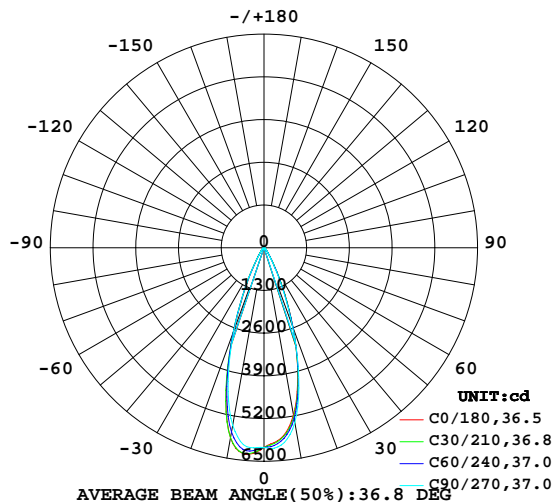


LUMINAIRE PHOTOMETRIC TEST REPORT

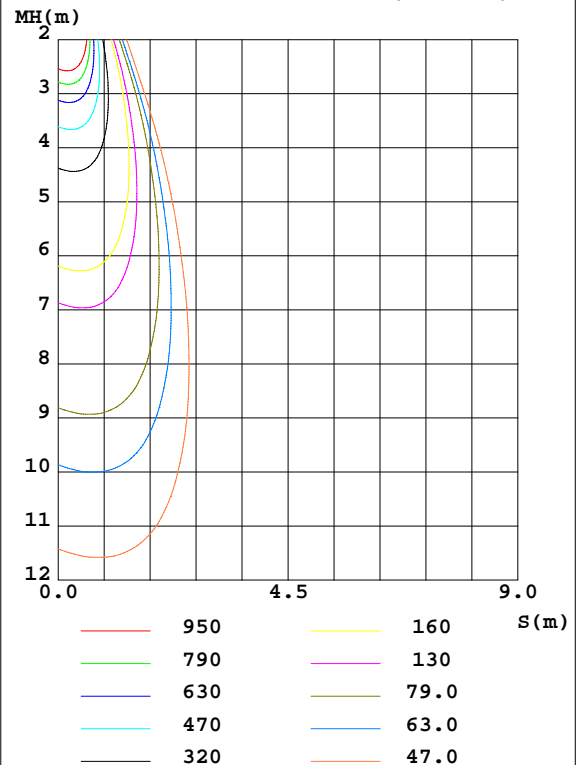
Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 99.81 lm/W			
MODEL	TL44-28W-940-B-36-L	Imax(cd)	6314	S/MH(C0/180)	0.59
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.58
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	2714.8	η UP,DN(C0-180)	0.0,51.0
NOMINAL FLUX(lm)	2714.85	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	225.4	η down(%)	100.0	CIBSE SHR MAX	0.60

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WuXing
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:7.240m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

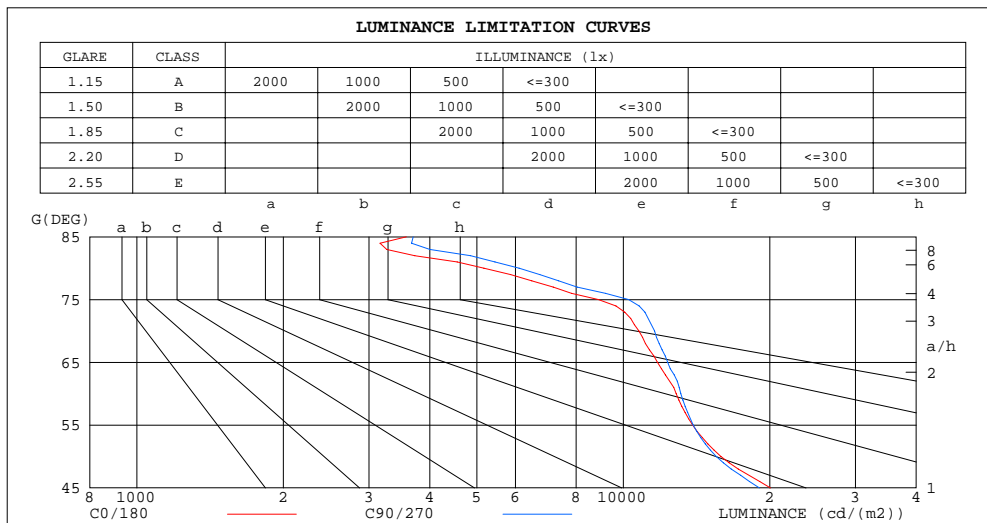
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	$\%lum, lamp$
10	5880	5829	5488	5240	5171	5216	5403	5620	0- 10	560.5	560.5	20.6,20.6
20	2681	2818	2680	2627	2583	2519	2546	2514	10- 20	1129	1689	62.2,62.2
30	572.5	626.4	586.6	627.9	599.4	597.1	548.4	525.1	20- 30	634.5	2324	85.6,85.6
40	163.5	164.8	153.8	158.7	163.6	161.1	160.8	157.6	30- 40	188.8	2513	92.6,92.6
50	77.77	78.76	76.83	77.68	78.10	77.12	77.18	76.89	40- 50	84.78	2598	95.7,95.7
60	48.97	50.11	50.56	51.55	51.33	50.02	49.63	48.93	50- 60	55.60	2653	97.7,97.7
70	28.08	29.34	30.55	31.62	29.98	28.25	28.07	27.79	60- 70	38.89	2692	99.2,99.2
80	6.846	7.846	8.168	8.453	7.732	6.823	6.413	6.159	70- 80	19.36	2711	99.9,99.9
90	2.731	2.753	2.723	2.745	1.851	1.823	1.849	1.855	80- 90	3.415	2715	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: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WuXing
 Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity:65.0%
 Test Distance:7.240m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	3580	3697
80	5169	6106
75	8887	10255
70	10762	11596
65	11753	12340
60	12839	13128
55	13888	13918
50	15861	15517
45	20068	19047

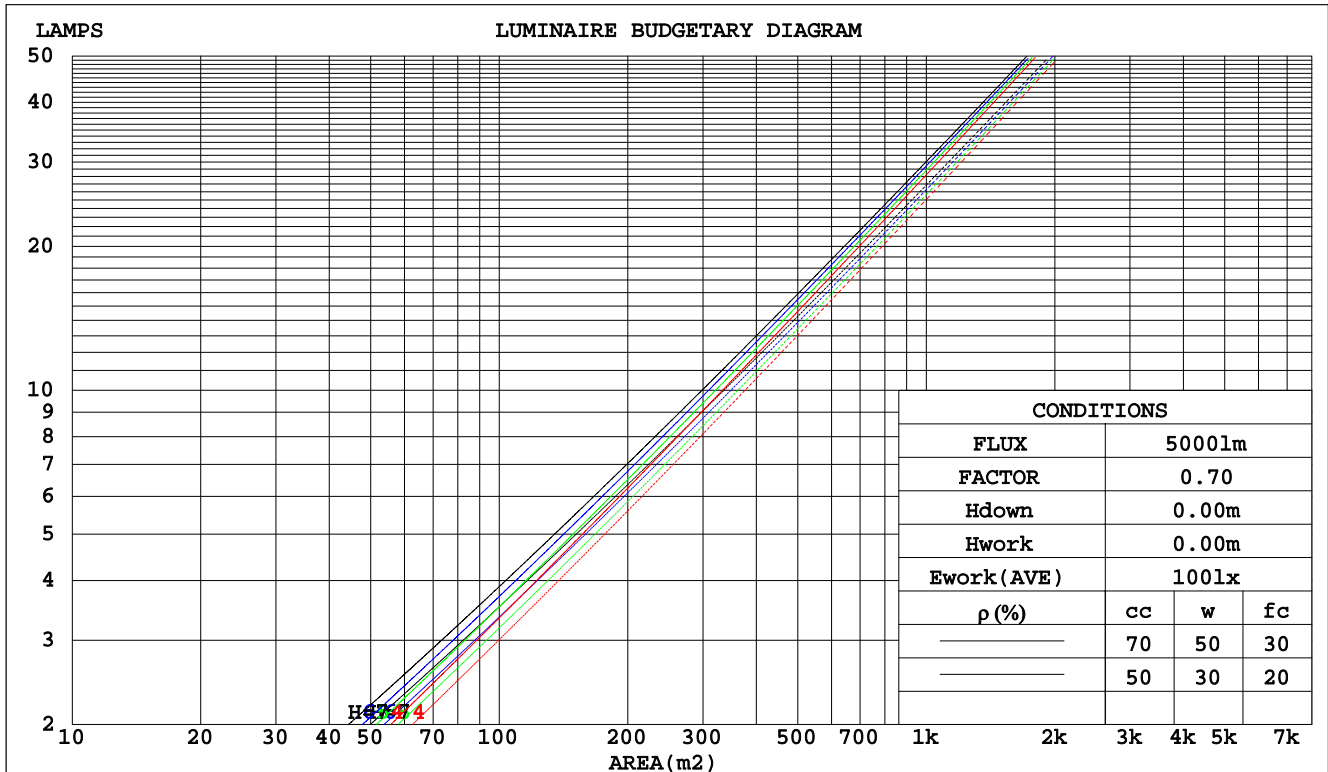
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: WuXing
Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 7.240m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding 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						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	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	.90	.97	.95	.97	.95	.93	.94	.92	.91	.89
3.0	.99	.94	.91	.97	.93	.90	.95	.91	.89	.93	.90	.87	.90	.88	.86	.85
4.0	.94	.89	.85	.92	.88	.85	.90	.87	.84	.88	.85	.83	.87	.84	.82	.80
5.0	.89	.84	.80	.88	.83	.80	.86	.82	.79	.85	.81	.78	.83	.80	.78	.76
6.0	.85	.80	.76	.84	.79	.76	.83	.78	.75	.81	.78	.75	.80	.77	.74	.73
7.0	.81	.76	.72	.80	.76	.72	.79	.75	.72	.78	.74	.71	.77	.74	.71	.70
8.0	.78	.73	.69	.77	.72	.69	.76	.72	.69	.75	.71	.68	.74	.71	.68	.67
9.0	.75	.70	.66	.74	.69	.66	.73	.69	.66	.72	.68	.66	.72	.68	.65	.64
10.0	.72	.67	.63	.71	.67	.63	.70	.66	.63	.70	.66	.63	.69	.65	.63	.62



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WuXing
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity: 65.0%
 Test Distance: 7.240m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.: Rayconn		SUR.:		Shielding 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	.165	.094	.030	.158	.090	.029	.146	.084	.027	.134	.077	.025	.124	.072	.023		
2.0	.155	.085	.026	.149	.082	.025	.139	.077	.024	.129	.073	.023	.120	.068	.021		
3.0	.145	.077	.023	.141	.075	.023	.132	.071	.022	.124	.068	.021	.116	.064	.020		
4.0	.137	.071	.021	.133	.070	.021	.125	.066	.020	.118	.063	.019	.112	.061	.018		
5.0	.129	.066	.019	.126	.065	.019	.119	.062	.018	.113	.060	.018	.107	.057	.017		
6.0	.122	.061	.018	.119	.060	.017	.114	.058	.017	.108	.056	.017	.103	.054	.016		
7.0	.116	.057	.016	.114	.057	.016	.109	.055	.016	.104	.053	.016	.100	.052	.015		
8.0	.111	.054	.015	.108	.053	.015	.104	.052	.015	.100	.051	.015	.096	.049	.014		
9.0	.106	.051	.014	.104	.051	.014	.100	.049	.014	.096	.048	.014	.093	.047	.014		
10.0	.101	.049	.013	.099	.048	.013	.096	.047	.013	.093	.046	.013	.089	.045	.013		

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.170	.157	.146	.146	.135	.126	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.140	.113	.092	.120	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.129	.098	.075	.111	.085	.065	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.120	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.111	.077	.052	.096	.067	.046	.066	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.104	.069	.044	.090	.060	.039	.062	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.098	.063	.038	.084	.054	.033	.058	.038	.024	.034	.022	.014	.011	.007	.005	
9.0	.093	.057	.033	.080	.050	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004	
10.0	.088	.053	.029	.076	.046	.025	.053	.032	.018	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: Rayconn					SUR.:			Shielding 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	13.1	13.9	13.3	14.0	14.2	12.9	13.7	13.1	13.9	14.0	
	3H	13.9	14.6	14.1	14.8	15.0	13.9	14.6	14.1	14.8	15.0
	4H	14.2	14.9	14.5	15.1	15.3	14.3	15.0	14.5	15.2	15.4
	6H	14.3	15.0	14.6	15.2	15.4	14.4	15.1	14.7	15.3	15.6
	8H	14.3	14.9	14.6	15.2	15.4	14.4	15.0	14.7	15.3	15.6
	12H	14.2	14.9	14.5	15.1	15.4	14.4	15.0	14.7	15.3	15.5
4H	2H	13.4	14.1	13.6	14.3	14.5	13.2	14.0	13.5	14.2	14.4
	3H	14.4	15.0	14.7	15.3	15.5	14.4	15.0	14.7	15.3	15.6
	4H	14.8	15.4	15.1	15.7	16.0	14.9	15.5	15.2	15.8	16.1
	6H	14.9	15.4	15.3	15.8	16.1	15.1	15.6	15.5	15.9	16.3
	8H	14.9	15.4	15.3	15.7	16.1	15.1	15.6	15.5	15.9	16.3
	12H	14.9	15.3	15.3	15.7	16.1	15.1	15.5	15.5	15.9	16.3
8H	4H	14.9	15.4	15.3	15.7	16.1	15.0	15.5	15.4	15.8	16.2
	6H	15.1	15.5	15.5	15.9	16.3	15.2	15.6	15.7	16.0	16.4
	8H	15.1	15.4	15.5	15.8	16.3	15.3	15.6	15.7	16.0	16.5
	12H	15.1	15.4	15.5	15.8	16.3	15.2	15.5	15.7	16.0	16.4
12H	4H	14.9	15.3	15.3	15.7	16.0	15.0	15.4	15.4	15.8	16.1
	6H	15.0	15.4	15.5	15.8	16.2	15.2	15.5	15.6	16.0	16.4
	8H	15.1	15.3	15.5	15.8	16.3	15.2	15.5	15.7	16.0	16.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.6 / - 0.8					+ 0.5 / - 0.7					
1.5H	+ 1.1 / - 0.6					+ 0.9 / - 0.6					
2.0H	+ 0.9 / - 0.6					+ 0.7 / - 0.5					

CIE Pub.117, 2715 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.5$)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding Angle:

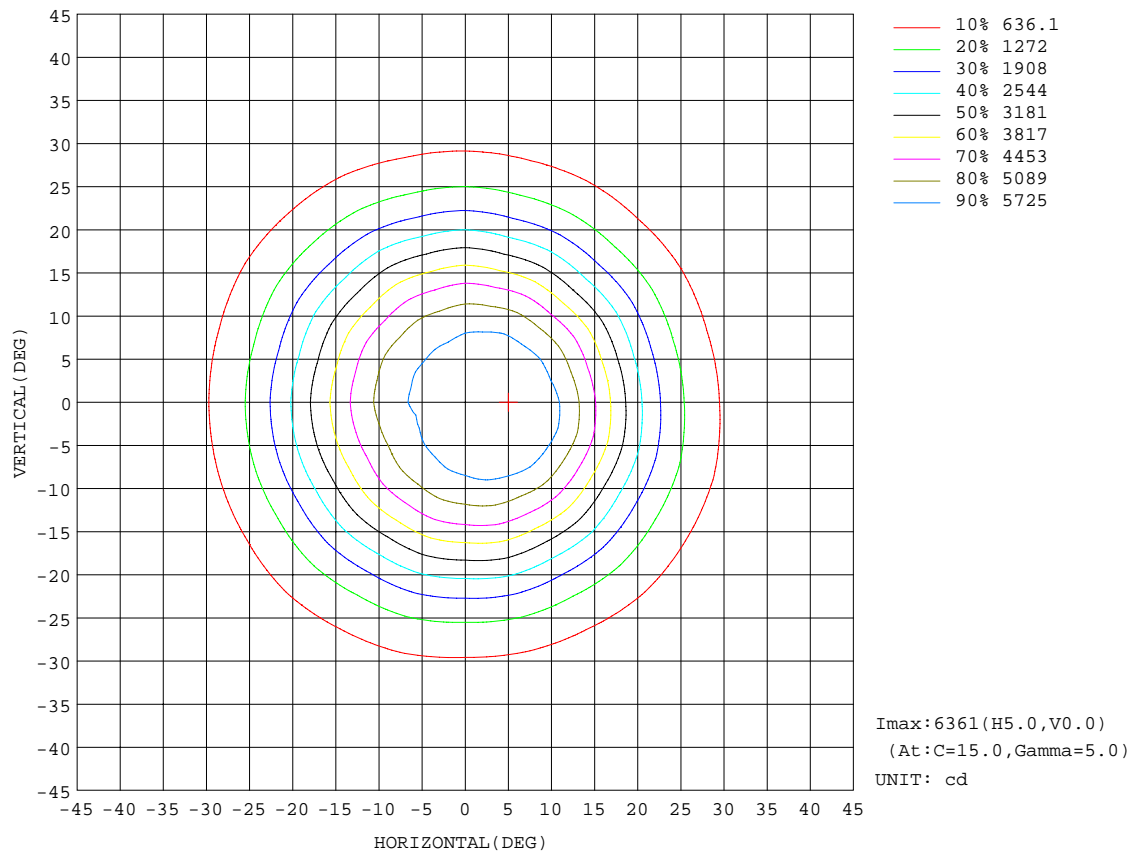
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	86	80	77	86	80	77	73
0.80	94	88	85	94	88	84	92	87	84	80
1.00	99	93	89	98	93	89	96	92	88	84
1.25	103	97	94	102	97	93	100	96	93	88
1.50	105	101	97	104	100	97	102	98	96	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	107	104	106	104	102	95
4.00	114	111	109	112	109	107	108	106	104	97
5.00	115	113	111	113	111	109	109	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding Angle:



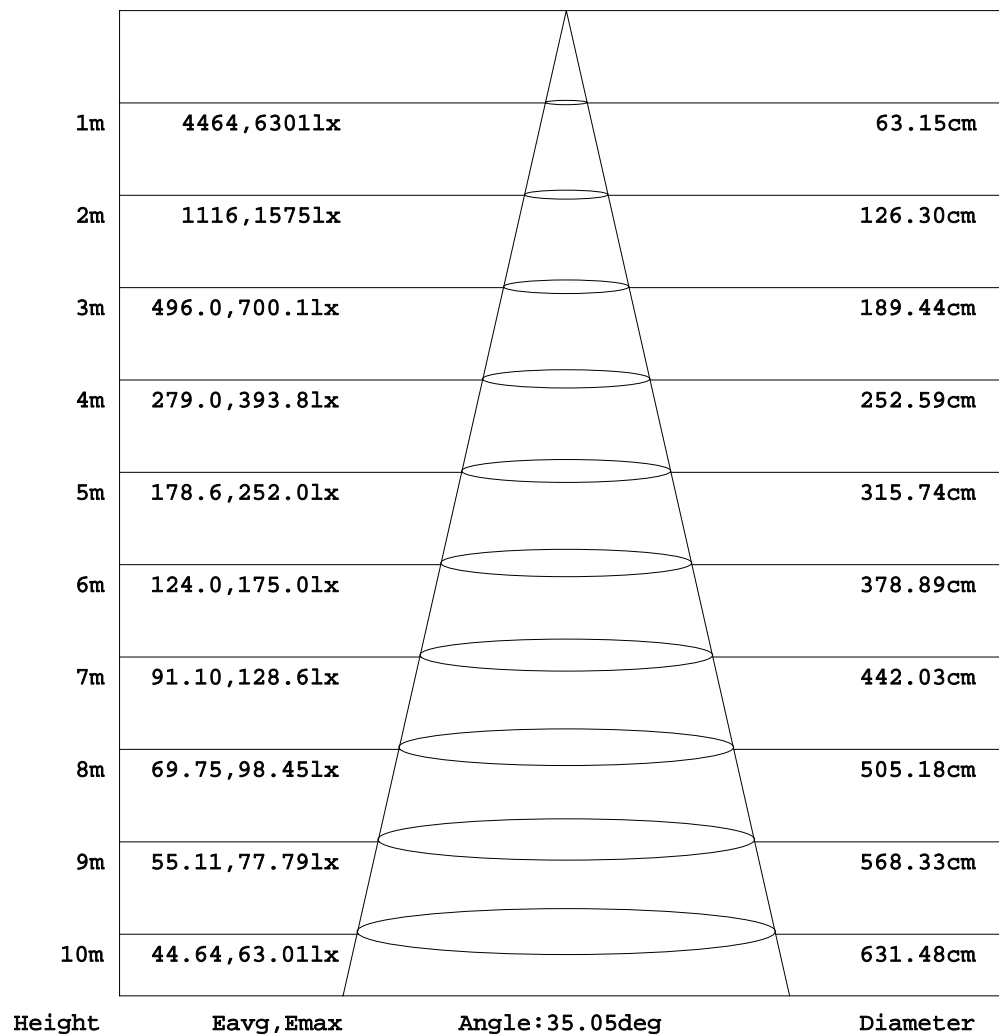
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WuXing
Test Date:2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

AAI Figure

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding Angle:

Flux out:1481 lm



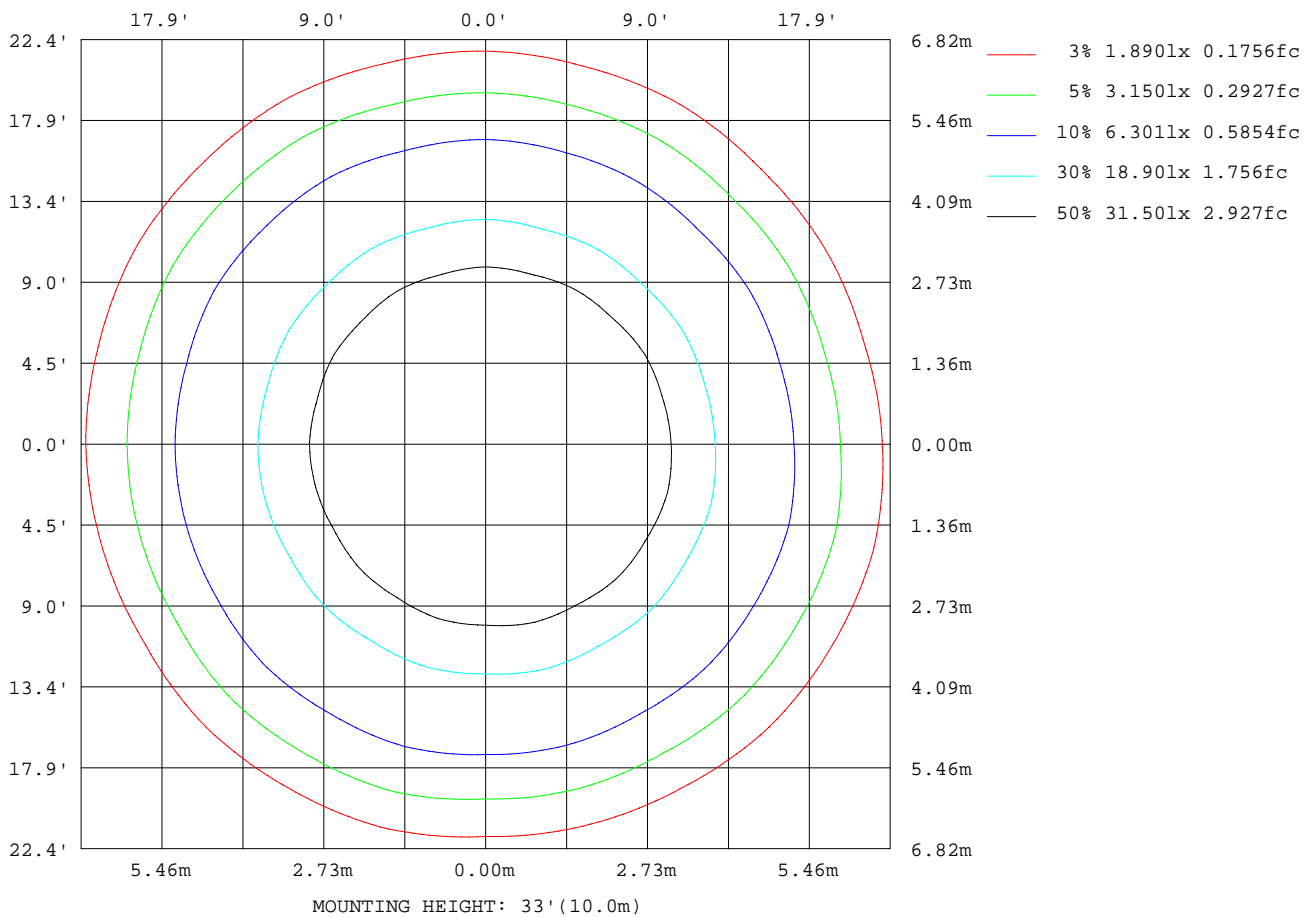
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WuXing
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity: 65.0%
 Test Distance: 7.240m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: WuXing
Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 7.240m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:225.4V I:0.1260A P:27.20W PF:0.9570 Freq:50.00Hz Lamp Flux:2714.85x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Rayconn	SUR.:	Shielding Angle:

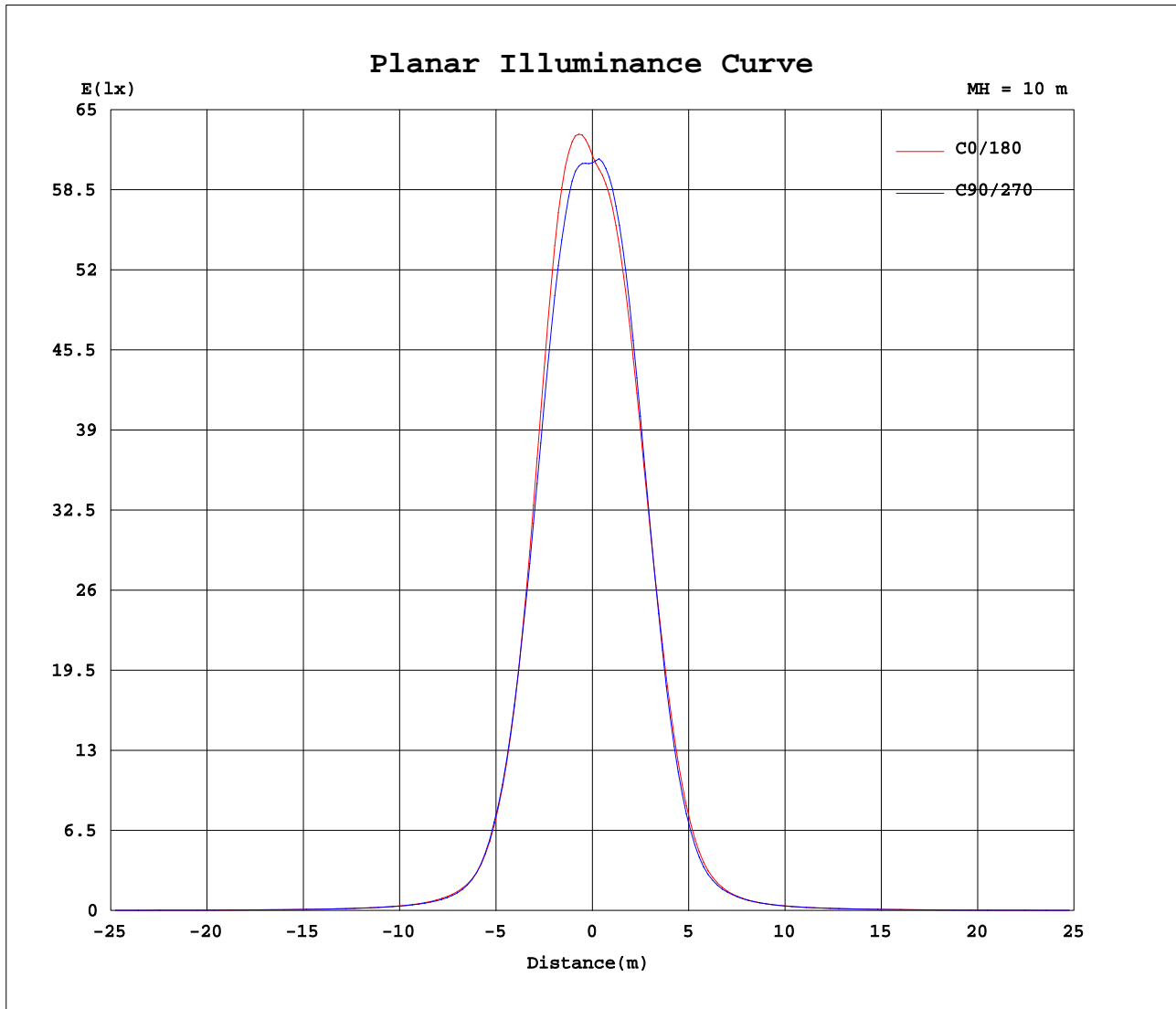
AvgL	cd/m2
L_0~180(65)av	11927
L_0~180(75)av	9455
L_0~180(85)av	3145
L_90~270(65)av	12026
L_90~270(75)av	9574
L_90~270(85)av	3180
L_45(65)av	12005
L_45(75)av	9521
L_45(85)av	3170

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WuXing
 Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
 Humidity: 65.0%
 Test Distance: 7.240m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: WuXing
Test Date: 2018-12-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 7.240m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

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