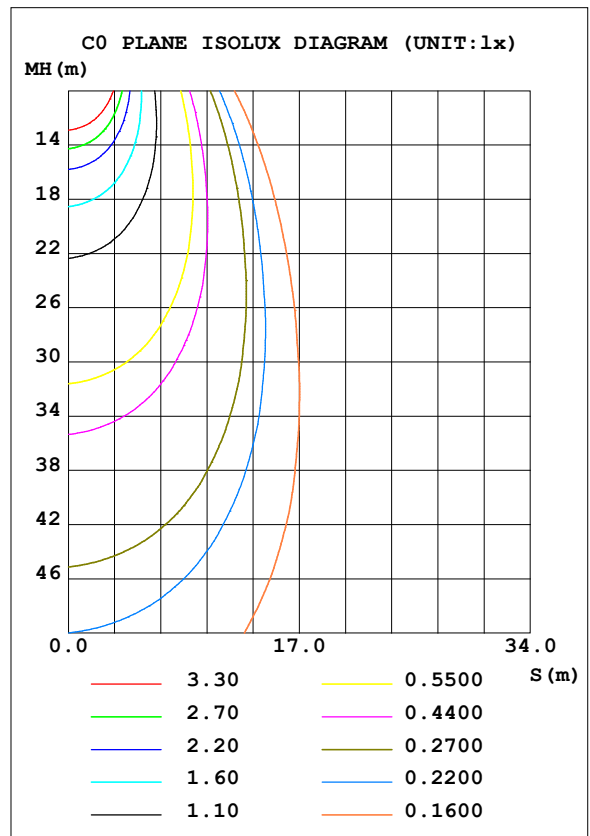
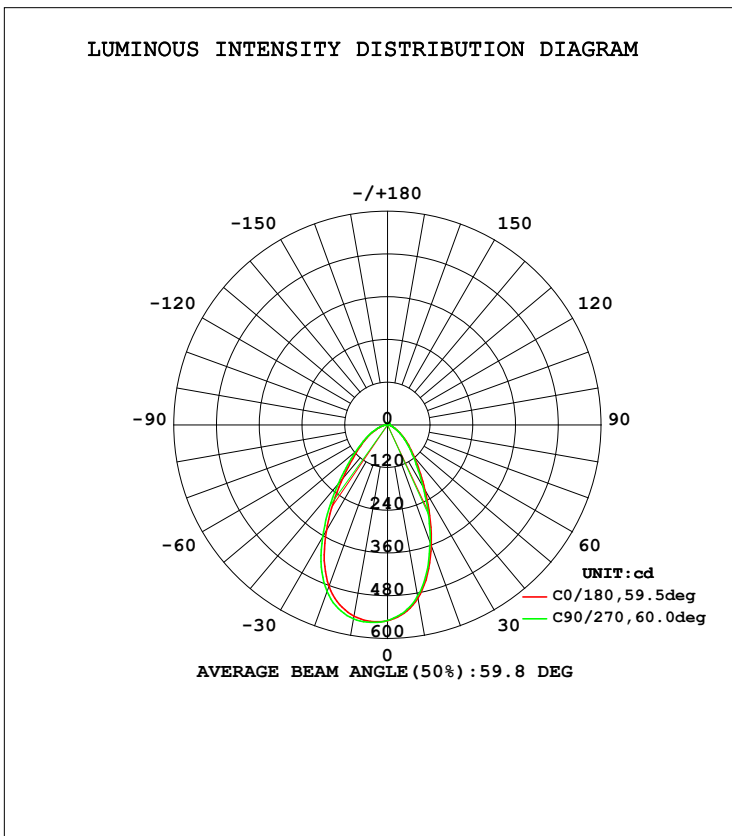


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 107.92 lm/W			
MODEL	SS3535-2700K-60D	I _{max} (cd)	556.9	S/MH (C0/180)	0.78
NOMINAL POWER (W)	7	LOR (%)	100.0	S/MH (C90/270)	0.77
RATED VOLTAGE (V)	13	TOTAL FLUX (lm)	709.42	η UP, DN (C0-180)	1.8, 37.7
NOMINAL FLUX (lm)	709.417	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.4, 59.0
LAMPS INSIDE	1	η up (%)	3.3	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	12.6	η down (%)	96.7	CIBSE SHR MAX	0.95



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 7.415m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

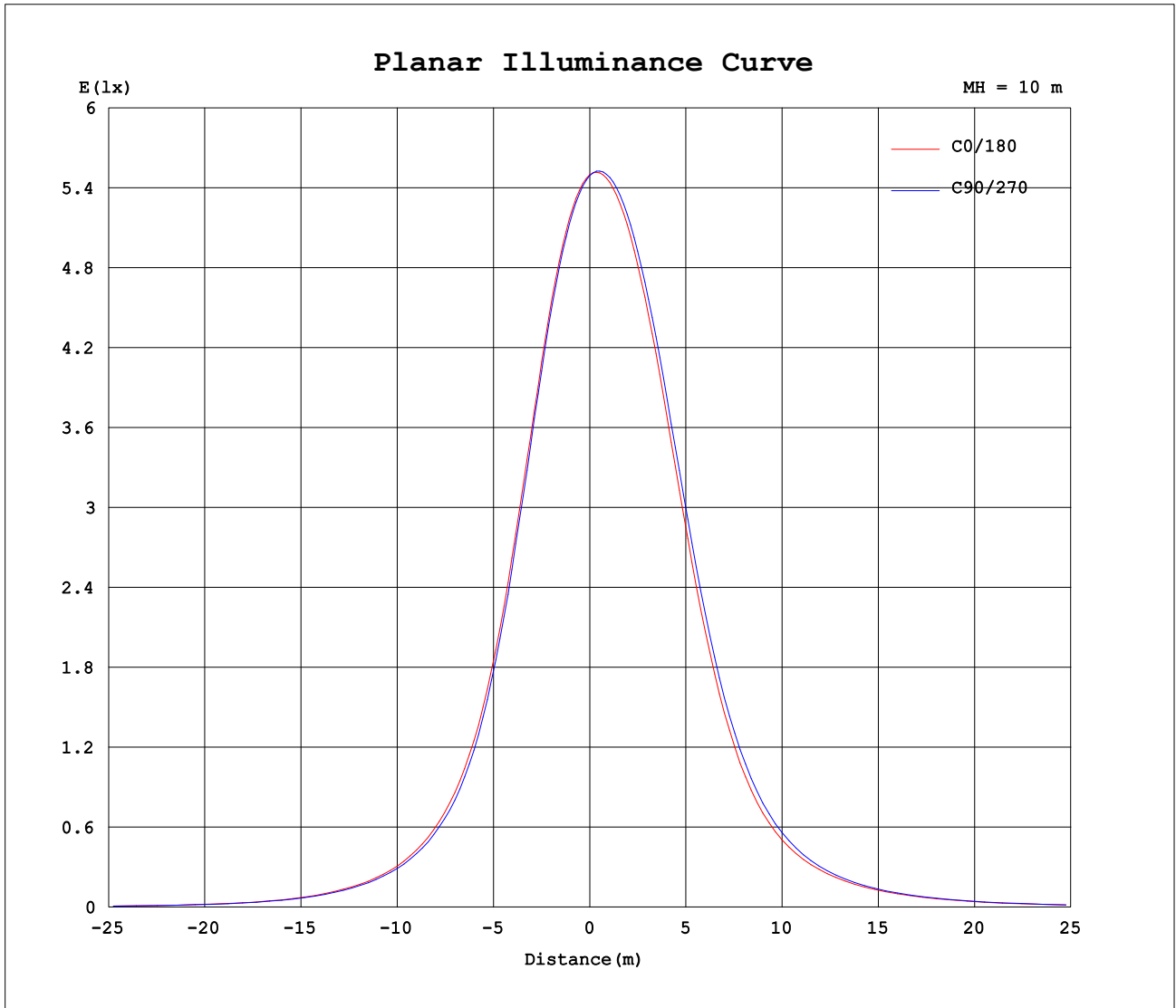
ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	493.8	488.0	545.3	552.6					0- 10	51.07	51.07	7.2,7.2
20	359.7	351.1	481.8	497.7					10- 20	133.6	184.7	26,26
30	210.7	200.0	344.5	366.2					20- 30	161.2	345.9	48.8,48.8
40	117.2	109.4	195.9	215.6					30- 40	134.2	480.1	67.7,67.7
50	65.71	61.89	107.3	116.9					40- 50	92.21	572.3	80.7,80.7
60	32.90	31.47	60.58	63.99					50- 60	58.83	631.2	89,89
70	14.93	14.82	28.92	31.52					60- 70	33.51	664.7	93.7,93.7
80	5.293	5.191	11.96	13.01					70- 80	15.79	680.5	95.9,95.9
90	2.896	2.855	3.054	3.141					80- 90	5.844	686.3	96.7,96.7
100	2.912	2.951	1.546	1.240					90-100	2.471	688.8	97.1,97.1
110	3.236	3.323	2.305	1.874					100-110	2.540	691.3	97.4,97.4
120	3.827	3.953	3.178	2.669					110-120	3.008	694.3	97.9,97.9
130	4.523	4.689	4.035	3.522					120-130	3.403	697.7	98.4,98.4
140	5.181	5.382	4.744	4.336					130-140	3.524	701.3	98.8,98.8
150	5.647	5.890	5.303	5.052					140-150	3.268	704.5	99.3,99.3
160	5.890	6.152	5.687	5.604					150-160	2.619	707.1	99.7,99.7
170	6.062	6.285	5.976	5.976					160-170	1.686	708.8	99.9,99.9
180	6.183	6.320	6.254	6.277					170-180	0.5867	709.4	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity:65.0%
 Test Distance:7.415m [K=1.0000]
 Remarks:

Planar Illuminance Curve



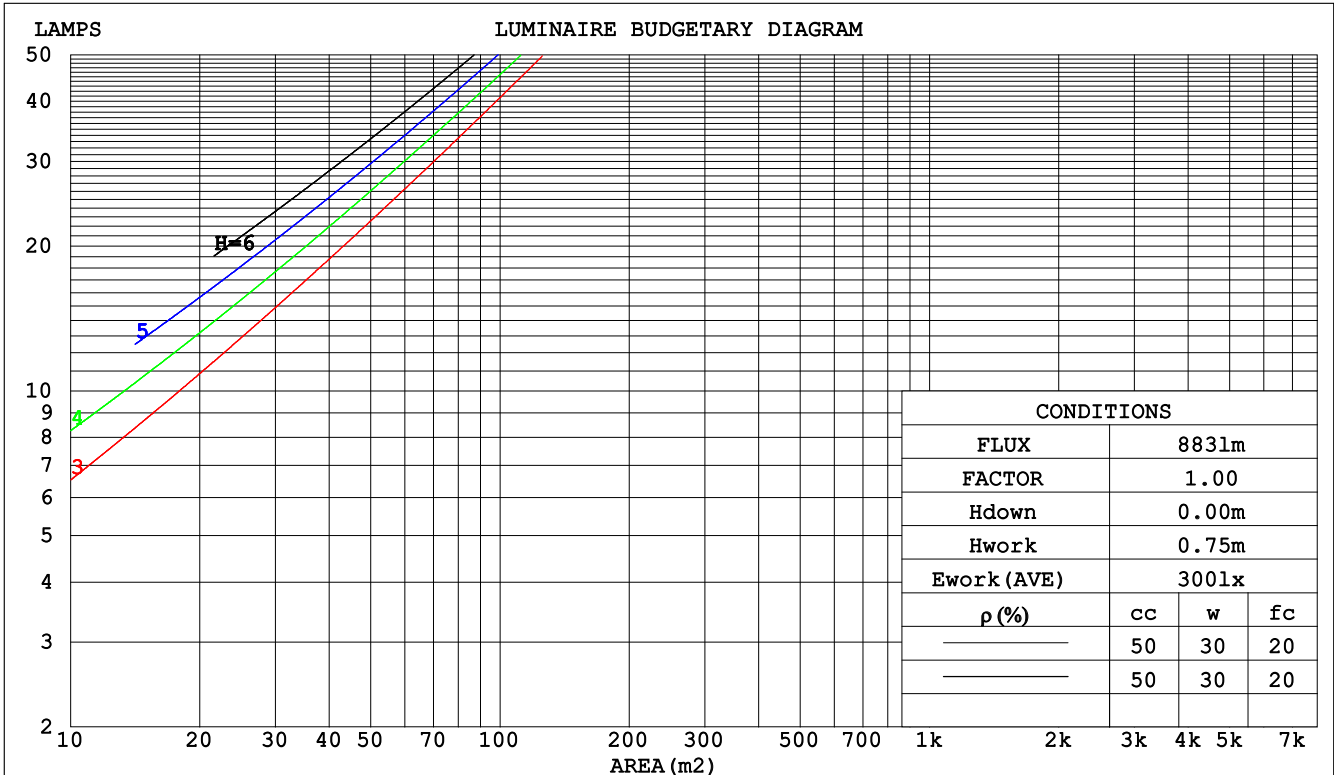
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity: 65.0%
Test Distance: 7.415m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	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						Coefficients of Utilization(CU)									
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.97
1.0	1.07	1.04	1.01	1.05	1.02	.99	.90	.97	.95	.95	.94	.92	.91	.90	.89	.87
2.0	.97	.92	.87	.95	.90	.86	.87	.87	.84	.87	.84	.81	.84	.81	.79	.77
3.0	.88	.82	.77	.86	.81	.76	.83	.78	.74	.80	.76	.73	.77	.74	.71	.69
4.0	.80	.73	.68	.79	.73	.68	.76	.71	.66	.74	.69	.65	.71	.67	.64	.62
5.0	.74	.67	.61	.73	.66	.61	.70	.64	.60	.68	.63	.59	.66	.62	.58	.56
6.0	.68	.61	.56	.67	.60	.55	.65	.59	.55	.63	.58	.54	.62	.57	.53	.51
7.0	.63	.56	.51	.62	.55	.50	.60	.54	.50	.59	.53	.49	.57	.53	.49	.47
8.0	.59	.52	.47	.58	.51	.46	.56	.50	.46	.55	.50	.46	.54	.49	.45	.43
9.0	.55	.48	.43	.54	.47	.43	.53	.47	.43	.52	.46	.42	.50	.45	.42	.40
10.0	.51	.44	.40	.51	.44	.40	.50	.44	.40	.48	.43	.39	.47	.43	.39	.37



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 7.415m [K=1.0000]
 Remarks:

WEC AND CCEC

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.233	.133	.042	.225	.129	.041	.211	.121	.039	.197	.114	.036	.185	.107	.035	
2.0	.222	.122	.037	.215	.119	.037	.202	.113	.035	.191	.107	.033	.180	.102	.032	
3.0	.209	.111	.033	.203	.109	.033	.192	.104	.032	.181	.099	.030	.172	.095	.029	
4.0	.196	.102	.030	.191	.100	.030	.181	.096	.029	.172	.092	.028	.163	.089	.027	
5.0	.184	.094	.027	.180	.092	.027	.171	.089	.026	.163	.086	.026	.155	.083	.025	
6.0	.174	.087	.025	.169	.086	.025	.162	.083	.024	.154	.080	.024	.147	.078	.023	
7.0	.164	.081	.023	.160	.080	.023	.153	.077	.022	.146	.075	.022	.140	.073	.021	
8.0	.155	.076	.021	.151	.075	.021	.145	.072	.021	.139	.070	.020	.133	.069	.020	
9.0	.147	.071	.020	.144	.070	.020	.138	.068	.019	.132	.066	.019	.127	.065	.019	
10.0	.139	.067	.019	.137	.066	.018	.131	.064	.018	.126	.063	.018	.122	.061	.018	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.215	.215	.215	.184	.184	.184	.126	.126	.126	.072	.072	.072	.023	.023	.023	
1.0	.200	.182	.165	.171	.156	.142	.117	.107	.098	.067	.062	.057	.022	.020	.019	
2.0	.188	.157	.132	.161	.136	.114	.110	.094	.079	.064	.055	.047	.020	.018	.015	
3.0	.178	.139	.108	.153	.120	.094	.105	.083	.066	.061	.049	.039	.019	.016	.013	
4.0	.169	.125	.092	.145	.108	.080	.100	.075	.056	.058	.044	.033	.019	.014	.011	
5.0	.161	.114	.080	.139	.099	.069	.095	.069	.049	.055	.041	.029	.018	.013	.010	
6.0	.154	.106	.071	.133	.091	.061	.091	.064	.043	.053	.038	.026	.017	.012	.009	
7.0	.148	.098	.064	.127	.085	.055	.088	.060	.039	.051	.035	.023	.016	.012	.008	
8.0	.142	.092	.058	.122	.080	.051	.085	.056	.036	.049	.033	.022	.016	.011	.007	
9.0	.137	.087	.054	.118	.076	.047	.081	.053	.034	.047	.031	.020	.015	.010	.007	
10.0	.132	.083	.051	.113	.072	.044	.079	.051	.032	.046	.030	.019	.015	.010	.006	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 7.415m [K=1.0000]
 Remarks:

Uncorrected UGR Table

NAME: SD28AL3-7W-60D					TYPE: SPOT LIGHT					WEIGHT:					
DIM.:					SPEC.:					SERIAL No.:					
MFR.: Wanjia Lighting					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	25.5	26.7	25.8	26.9	27.1	25.3	26.4	25.6	26.7	26.9					
3H	26.0	27.0	26.3	27.3	27.6	25.8	26.8	26.1	27.1	27.4					
4H	26.1	27.1	26.5	27.4	27.7	25.9	26.9	26.3	27.2	27.5					
6H	26.2	27.2	26.6	27.5	27.8	26.0	27.0	26.4	27.3	27.6					
8H	26.2	27.1	26.6	27.5	27.8	26.0	27.0	26.4	27.3	27.6					
12H	26.2	27.1	26.6	27.5	27.8	26.1	26.9	26.4	27.3	27.6					
4H 2H	25.6	26.7	26.0	26.9	27.3	25.5	26.5	25.8	26.8	27.1					
3H	26.3	27.1	26.6	27.5	27.8	26.1	27.0	26.5	27.3	27.7					
4H	26.5	27.3	26.9	27.7	28.0	26.4	27.1	26.8	27.5	27.9					
6H	26.7	27.4	27.1	27.8	28.2	26.5	27.2	27.0	27.6	28.0					
8H	26.7	27.4	27.2	27.8	28.2	26.6	27.2	27.0	27.6	28.1					
12H	26.8	27.4	27.2	27.8	28.3	26.6	27.2	27.1	27.7	28.1					
8H 4H	26.5	27.2	27.0	27.6	28.0	26.4	27.0	26.8	27.5	27.9					
6H	26.8	27.3	27.3	27.8	28.3	26.6	27.2	27.1	27.6	28.1					
8H	26.9	27.4	27.4	27.8	28.3	26.7	27.2	27.2	27.7	28.2					
12H	27.0	27.4	27.5	27.9	28.4	26.9	27.3	27.4	27.8	28.3					
12H 4H	26.5	27.1	27.0	27.5	28.0	26.4	27.0	26.8	27.4	27.9					
6H	26.8	27.2	27.3	27.7	28.2	26.6	27.1	27.1	27.6	28.1					
8H	26.9	27.3	27.4	27.8	28.3	26.8	27.2	27.3	27.7	28.2					
Variations with the observer position at spacings:															
S = 1.0H	+ 0.6 / - 0.9					+ 0.6 / - 0.9									
1.5H	+ 0.6 / - 0.4					+ 0.6 / - 0.4									
2.0H	+ 1.3 / - 1.2					+ 1.3 / - 1.1									

CIE Pub.117 Corrected 709.4 lm Total Lamp Luminous Flux. (8log(F/F0) = -1.2)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2022-6-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity: 65.0%
Test Distance: 7.415m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

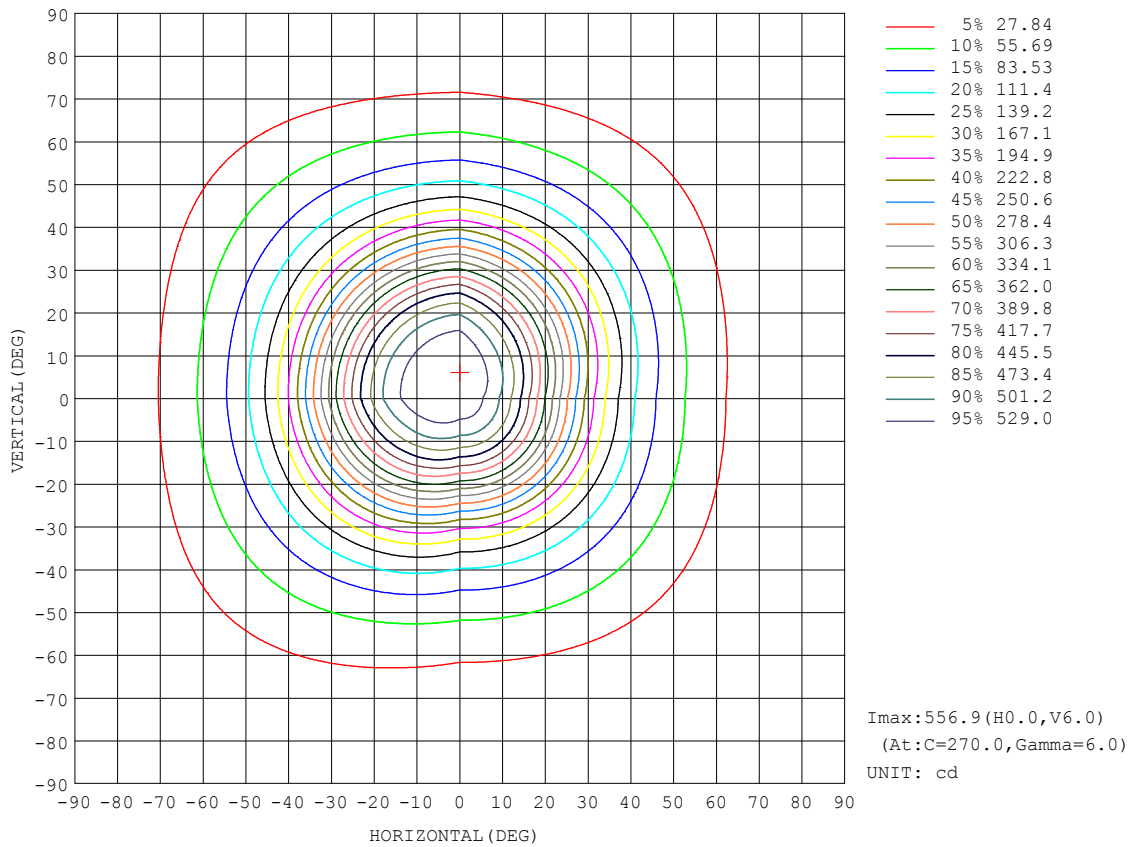
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	71	62	57	71	62	57	69	61	57	51
0.80	80	72	66	79	71	66	78	70	65	60
1.00	87	79	73	86	78	73	84	78	72	67
1.25	93	85	80	91	84	79	89	83	78	72
1.50	97	89	84	95	88	84	92	87	82	76
2.00	101	95	90	100	94	90	96	91	88	81
2.50	104	98	94	102	97	93	98	94	91	83
3.00	106	101	97	104	100	96	100	97	94	85
4.00	109	105	102	107	103	100	102	100	97	88
5.00	111	108	105	109	105	103	104	101	99	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 7.415m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

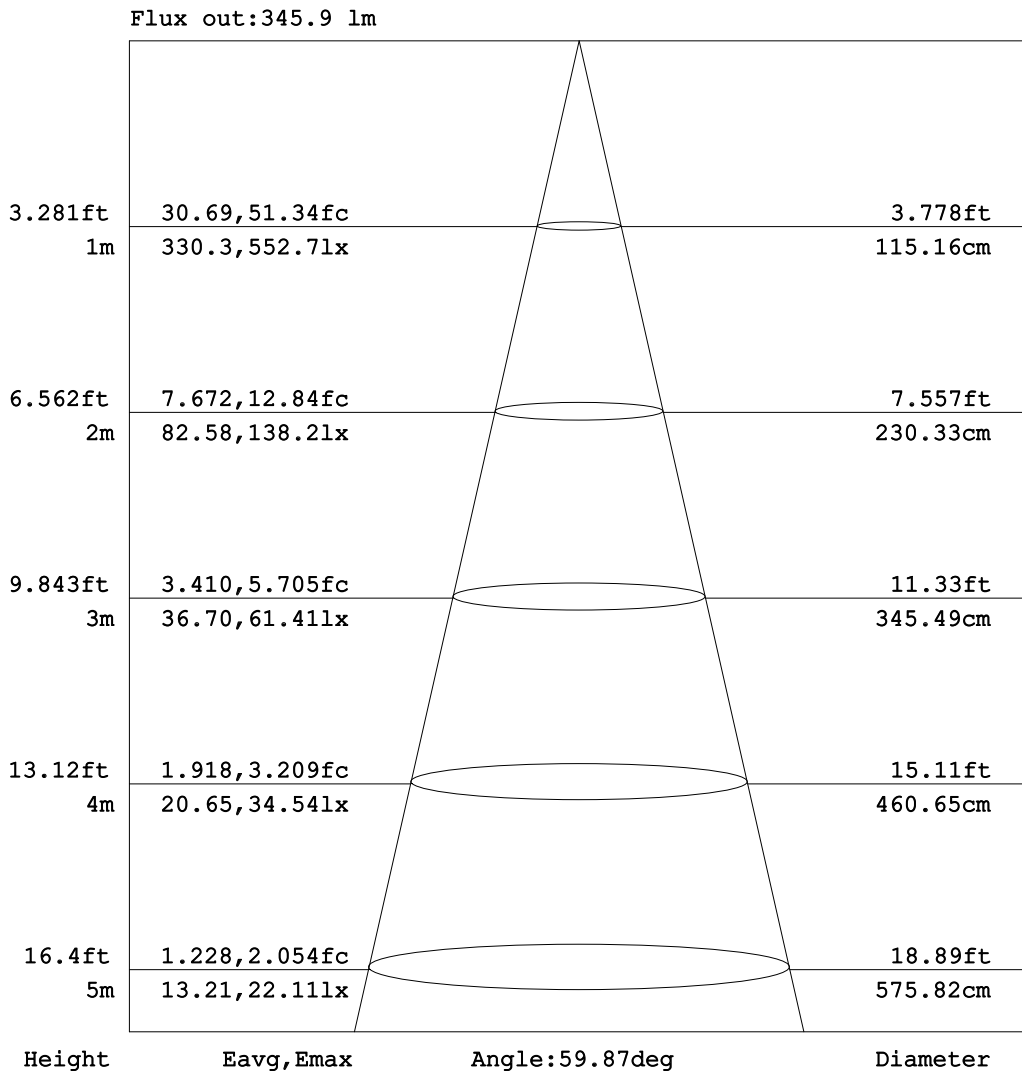


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 7.415m [K=1.0000]
 Remarks:

AAI Figure

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:



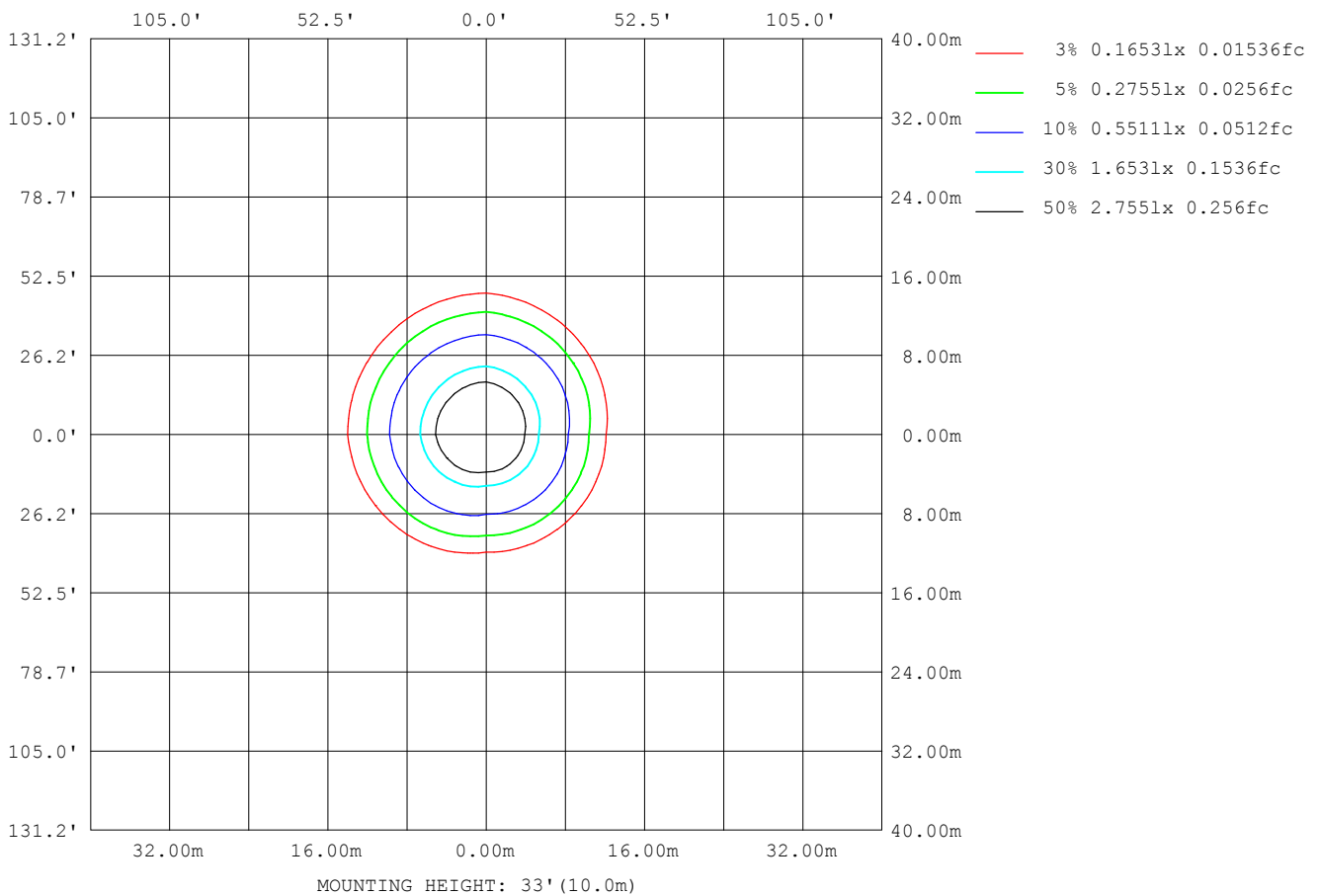
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2022-6-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity: 65.0%
Test Distance: 7.415m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 7.415m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: SD28AL3-7W-60D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	550	549	550	549															
5	531	528	554	557															
10	494	488	545	553															
15	434	428	522	534															
20	360	351	482	498															
25	281	271	421	441															
30	211	200	345	366															
35	157	147	266	287															
40	117	109	196	216															
45	87.8	82.5	144	159															
50	65.7	61.9	107	117															
55	47.4	44.8	81.1	87.0															
60	32.9	31.5	60.6	64.0															
65	22.5	21.9	43.2	46.1															
70	14.9	14.8	28.9	31.5															
75	9.39	9.31	19.0	20.7															
80	5.29	5.19	12.0	13.0															
85	3.10	2.98	6.76	7.32															
90	2.90	2.86	3.05	3.14															
95	2.89	2.86	1.38	1.18															
100	2.91	2.95	1.55	1.24															
105	3.05	3.10	1.90	1.53															
110	3.24	3.32	2.31	1.87															
115	3.51	3.61	2.74	2.26															
120	3.83	3.95	3.18	2.67															
125	4.18	4.32	3.62	3.10															
130	4.52	4.69	4.04	3.52															
135	4.87	5.05	4.41	3.93															
140	5.18	5.38	4.74	4.34															
145	5.45	5.67	5.06	4.71															
150	5.65	5.89	5.30	5.05															
155	5.79	6.05	5.51	5.35															
160	5.89	6.15	5.69	5.60															
165	5.98	6.23	5.84	5.80															
170	6.06	6.29	5.98	5.98															
175	6.14	6.31	6.12	6.13															
180	6.18	6.32	6.25	6.28															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-6-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 7.415m [K=1.0000]
 Remarks: