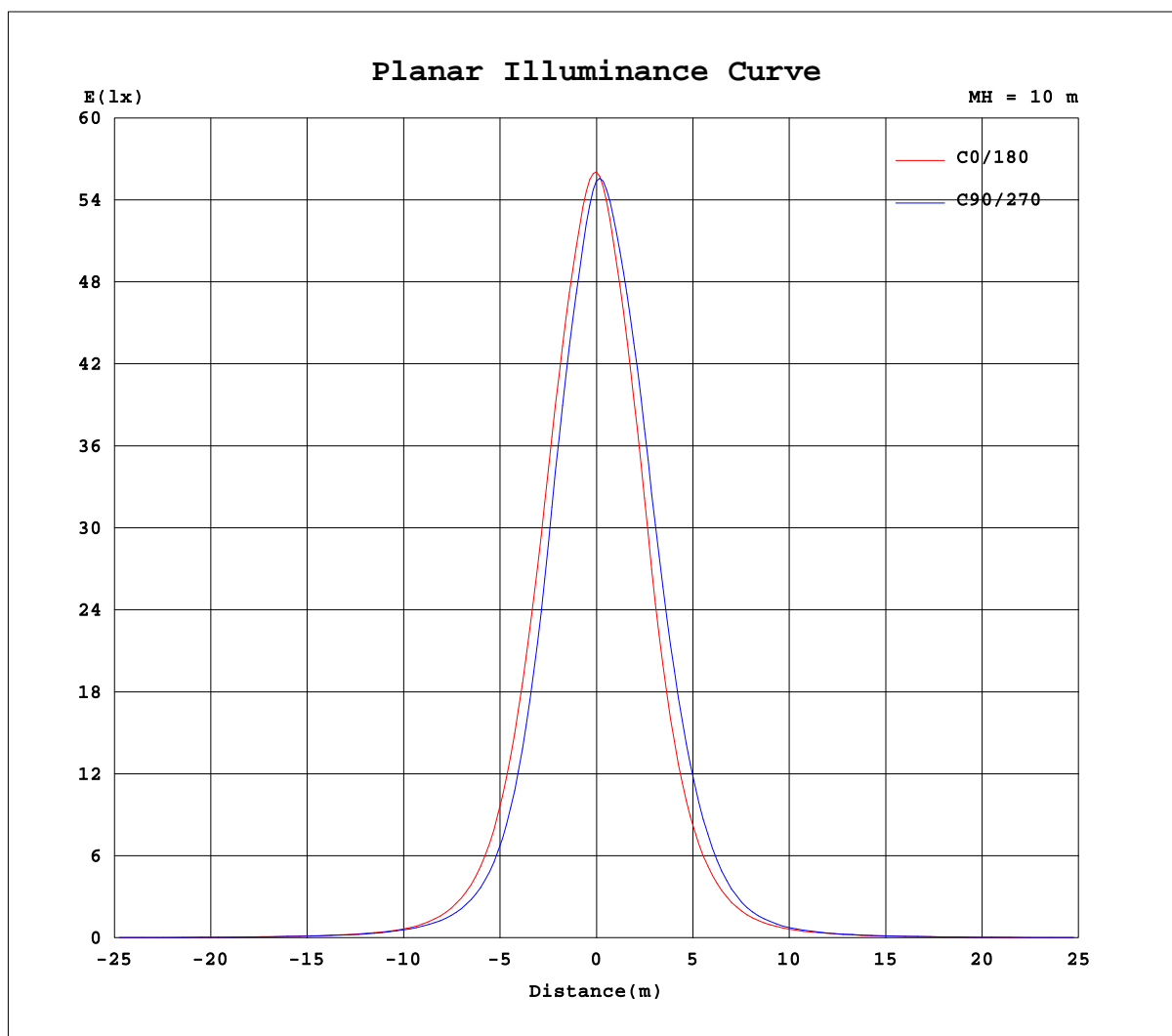
Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2018-08-27

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
 Humidity: 65.0%  
 Test Distance: 7.810m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2018-08-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
Humidity: 65.0%  
Test Distance: 7.810m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:228.6V I:0.1459A P:33.21W PF:0.9951 Lamp Flux:2787.1x1 lm		
NAME: S1-CN002(180528)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	45	90	135	180	225	270	315										
0	5608	5602	5538	5480	5608	5602	5538	5480										
5	5269	5104	4949	4956	5161	5317	5343	5217										
10	4538	4274	4078	4163	4364	4636	4753	4609										
15	3536	3185	2914	3051	3281	3681	3879	3706										
20	2491	2096	1881	1959	2170	2608	2839	2740										
25	1585	1255	1121	1199	1346	1691	1908	1858										
30	929	724	653	719	812	1001	1169	1137										
35	535	430	393	438	479	570	656	646										
40	311	273	250	277	287	327	363	355										
45	190	177	170	178	185	204	218	212										
50	131	120	117	123	130	140	146	142										
55	96.9	92.0	89.3	91.7	94.7	99.6	104	102										
60	77.6	74.3	71.3	72.9	74.4	78.7	81.9	80.5										
65	62.6	60.0	57.3	58.3	59.4	63.5	65.4	65.3										
70	48.4	45.2	43.2	44.3	47.0	50.2	52.8	51.3										
75	33.3	32.3	31.3	33.0	34.4	37.0	38.1	37.0										
80	21.1	19.6	18.4	20.6	22.9	25.1	26.0	24.0										
85	5.17	3.67	2.53	4.53	6.43	8.12	9.32	7.34										
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
130	0.00	0.43	0.89	0.69	0.00	0.00	0.00	0.00										
135	1.77	2.49	2.96	2.73	1.75	1.07	0.64	0.85										
140	3.83	4.52	4.94	4.75	3.77	3.11	2.65	2.87										
145	5.69	6.29	6.60	6.49	5.64	5.05	4.65	4.80										
150	7.21	7.60	7.79	7.83	7.13	6.67	6.38	6.47										
155	8.18	8.33	8.39	8.60	8.06	7.83	7.72	7.73										
160	8.62	8.48	8.53	8.91	8.39	8.46	8.54	8.53										
165	8.66	8.29	8.38	8.87	8.31	8.60	8.84	8.88										
170	8.41	8.08	8.21	8.84	8.11	8.40	8.77	8.92										
175	8.32	8.13	8.26	8.93	8.16	8.23	8.64	8.92										
180	8.46	8.38	8.61	9.11	8.46	8.36	8.62	9.11										

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2018-08-27

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.274  
Humidity:65.0%  
Test Distance:7.810m [K=1.0000]  
Remarks: