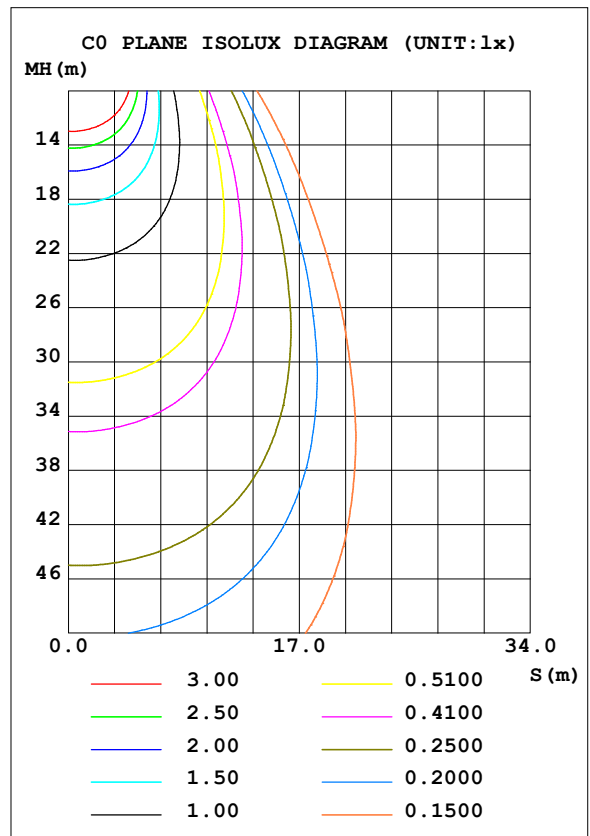
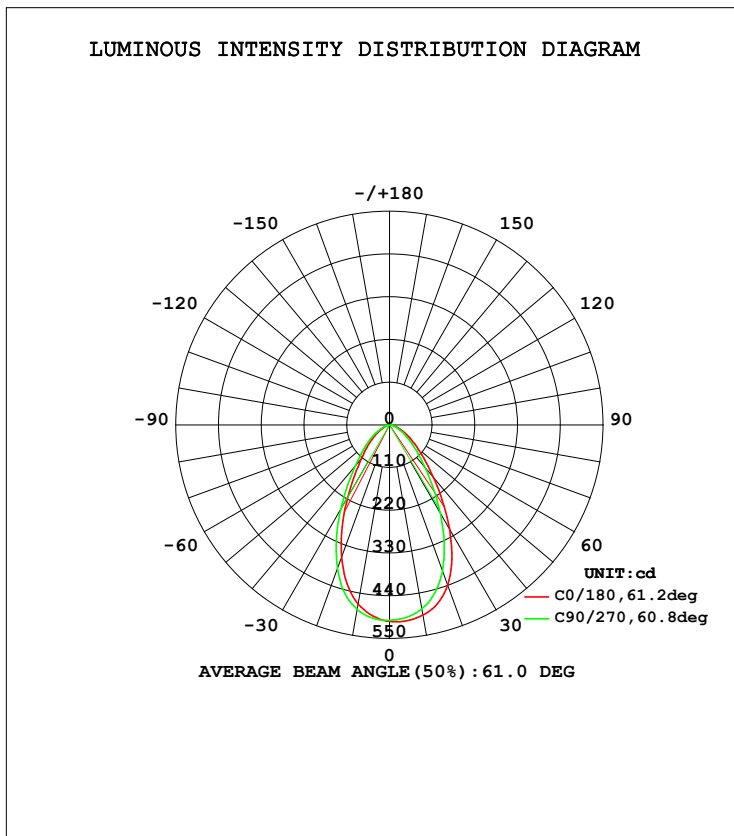


LUMINAIRE PHOTOMETRIC TEST REPORT

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

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	SS3535-3000K-60D	Imax (cd)	507.3	S/MH (C0/180)	1.01
NOMINAL POWER (W)	7	LOR (%)	100.0	S/MH (C90/270)	0.92
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	621.47	η UP, DN (C0-180)	0.0, 52.9
NOMINAL FLUX (lm)	621.471	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 47.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	12.2	η down (%)	100.0	CIBSE SHR MAX	0.95



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-02-13

γ Range: 0 - 90DEG
 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	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	497.2	494.4	480.7	468.9	467.9	463.5	482.0	493.3	0- 10	47.03	47.03	7.57,7.57
20	438.6	437.0	399.9	367.0	360.9	355.2	392.0	427.1	10- 20	124.9	171.9	27.7,27.7
30	309.5	310.8	261.4	224.8	215.7	211.8	253.0	295.4	20- 30	150.9	322.8	51.9,51.9
40	175.6	174.0	142.1	119.2	112.5	111.6	136.0	165.8	30- 40	122.0	444.8	71.6,71.6
50	96.06	94.38	76.63	63.42	60.87	60.19	75.29	89.45	40- 50	81.48	526.3	84.7,84.7
60	52.27	52.05	39.44	31.68	28.63	28.05	38.19	47.80	50- 60	50.85	577.1	92.9,92.9
70	23.88	24.42	18.62	14.83	11.78	11.32	15.79	20.79	60- 70	27.08	604.2	97.2,97.2
80	10.57	11.02	8.409	6.362	3.965	3.697	5.577	8.094	70- 80	12.51	616.7	99.2,99.2
90	3.914	4.094	3.111	2.677	1.260	1.303	1.198	1.929	80- 90	4.744	621.5	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

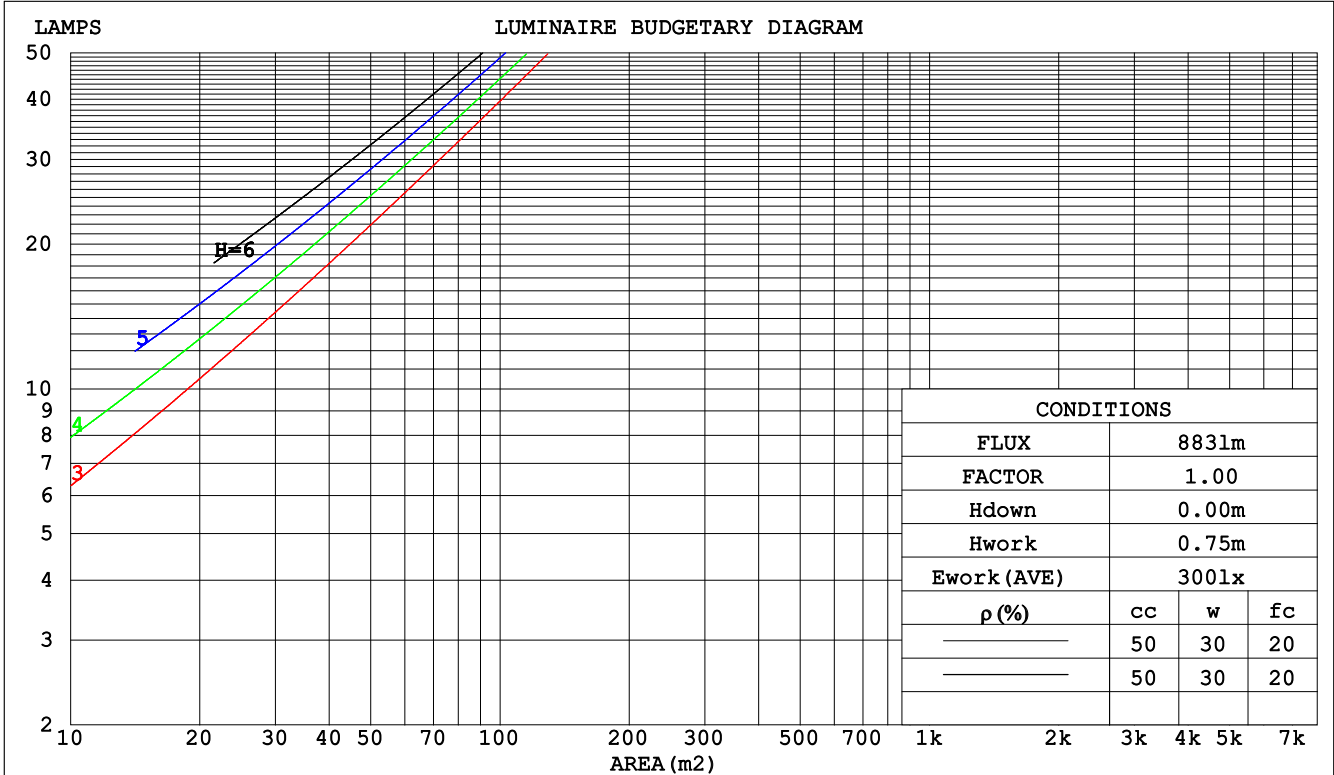
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-02-13

γ Range: 0 - 90DEG
 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	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	1.19	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	1.00
1.0	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.00	.97	.98	.96	.94	.95	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.90	.83	.78	.88	.82	.78	.85	.80	.76	.83	.79	.75	.80	.77	.74	.72
4.0	.82	.75	.70	.81	.74	.69	.78	.73	.69	.76	.72	.68	.74	.70	.67	.65
5.0	.75	.68	.63	.74	.68	.63	.72	.67	.62	.71	.66	.62	.69	.65	.61	.59
6.0	.70	.62	.57	.69	.62	.57	.67	.61	.57	.66	.60	.56	.64	.60	.56	.54
7.0	.65	.57	.52	.64	.57	.52	.63	.56	.52	.61	.56	.52	.60	.55	.51	.50
8.0	.60	.53	.48	.60	.53	.48	.58	.52	.48	.57	.52	.48	.56	.51	.47	.46
9.0	.56	.49	.45	.56	.49	.45	.55	.49	.44	.54	.48	.44	.53	.48	.44	.43
10.0	.53	.46	.42	.52	.46	.42	.51	.45	.41	.51	.45	.41	.50	.45	.41	.40



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-02-13

γ Range: 0 - 90DEG
 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	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	.227	.129	.041	.221	.126	.040	.208	.119	.038	.196	.113	.036	.185	.107	.035	
2.0	.217	.119	.036	.211	.116	.036	.200	.111	.035	.190	.107	.033	.181	.102	.032	
3.0	.205	.109	.033	.200	.107	.032	.190	.103	.031	.181	.099	.030	.173	.096	.030	
4.0	.193	.100	.029	.188	.099	.029	.180	.095	.028	.172	.092	.028	.165	.090	.027	
5.0	.181	.092	.027	.178	.091	.027	.170	.089	.026	.163	.086	.026	.157	.084	.025	
6.0	.171	.086	.025	.168	.085	.024	.161	.083	.024	.155	.081	.024	.149	.079	.023	
7.0	.162	.080	.023	.159	.079	.023	.153	.077	.022	.147	.076	.022	.142	.074	.022	
8.0	.153	.075	.021	.150	.074	.021	.145	.072	.021	.140	.071	.020	.136	.070	.020	
9.0	.145	.070	.020	.143	.070	.020	.138	.068	.019	.134	.067	.019	.129	.066	.019	
10.0	.138	.066	.018	.136	.066	.018	.132	.064	.018	.128	.063	.018	.124	.062	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.175	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.084	.130	.098	.072	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.143	.100	.067	.123	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.135	.089	.054	.116	.077	.047	.080	.054	.033	.046	.031	.020	.015	.010	.007	
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005	
7.0	.121	.073	.038	.104	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005	
8.0	.115	.067	.033	.099	.058	.029	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.110	.061	.029	.095	.053	.025	.066	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.105	.057	.025	.091	.050	.022	.063	.035	.016	.037	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-02-13

γ Range: 0 - 90DEG
 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					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	28.9	30.1	29.2	30.3	30.5	28.1	29.2	28.3	29.4	29.6					
3H	29.5	30.6	29.8	30.8	31.0	28.5	29.6	28.8	29.8	30.1					
4H	29.7	30.7	30.0	31.0	31.2	28.7	29.8	29.0	30.0	30.2					
6H	29.9	30.9	30.2	31.1	31.4	28.9	29.8	29.2	30.1	30.4					
8H	30.0	30.9	30.3	31.2	31.4	28.9	29.9	29.3	30.1	30.4					
12H	30.1	31.0	30.4	31.2	31.5	29.0	29.9	29.3	30.2	30.5					
4H 2H	29.2	30.2	29.4	30.4	30.7	28.4	29.4	28.7	29.7	29.9					
3H	29.9	30.8	30.2	31.0	31.3	29.1	29.9	29.4	30.2	30.5					
4H	30.2	31.0	30.5	31.3	31.6	29.3	30.2	29.7	30.5	30.8					
6H	30.5	31.2	30.9	31.5	31.9	29.6	30.3	30.0	30.7	31.0					
8H	30.6	31.3	31.0	31.7	32.0	29.7	30.4	30.1	30.8	31.1					
12H	30.8	31.4	31.2	31.8	32.2	29.9	30.5	30.3	30.8	31.2					
8H 4H	30.3	30.9	30.7	31.3	31.7	29.5	30.2	29.9	30.5	30.9					
6H	30.7	31.2	31.1	31.6	32.1	29.9	30.4	30.3	30.8	31.3					
8H	30.9	31.4	31.4	31.8	32.3	30.1	30.6	30.6	31.0	31.5					
12H	31.2	31.6	31.7	32.1	32.5	30.3	30.8	30.8	31.2	31.7					
12H 4H	30.3	30.9	30.7	31.2	31.6	29.5	30.1	29.9	30.5	30.9					
6H	30.7	31.2	31.2	31.6	32.1	30.0	30.4	30.4	30.9	31.3					
8H	31.0	31.4	31.5	31.9	32.3	30.2	30.6	30.7	31.1	31.5					
Variations with the observer position at spacings:															
S = 1.0H	+ 0.5 / - 0.7					+ 0.6 / - 0.8									
1.5H	+ 0.6 / - 0.4					+ 0.5 / - 0.7									
2.0H	+ 1.0 / - 0.7					+ 0.9 / - 1.1									

CIE Pub.117 Corrected 621.5 lm Total Lamp Luminous Flux. (8log(F/F0) = -1.7)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-02-13

γ Range: 0 - 90DEG
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	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia lighting	SUR.:	PROTECTION ANGLE:

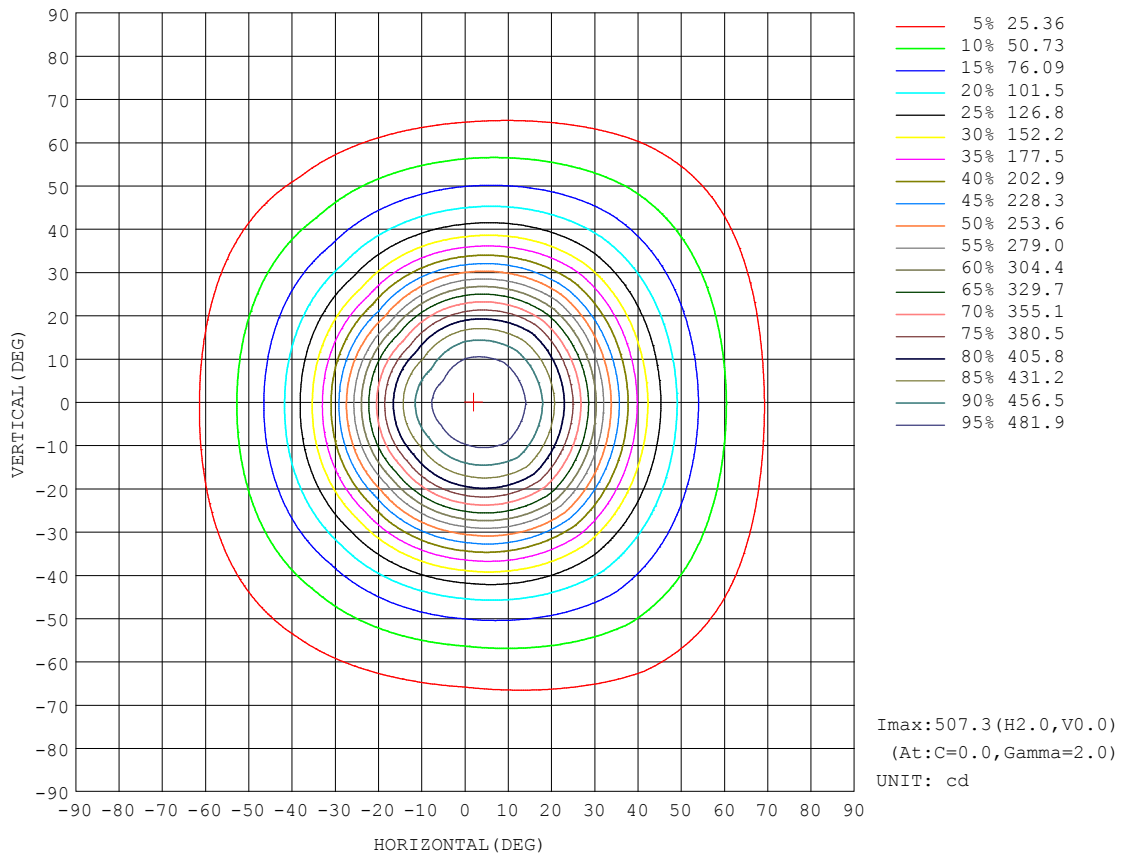
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	74	65	60	73	65	60	72	64	59	55
0.80	83	74	69	82	74	69	80	73	68	63
1.00	89	81	76	88	81	76	86	81	75	70
1.25	95	87	83	94	87	82	91	86	81	76
1.50	99	92	87	97	91	86	95	89	85	80
2.00	103	97	93	102	96	92	99	94	91	84
2.50	106	100	96	104	99	95	101	97	93	86
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	104	109	105	102	105	102	99	92
5.00	112	109	106	110	107	105	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: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-02-13

γ Range: 0 - 90DEG
 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	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia lighting	SUR.:	PROTECTION ANGLE:

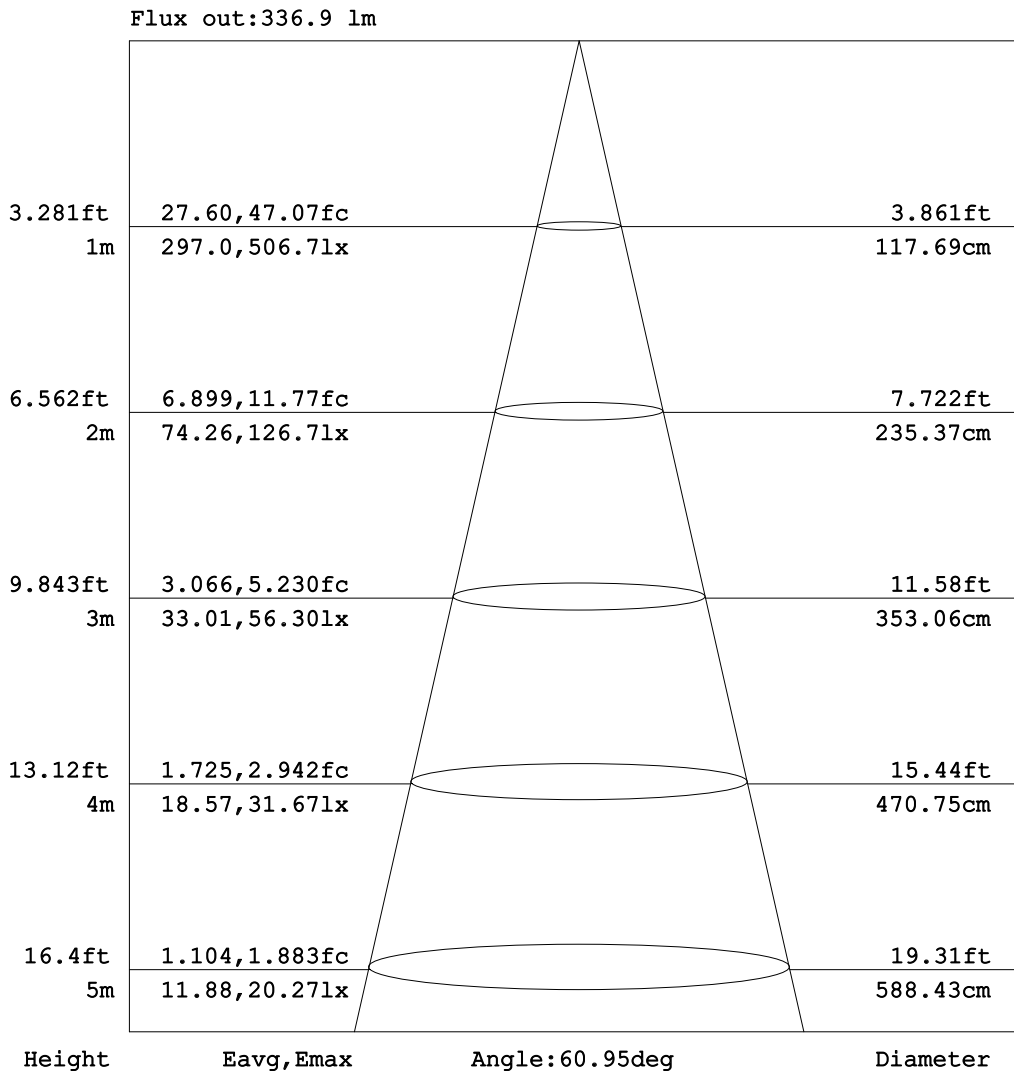


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-02-13

γ Range: 0 - 90DEG
 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	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia lighting	SUR.:	PROTECTION ANGLE:



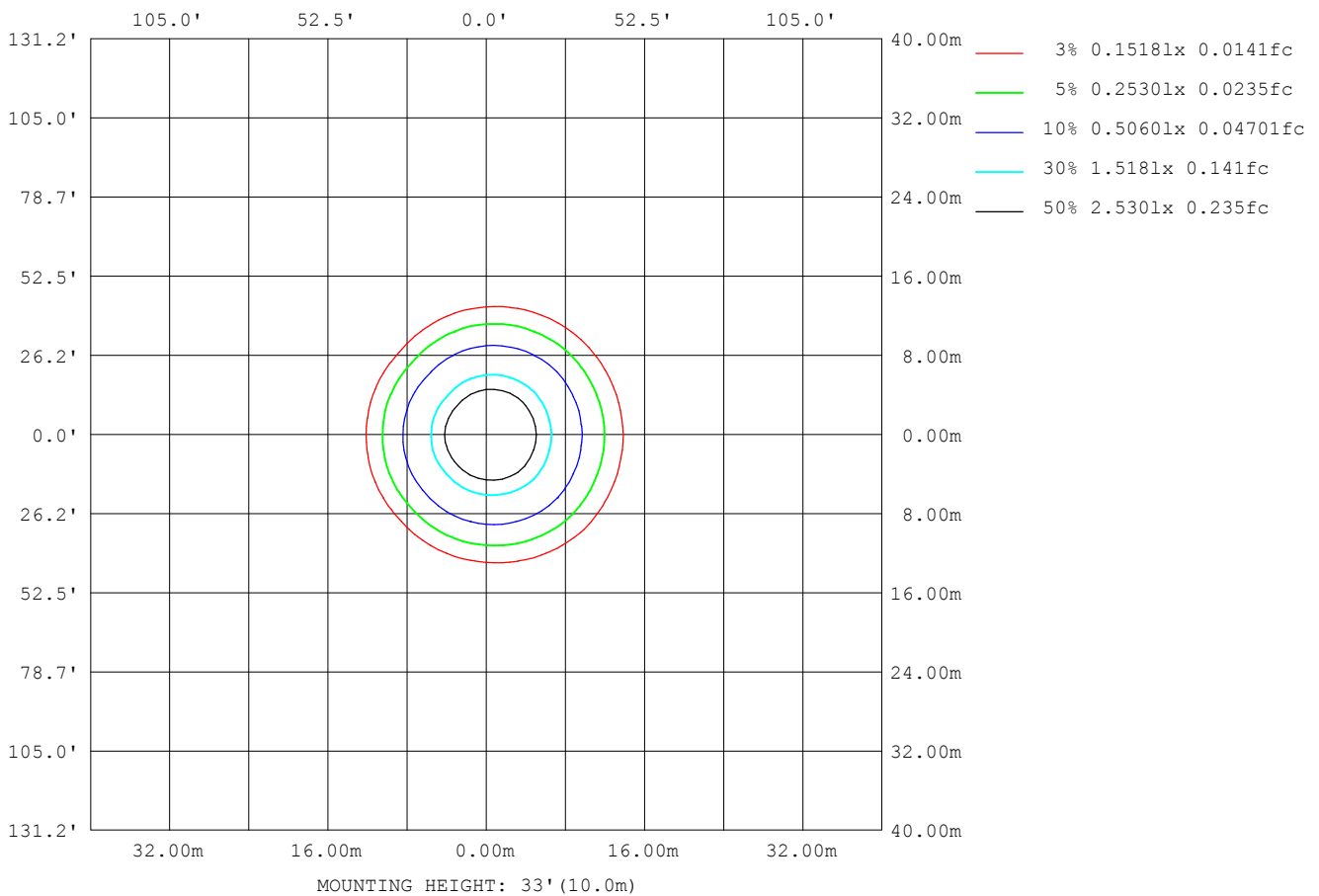
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-02-13

γ Range: 0 - 90DEG
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

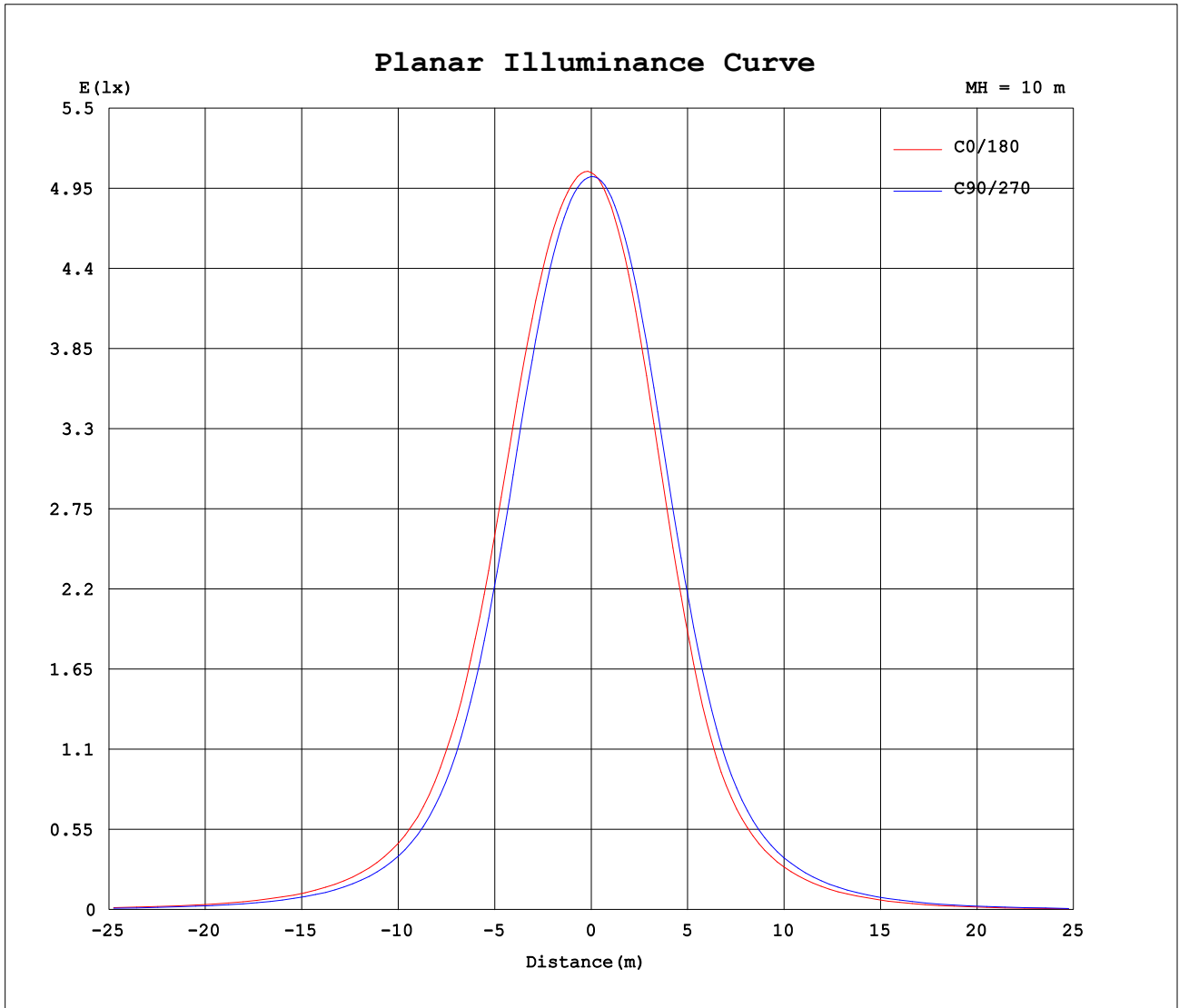
NAME: SD28AL3-7W	TYPE: SPOT LIGHT	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Wanjia lighting	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
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 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: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-02-13

γ Range: 0 - 90DEG
 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:

