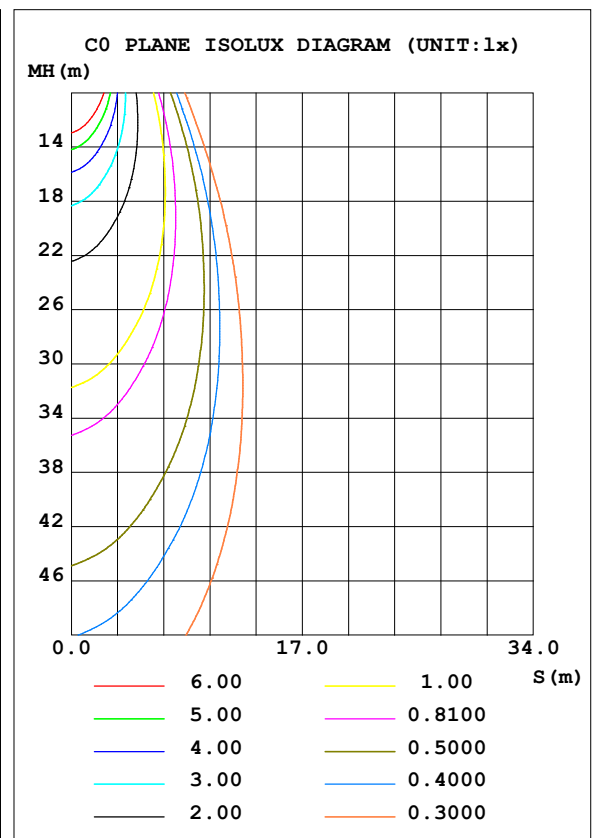
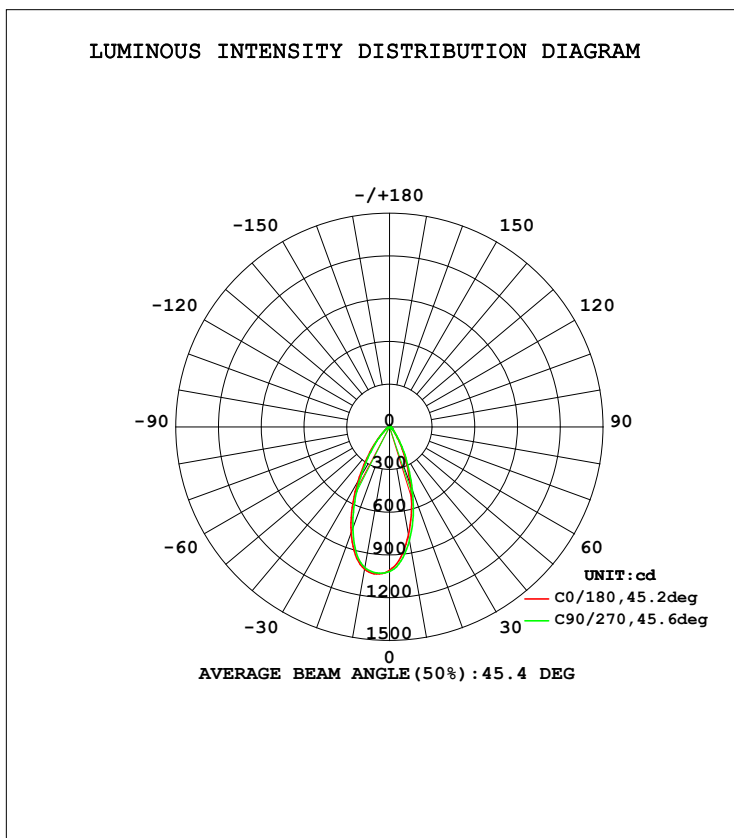


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: SD28AL3-7W-45D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 111.96 lm/W			
MODEL	SS3535-2700K-45D	I _{max} (cd)	1037	S/MH (C0/180)	0.57
NOMINAL POWER (W)	7	LOR (%)	100.0	S/MH (C90/270)	0.61
RATED VOLTAGE (V)	13	TOTAL FLUX (lm)	770.65	η UP, DN (C0-180)	1.9, 35.4
NOMINAL FLUX (lm)	770.655	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.4, 61.4
LAMPS INSIDE	1	η up (%)	3.3	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	12.6	η down (%)	96.7	CIBSE SHR MAX	0.75



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022.5.8

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

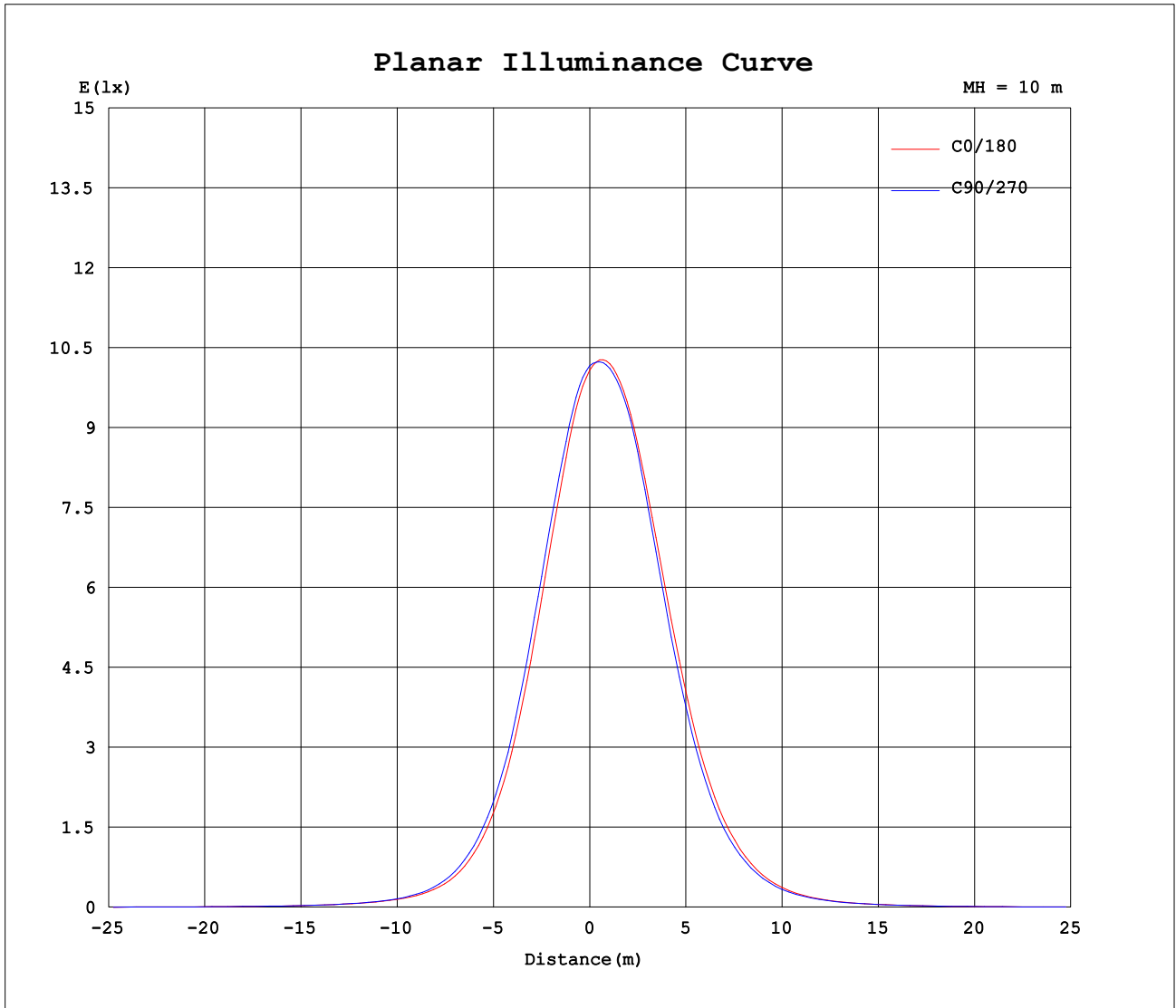
ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	769.3	808.2	1014	1002					0- 10	91.06	91.06	11.8,11.8
20	429.3	471.8	789.5	755.7					10- 20	212.7	303.7	39.4,39.4
30	178.8	203.6	445.0	410.5					20- 30	206.0	509.8	66.1,66.1
40	65.47	72.61	182.9	164.3					30- 40	125.7	635.5	82.5,82.5
50	29.98	30.72	60.21	56.65					40- 50	57.95	693.4	90,90
60	15.85	16.14	24.11	23.27					50- 60	26.67	720.1	93.4,93.4
70	8.502	9.035	11.94	11.11					60- 70	14.22	734.3	95.3,95.3
80	3.987	4.312	5.797	5.000					70- 80	7.643	741.9	96.3,96.3
90	2.810	2.731	1.837	1.333					80- 90	3.530	745.5	96.7,96.7
100	2.789	2.720	1.265	1.037					90-100	2.101	747.6	97,97
110	3.189	3.092	2.133	1.737					100-110	2.330	749.9	97.3,97.3
120	4.132	3.949	3.343	2.771					110-120	2.984	752.9	97.7,97.7
130	5.372	5.174	4.634	4.003					120-130	3.727	756.6	98.2,98.2
140	6.520	6.384	5.672	5.209					130-140	4.163	760.8	98.7,98.7
150	7.138	7.189	6.430	6.171					140-150	3.998	764.8	99.2,99.2
160	7.187	7.369	6.841	6.743					150-160	3.196	768.0	99.7,99.7
170	7.091	7.329	7.009	7.005					160-170	2.004	770.0	99.9,99.9
180	7.197	7.346	7.260	7.307					170-180	0.6827	770.7	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:2022.5.8

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



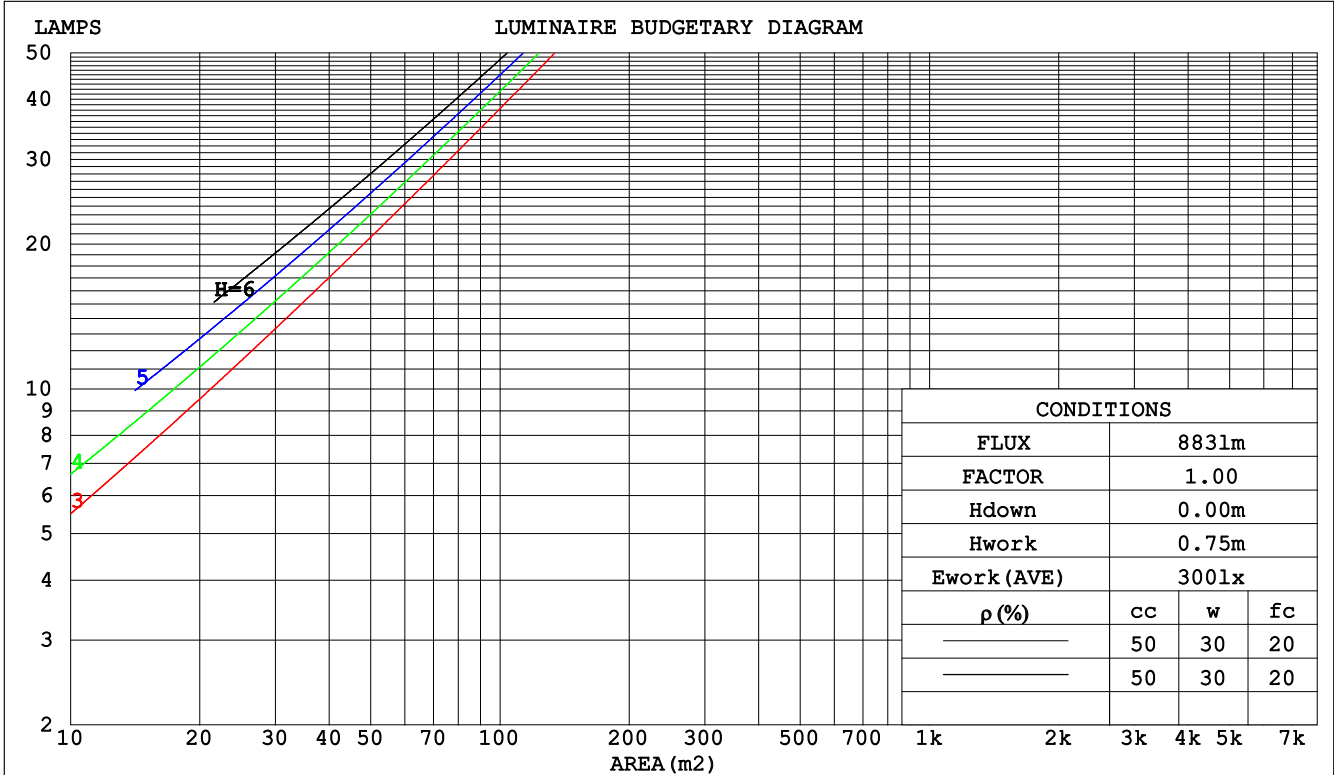
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2022.5.8

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-45D	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	1.09	1.06	1.04	1.07	1.04	1.02	1.02	.90	.98	.98	.96	.95	.94	.92	.91	.89
2.0	1.01	.96	.93	.99	.95	.91	.95	.92	.89	.91	.89	.87	.88	.86	.84	.82
3.0	.93	.88	.84	.92	.87	.83	.89	.85	.81	.86	.82	.80	.83	.80	.78	.76
4.0	.87	.81	.77	.86	.80	.76	.83	.78	.75	.81	.77	.74	.78	.75	.72	.71
5.0	.81	.75	.71	.80	.74	.70	.78	.73	.69	.76	.72	.68	.74	.70	.67	.66
6.0	.76	.70	.65	.75	.69	.65	.73	.68	.64	.72	.67	.64	.70	.66	.63	.61
7.0	.72	.65	.61	.71	.65	.61	.69	.64	.60	.68	.63	.60	.66	.62	.59	.58
8.0	.67	.61	.57	.67	.61	.57	.65	.60	.56	.64	.59	.56	.63	.59	.56	.54
9.0	.64	.58	.54	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.55	.52	.51
10.0	.60	.54	.51	.60	.54	.50	.59	.54	.50	.58	.53	.50	.57	.53	.50	.48



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022.5.8

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-45D	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	.195	.111	.035	.188	.107	.034	.173	.099	.032	.160	.092	.030	.148	.085	.028	
2.0	.185	.101	.031	.179	.098	.030	.166	.092	.029	.155	.087	.027	.144	.081	.026	
3.0	.175	.093	.028	.169	.090	.027	.158	.086	.026	.148	.081	.025	.139	.077	.024	
4.0	.165	.086	.025	.160	.084	.025	.150	.080	.024	.142	.076	.023	.133	.073	.022	
5.0	.156	.079	.023	.151	.078	.023	.143	.075	.022	.135	.071	.021	.128	.068	.021	
6.0	.148	.074	.021	.144	.073	.021	.136	.070	.020	.129	.067	.020	.123	.065	.019	
7.0	.140	.069	.020	.137	.068	.019	.130	.066	.019	.124	.064	.018	.118	.061	.018	
8.0	.133	.065	.018	.130	.064	.018	.124	.062	.018	.119	.060	.017	.113	.058	.017	
9.0	.127	.062	.017	.124	.061	.017	.119	.059	.017	.114	.057	.016	.109	.055	.016	
10.0	.122	.058	.016	.119	.057	.016	.114	.056	.016	.109	.054	.015	.105	.053	.015	

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	.198	.182	.169	.169	.156	.145	.116	.108	.100	.067	.062	.058	.021	.020	.019	
2.0	.183	.158	.136	.157	.136	.118	.108	.094	.082	.062	.055	.048	.020	.018	.016	
3.0	.172	.139	.113	.147	.120	.098	.101	.083	.069	.058	.049	.041	.019	.016	.013	
4.0	.162	.125	.096	.139	.108	.084	.095	.075	.059	.055	.044	.035	.018	.014	.011	
5.0	.153	.113	.084	.131	.098	.073	.091	.068	.052	.052	.040	.031	.017	.013	.010	
6.0	.146	.104	.074	.125	.090	.065	.086	.063	.046	.050	.037	.027	.016	.012	.009	
7.0	.139	.097	.067	.120	.084	.058	.083	.059	.041	.048	.035	.025	.016	.011	.008	
8.0	.133	.091	.061	.115	.079	.053	.079	.055	.038	.046	.033	.023	.015	.011	.007	
9.0	.128	.085	.057	.110	.074	.049	.076	.052	.035	.044	.031	.021	.014	.010	.007	
10.0	.123	.081	.053	.106	.070	.046	.074	.049	.033	.043	.029	.020	.014	.010	.006	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022.5.8

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-45D					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	20.9	21.9	21.2	22.1	22.3	21.2	22.2	21.5	22.4	22.6					
3H	21.4	22.3	21.8	22.6	22.9	21.7	22.6	22.0	22.9	23.1					
4H	21.7	22.5	22.0	22.8	23.1	22.0	22.8	22.3	23.1	23.4					
6H	21.9	22.7	22.3	23.0	23.3	22.2	23.0	22.6	23.3	23.6					
8H	22.0	22.8	22.4	23.1	23.4	22.3	23.1	22.7	23.4	23.7					
12H	22.2	22.9	22.5	23.2	23.6	22.5	23.2	22.8	23.5	23.9					
4H 2H	21.1	21.9	21.4	22.2	22.5	21.3	22.2	21.7	22.4	22.7					
3H	21.8	22.5	22.1	22.8	23.2	22.0	22.8	22.4	23.1	23.4					
4H	22.1	22.8	22.5	23.2	23.5	22.4	23.1	22.8	23.4	23.8					
6H	22.5	23.1	22.9	23.5	23.9	22.8	23.3	23.2	23.7	24.2					
8H	22.7	23.2	23.1	23.6	24.0	22.9	23.5	23.4	23.9	24.3					
12H	22.9	23.4	23.3	23.8	24.3	23.2	23.7	23.6	24.1	24.5					
8H 4H	22.2	22.8	22.7	23.2	23.6	22.5	23.0	22.9	23.4	23.9					
6H	22.7	23.2	23.2	23.6	24.1	23.0	23.4	23.5	23.9	24.4					
8H	23.0	23.4	23.5	23.9	24.4	23.3	23.7	23.8	24.1	24.6					
12H	23.4	23.7	23.9	24.2	24.7	23.6	23.9	24.1	24.4	25.0					
12H 4H	22.2	22.7	22.7	23.2	23.6	22.5	23.0	22.9	23.4	23.9					
6H	22.8	23.1	23.3	23.6	24.1	23.0	23.4	23.5	23.9	24.4					
8H	23.1	23.4	23.6	23.9	24.5	23.3	23.7	23.9	24.2	24.7					
Variations with the observer position at spacings:															
S = 1.0H	+ 0.7 / - 0.9					+ 0.8 / - 0.9									
1.5H	+ 1.1 / - 0.6					+ 1.5 / - 0.7									
2.0H	+ 1.1 / - 0.6					+ 1.2 / - 0.6									

CIE Pub.117 Corrected 770.7 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.9)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2022.5.8

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-45D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

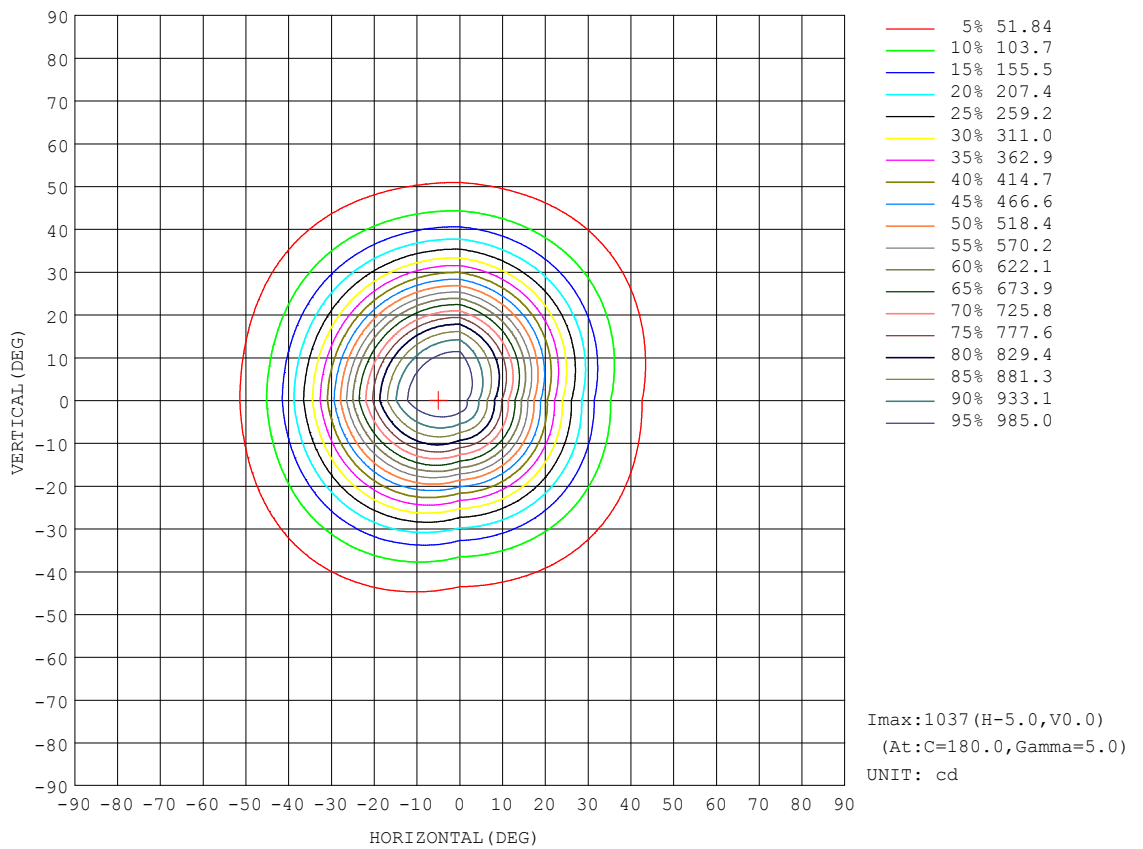
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	81	73	69	80	73	69	79	72	68	64
0.80	89	82	77	88	81	77	86	80	77	72
1.00	94	87	83	93	87	83	91	86	82	77
1.25	99	92	88	97	92	88	95	90	87	81
1.50	102	96	92	100	95	91	97	93	90	84
2.00	105	100	96	103	99	95	100	96	94	87
2.50	107	103	99	105	101	98	102	98	96	89
3.00	109	105	102	107	103	100	103	100	98	90
4.00	111	108	105	109	106	104	105	103	101	92
5.00	113	110	108	110	108	106	106	104	102	93
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: 2022.5.8

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-45D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:

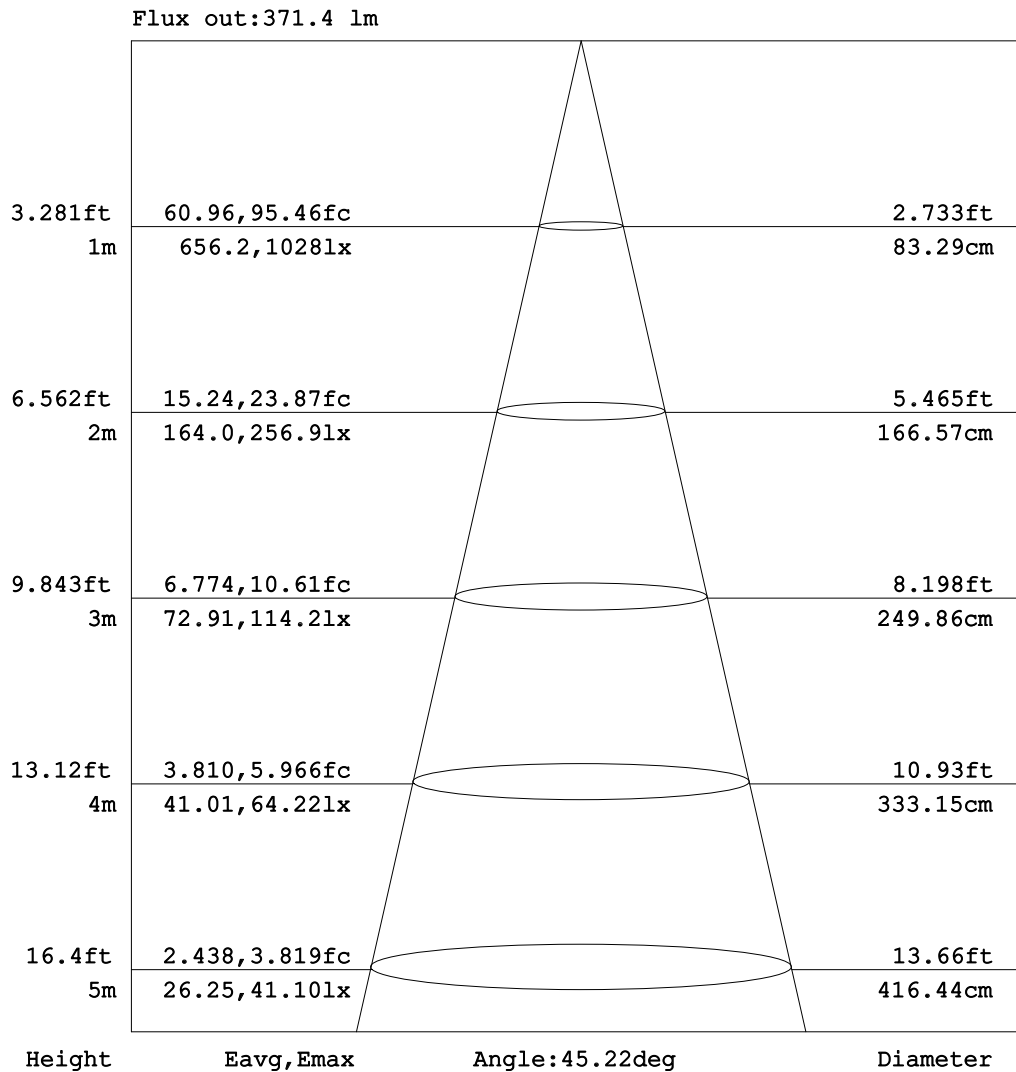


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2022.5.8

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-45D	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia Lighting	SUR.:	PROTECTION ANGLE:



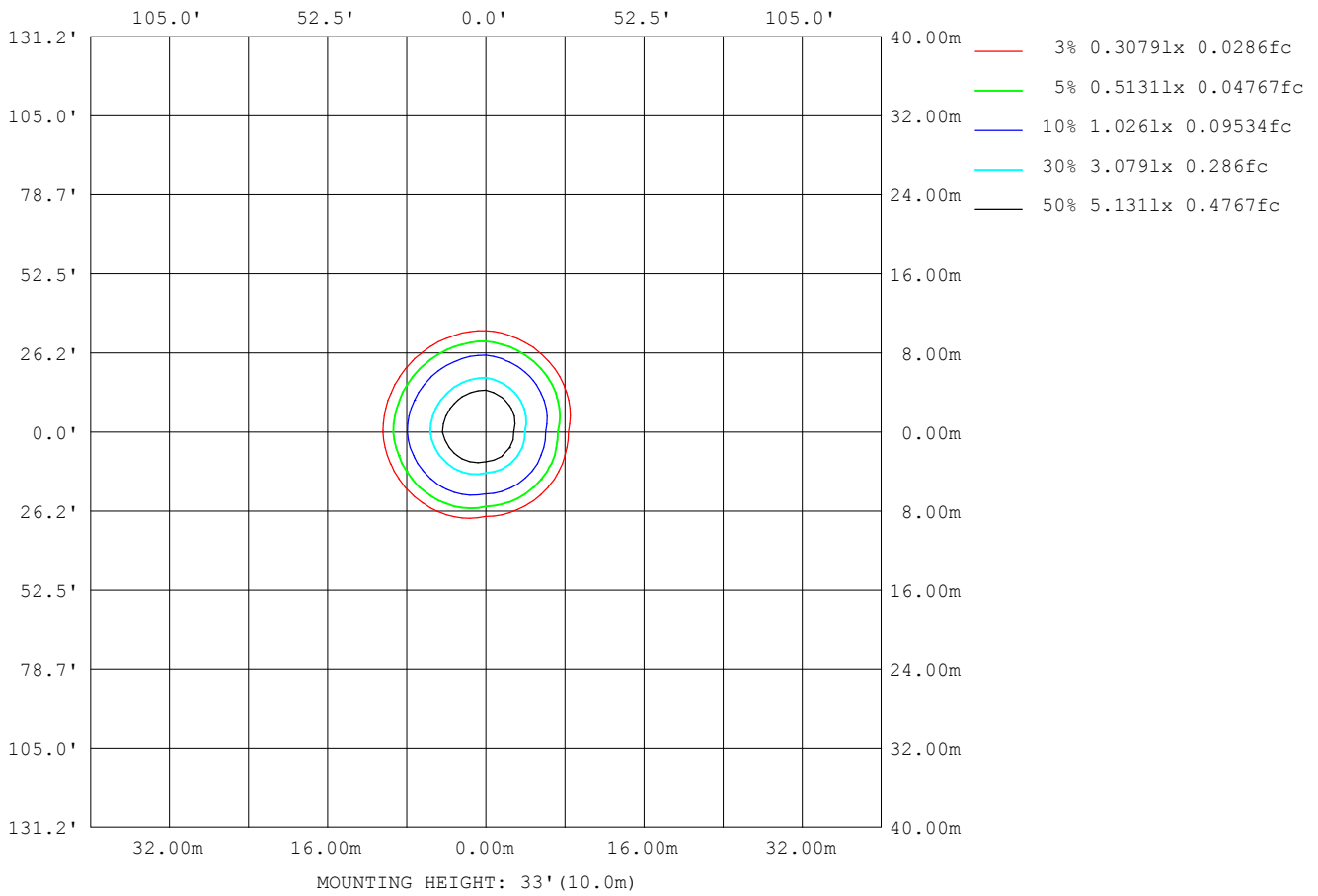
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2022.5.8

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-45D	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: 2022.5.8

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-45D	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	1007	1016	1007	1016															
5	919	943	1037	1029															
10	769	808	1014	1002															
15	600	647	930	910															
20	429	472	790	756															
25	285	319	622	581															
30	179	204	445	411															
35	107	123	296	267															
40	65.5	72.6	183	164															
45	42.8	45.5	105	95.7															
50	30.0	30.7	60.2	56.7															
55	21.5	21.9	36.7	35.4															
60	15.8	16.1	24.1	23.3															
65	11.7	12.1	16.7	15.9															
70	8.50	9.04	11.9	11.1															
75	5.95	6.44	8.53	7.66															
80	3.99	4.31	5.80	5.00															
85	2.99	3.03	3.55	2.86															
90	2.81	2.73	1.84	1.33															
95	2.76	2.71	1.08	0.86															
100	2.79	2.72	1.26	1.04															
105	2.92	2.84	1.64	1.35															
110	3.19	3.09	2.13	1.74															
115	3.61	3.46	2.71	2.22															
120	4.13	3.95	3.34	2.77															
125	4.73	4.54	4.00	3.37															
130	5.37	5.17	4.63	4.00															
135	5.99	5.82	5.19	4.62															
140	6.52	6.38	5.67	5.21															
145	6.93	6.86	6.10	5.73															
150	7.14	7.19	6.43	6.17															
155	7.19	7.35	6.67	6.50															
160	7.19	7.37	6.84	6.74															
165	7.13	7.33	6.94	6.88															
170	7.09	7.33	7.01	7.01															
175	7.11	7.34	7.12	7.12															
180	7.20	7.35	7.26	7.31															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022.5.8

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: