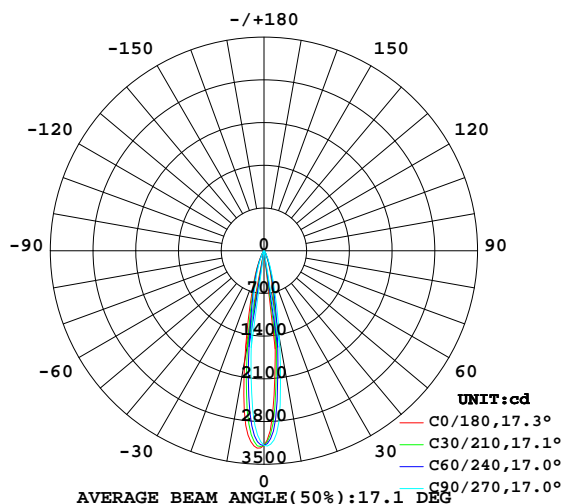


LUMINAIRE PHOTOMETRIC TEST REPORT

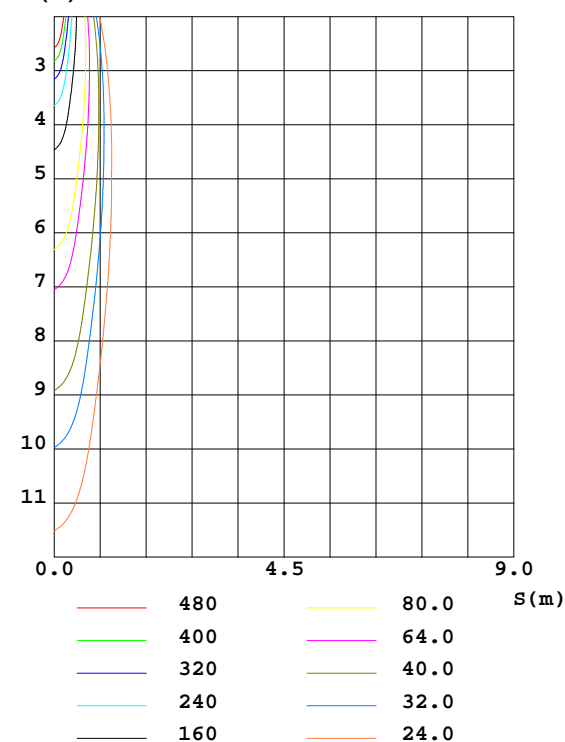
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 68.14 lm/W			
MODEL	M012-8W-827-S-15	Imax(cd)	3236	S/MH(C0/180)	0.23
NOMINAL POWER(W)	8	LOR(%)	100.0	S/MH(C90/270)	0.32
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	522.63	η UP,DN(C0-180)	1.2,49.6
NOMINAL FLUX(lm)	522.634	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.4,47.8
LAMPS INSIDE	1	η up(%)	2.6	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	226.4	η down(%)	97.4	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QiuMing
Test Date:2016-06-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.250m [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	966.7	1142	1475	1759	1821	1451	1104	978.9	0- 10	201.8	201.8	38.6,38.6
20	229.4	262.2	327.0	383.1	409.4	354.1	279.4	237.0	10- 20	182.0	383.8	73.4,73.4
30	58.25	66.31	81.00	87.75	87.42	73.34	63.25	58.97	20- 30	72.05	455.9	87.2,87.2
40	23.18	24.98	27.26	27.84	26.97	24.41	23.54	22.96	30- 40	26.29	482.2	92.3,92.3
50	10.76	10.90	11.72	11.45	11.07	10.48	10.38	10.66	40- 50	13.23	495.4	94.8,94.8
60	5.055	5.188	5.519	5.450	5.163	5.105	5.094	4.747	50- 60	6.850	502.2	96.1,96.1
70	2.188	2.267	2.516	2.667	2.492	2.393	2.228	2.073	60- 70	3.498	505.7	96.8,96.8
80	1.248	1.352	1.429	1.614	1.477	1.351	1.254	1.196	70- 80	1.937	507.7	97.1,97.1
90	0.8437	1.231	0.9251	1.202	1.100	1.264	1.089	1.295	80- 90	1.302	509.0	97.4,97.4
100	0.6708	0.9218	0.6814	0.8080	1.159	1.340	1.167	1.318	90-100	1.217	510.2	97.6,97.6
110	0.9606	1.116	0.8961	0.9715	1.232	1.391	1.237	1.410	100-110	1.149	511.3	97.8,97.8
120	1.360	1.566	1.254	1.357	1.416	1.647	1.495	1.773	110-120	1.309	512.6	98.1,98.1
130	2.375	2.546	2.039	2.135	2.054	2.439	2.335	2.735	120-130	1.689	514.3	98.4,98.4
140	3.532	3.760	3.305	3.452	3.246	3.635	3.482	3.790	130-140	2.303	516.6	98.9,98.9
150	4.065	4.224	3.971	4.093	3.992	4.150	4.056	4.169	140-150	2.437	519.1	99.3,99.3
160	4.288	4.363	4.259	4.320	4.286	4.332	4.284	4.321	150-160	1.956	521.0	99.7,99.7
170	4.095	4.159	4.225	4.255	4.258	4.238	4.200	4.101	160-170	1.215	522.2	99.9,99.9
180	3.964	3.993	4.002	3.949	3.979	4.005	3.996	3.946	170-180	0.3889	522.6	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

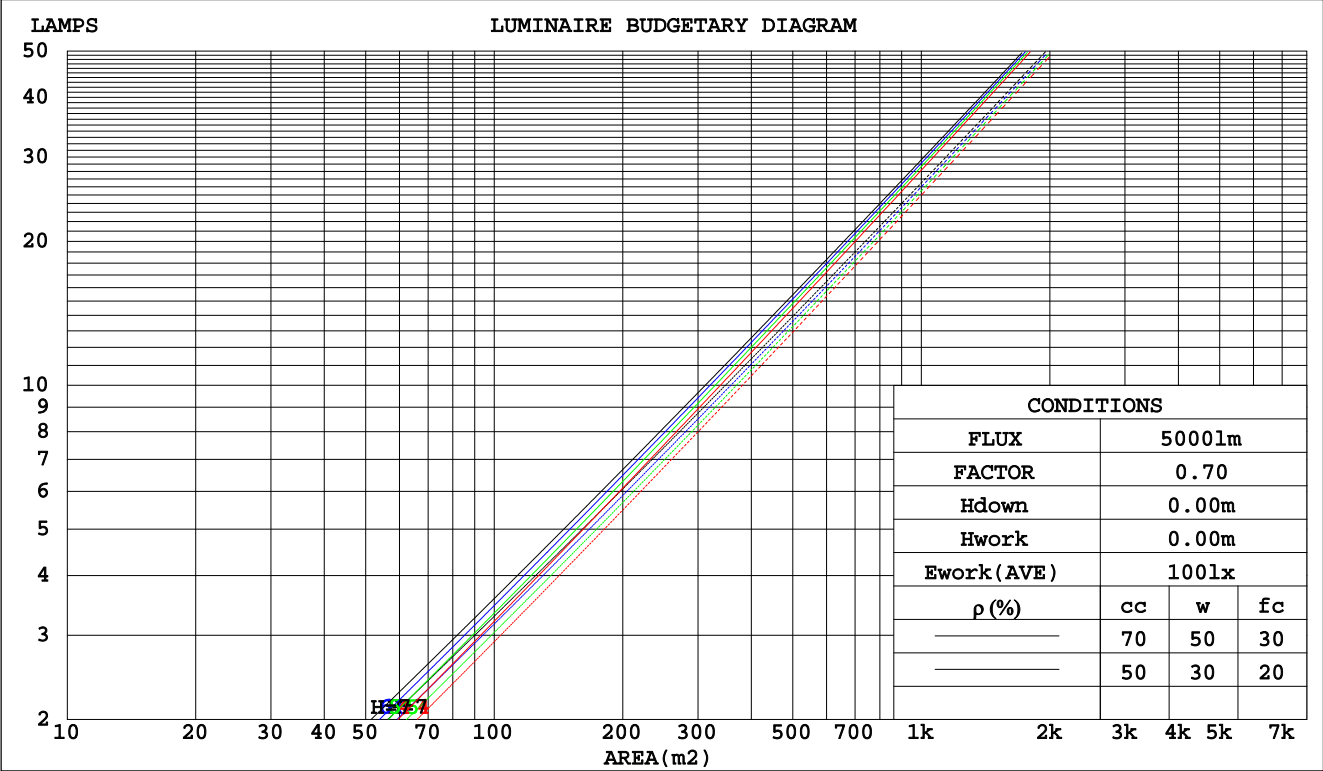
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QiuMing
Test Date:2016-06-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.250m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

pcc	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															
	Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.04	1.04	1.04	.00	.00	.00	.97
1.0	1.12	1.10	1.08	1.09	1.07	1.06	1.05	1.03	1.02	1.01	.00	.99	.97	.96	.95	.93
2.0	1.06	1.03	.00	1.04	1.01	.99	1.00	.98	.96	.97	.95	.94	.94	.93	.91	.90
3.0	1.01	.97	.94	.99	.96	.93	.97	.94	.91	.94	.92	.90	.91	.90	.88	.87
4.0	.97	.92	.89	.95	.92	.89	.93	.90	.87	.91	.88	.86	.89	.87	.85	.84
5.0	.93	.89	.85	.92	.88	.85	.90	.87	.84	.88	.85	.83	.86	.84	.82	.81
6.0	.90	.85	.82	.89	.85	.82	.87	.84	.81	.86	.83	.80	.84	.82	.79	.78
7.0	.87	.82	.79	.86	.82	.79	.84	.81	.78	.83	.80	.78	.82	.79	.77	.76
8.0	.84	.79	.76	.83	.79	.76	.82	.78	.76	.81	.78	.75	.80	.77	.75	.74
9.0	.81	.77	.74	.81	.77	.74	.80	.76	.74	.79	.76	.73	.78	.75	.73	.72
10.0	.79	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.71	.76	.73	.71	.70



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QiuMing
Test Date:2016-06-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.250m [K=1.0000]
Remarks:

WEC AND CCEC

NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	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	.148 .084 .027	.141 .080 .026	.127 .073 .023	.114 .066 .021	.102 .059 .019	
2.0	.137 .075 .023	.131 .072 .022	.119 .066 .021	.108 .061 .019	.099 .056 .018	
3.0	.127 .068 .020	.122 .065 .020	.112 .061 .018	.103 .056 .017	.095 .052 .016	
4.0	.119 .062 .018	.114 .060 .018	.106 .056 .017	.098 .053 .016	.091 .049 .015	
5.0	.112 .057 .016	.108 .055 .016	.100 .052 .015	.093 .049 .015	.087 .047 .014	
6.0	.105 .053 .015	.102 .051 .015	.095 .049 .014	.089 .046 .014	.084 .044 .013	
7.0	.099 .049 .014	.096 .048 .014	.091 .046 .013	.085 .044 .013	.080 .042 .012	
8.0	.094 .046 .013	.092 .045 .013	.087 .043 .012	.082 .041 .012	.077 .040 .012	
9.0	.090 .043 .012	.087 .043 .012	.083 .041 .012	.079 .039 .011	.075 .038 .011	
10.0	.086 .041 .011	.083 .040 .011	.079 .039 .011	.076 .038 .011	.072 .036 .010	

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	.210 .210 .210	.180 .180 .180	.123 .123 .123	.071 .071 .071	.023 .023 .023	
1.0	.189 .178 .167	.162 .152 .144	.111 .105 .100	.064 .061 .058	.020 .020 .019	
2.0	.172 .153 .137	.147 .132 .118	.101 .091 .083	.058 .053 .048	.019 .017 .016	
3.0	.157 .134 .115	.135 .115 .100	.093 .080 .070	.053 .047 .041	.017 .015 .013	
4.0	.145 .118 .098	.125 .102 .085	.086 .071 .060	.050 .042 .036	.016 .014 .012	
5.0	.135 .106 .085	.116 .092 .074	.080 .064 .052	.046 .038 .031	.015 .012 .010	
6.0	.126 .097 .075	.108 .084 .066	.075 .059 .046	.043 .034 .028	.014 .011 .009	
7.0	.118 .088 .067	.102 .077 .059	.070 .054 .042	.041 .032 .025	.013 .010 .008	
8.0	.112 .082 .061	.096 .071 .053	.067 .050 .038	.039 .029 .022	.013 .010 .007	
9.0	.106 .076 .056	.091 .066 .049	.063 .046 .035	.037 .027 .021	.012 .009 .007	
10.0	.101 .071 .052	.087 .062 .045	.060 .044 .032	.035 .026 .019	.011 .008 .006	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QiuMing
Test Date:2016-06-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.250m [K=1.0000]
Remarks:

Uncorrected UGR Table

NAME:						TYPE:					WEIGHT:				
DIM.:						SPEC.:					SERIAL No.:				
MFR.: Rayconn						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	13.5	14.2	13.7	14.4	14.6	14.0	14.7	14.3	14.9	15.1					
3H	13.8	14.4	14.0	14.6	14.9	14.3	15.0	14.6	15.2	15.4					
4H	13.9	14.5	14.2	14.8	15.0	14.5	15.1	14.8	15.4	15.6					
6H	14.1	14.7	14.4	14.9	15.2	14.7	15.3	15.1	15.6	15.9					
8H	14.2	14.8	14.6	15.1	15.4	14.9	15.4	15.2	15.7	16.0					
12H	14.4	14.9	14.7	15.2	15.5	15.0	15.6	15.4	15.9	16.2					
4H 2H	13.6	14.2	13.9	14.4	14.7	14.1	14.7	14.4	14.9	15.2					
3H	14.0	14.5	14.3	14.8	15.1	14.5	15.0	14.8	15.3	15.6					
4H	14.2	14.7	14.6	15.1	15.4	14.8	15.3	15.2	15.6	15.9					
6H	14.5	14.9	14.9	15.3	15.7	15.1	15.6	15.5	15.9	16.3					
8H	14.7	15.1	15.1	15.5	15.9	15.3	15.7	15.8	16.1	16.5					
12H	15.0	15.4	15.4	15.8	16.2	15.6	16.0	16.1	16.4	16.8					
8H 4H	14.3	14.7	14.7	15.1	15.5	14.8	15.2	15.2	15.6	16.0					
6H	14.7	15.1	15.2	15.5	16.0	15.3	15.6	15.8	16.1	16.5					
8H	15.0	15.3	15.5	15.8	16.3	15.6	15.9	16.1	16.4	16.9					
12H	15.5	15.7	16.0	16.2	16.7	16.1	16.3	16.6	16.8	17.3					
12H 4H	14.3	14.7	14.7	15.1	15.5	14.8	15.2	15.2	15.6	16.0					
6H	14.8	15.1	15.3	15.5	16.0	15.3	15.6	15.8	16.1	16.6					
8H	15.1	15.4	15.7	15.9	16.4	15.7	16.0	16.2	16.4	17.0					
Variations with the observer position at spacings:															
S = 1.0H	+ 0.8 / - 1.1					+ 1.0 / - 1.1									
1.5H	+ 1.2 / - 0.8					+ 1.7 / - 0.9									
2.0H	+ 1.4 / - 0.9					+ 1.8 / - 1.0									

CIE Pub.117 Corrected 522.6 lm Total Lamp Luminous Flux.(8log(F/F0) = -2.3)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QiuMing
Test Date:2016-06-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.250m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

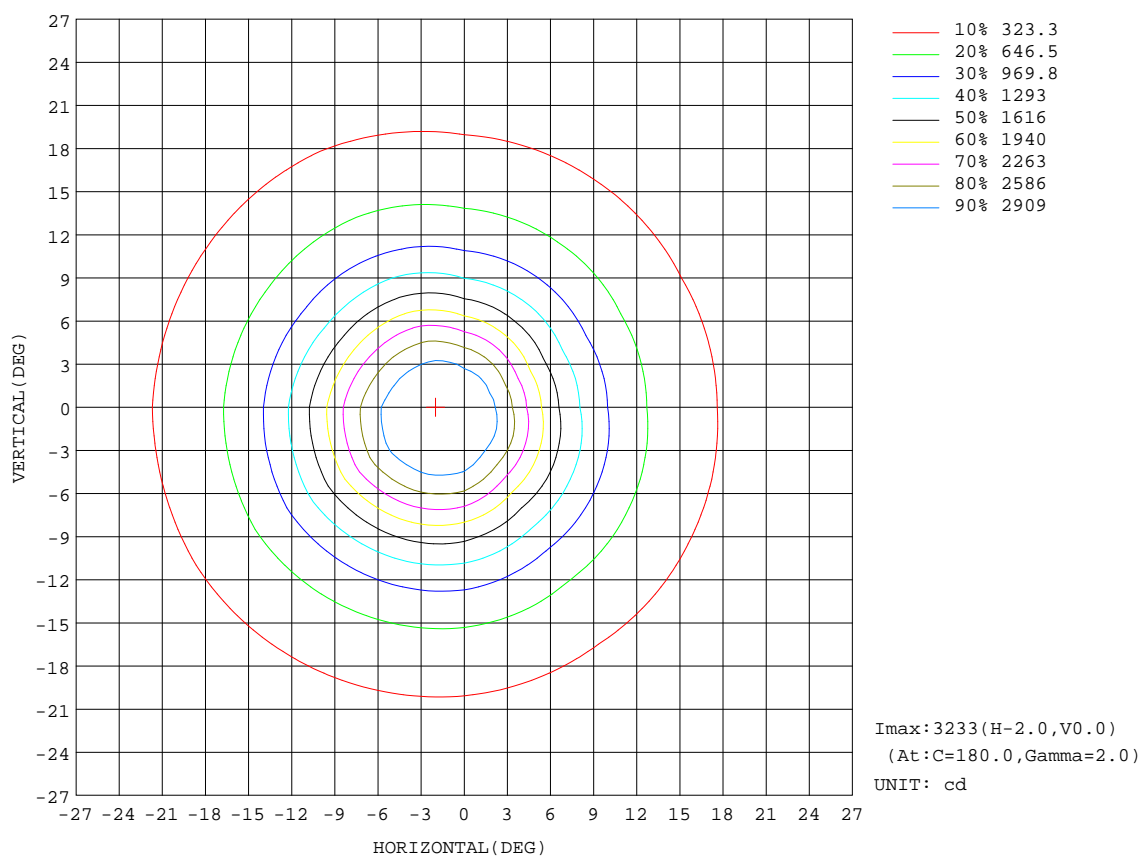
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	87	80	77	86	80	77	85	80	76	73
0.80	94	88	84	93	88	84	92	87	84	80
1.00	98	93	89	97	92	89	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	87
1.50	105	100	97	104	99	96	101	97	95	90
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	107	104	101	104	101	99	93
3.00	111	107	105	109	106	103	105	103	101	94
4.00	113	110	108	111	108	106	107	105	103	95
5.00	114	112	110	112	110	108	107	106	105	96
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNOM = 1.25										

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: QiuMing
Test Date: 2016-06-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.250m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:



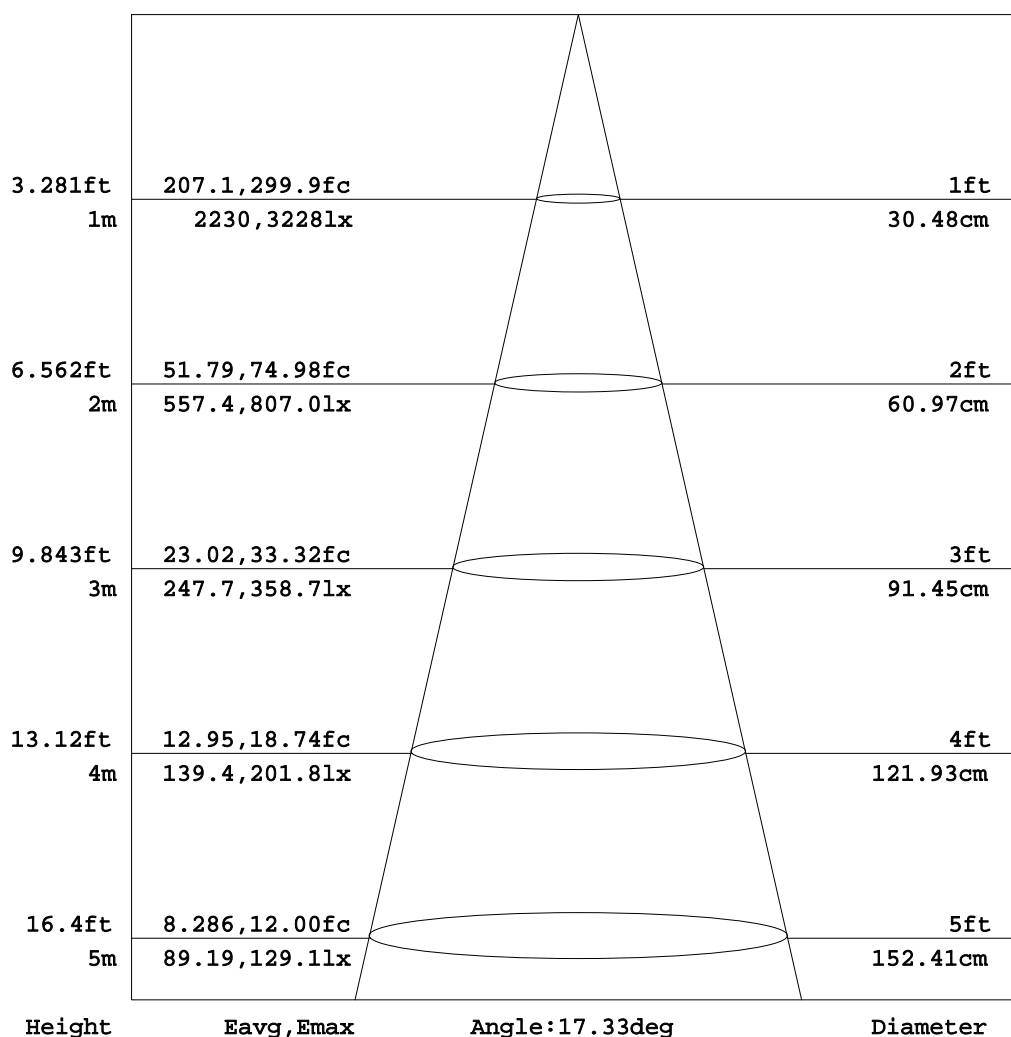
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: QiuMing
Test Date: 2016-06-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.250m [K=1.0000]
Remarks:

AAI Figure

NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

Flux out:175.7 lm



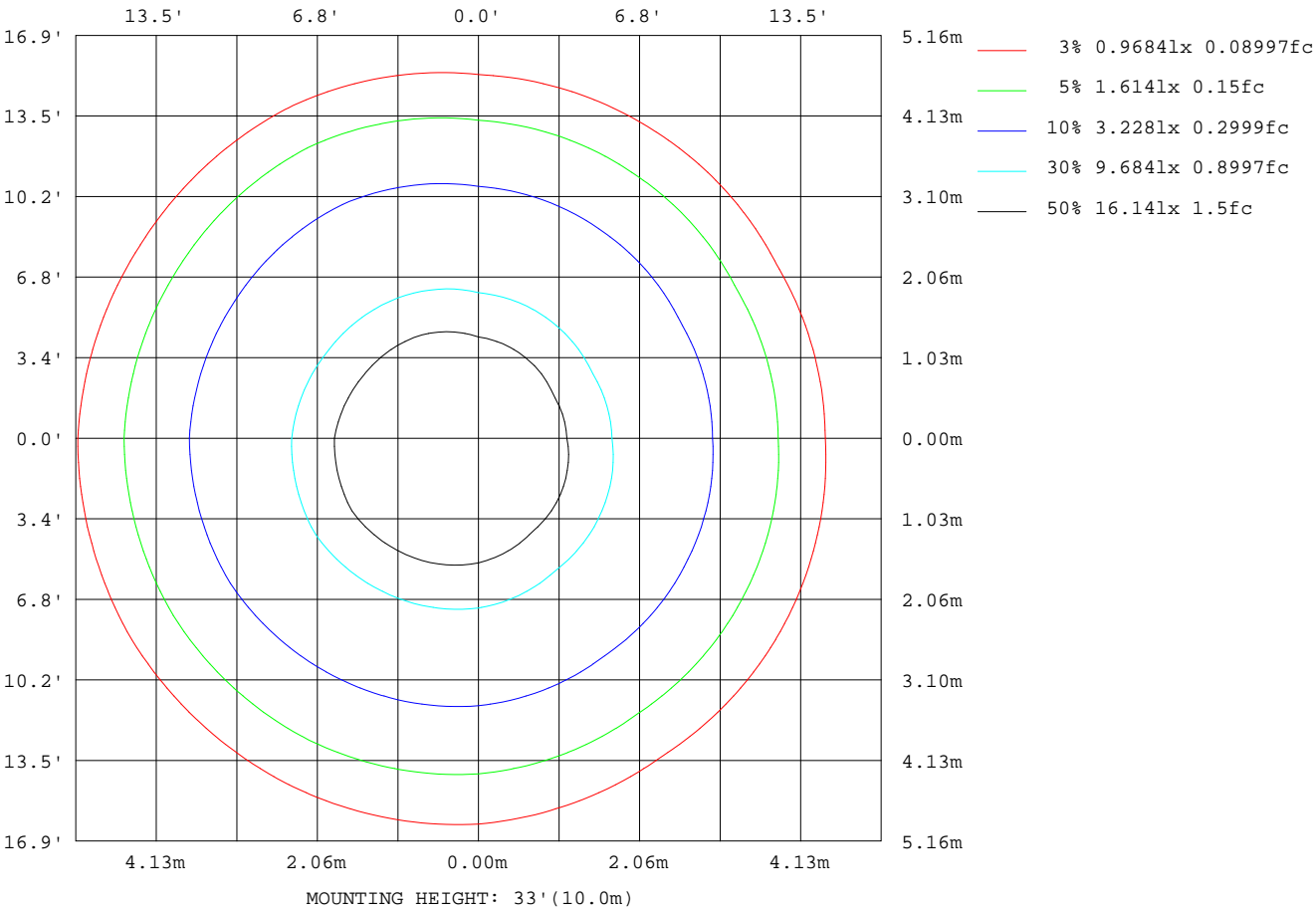
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: QiuMing
Test Date: 2016-06-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.250m [K=1.0000]
Remarks:

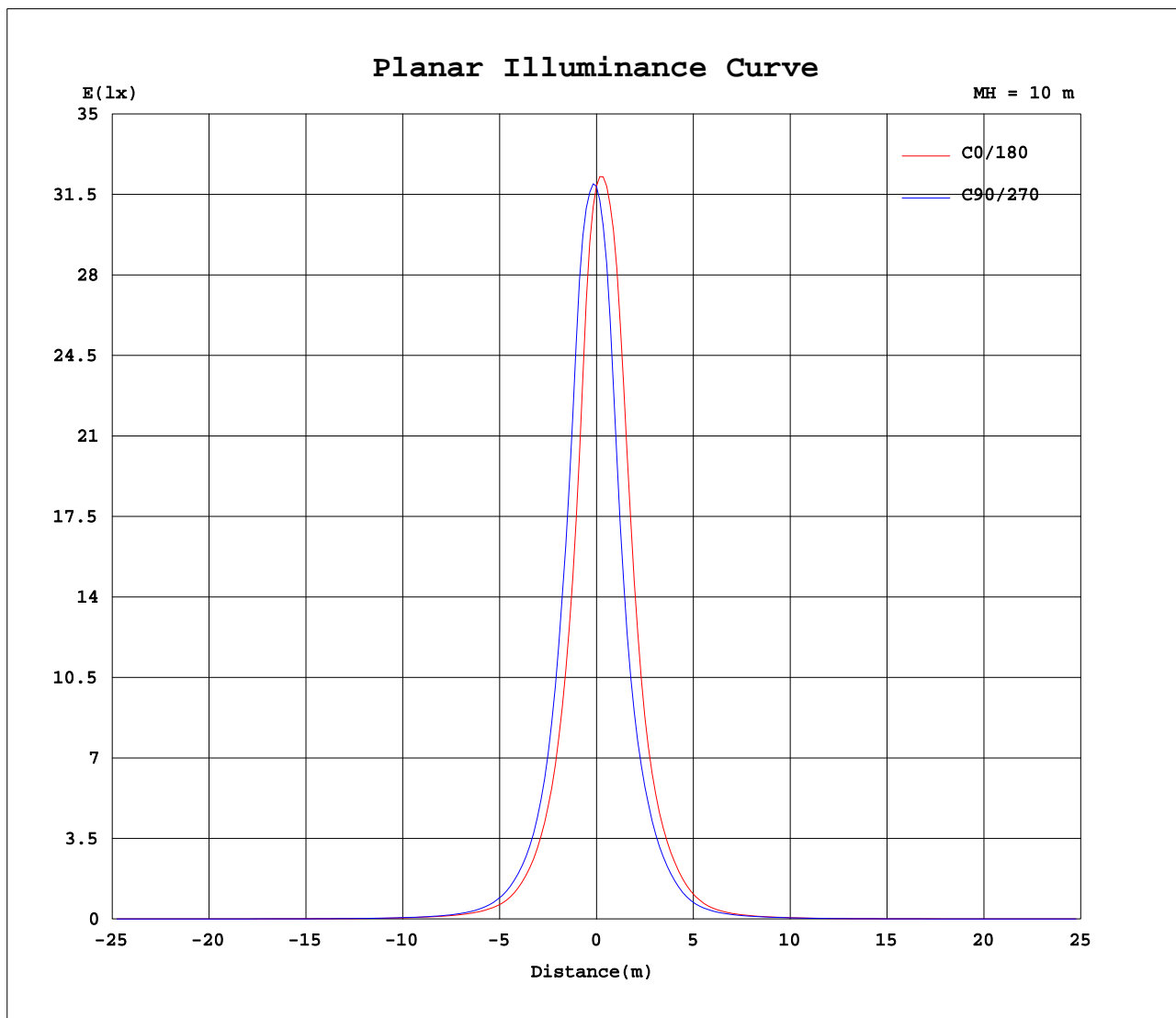
ISOLUX DIAGRAM

NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 30.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Temperature: 25.3DEG	Humidity: 65.0%
Operators: QiuMing	Test Distance: 6.250m [K=1.0000]
Test Date: 2016-06-29	Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: QiuMing
Test Date: 2016-06-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.250m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	3189	3189	3189	3189	3189	3189	3189	3189	3189	3189	3189	3189							
5	2046	2237	2468	2814	2977	3074	3032	2856	2664	2339	2163	2011							
10	967	1073	1211	1475	1664	1854	1821	1544	1358	1104	1017	941							
15	466	507	573	678	759	848	832	732	660	557	500	459							
20	229	249	276	327	364	403	409	370	339	279	249	225							
25	109	122	134	162	180	193	194	174	157	130	116	107							
30	58.3	63.3	69.3	81.0	85.7	89.8	87.4	76.7	70.0	63.3	59.9	58.1							
35	35.6	38.0	40.2	44.5	45.9	47.0	45.0	40.0	37.7	36.1	34.8	35.1							
40	23.2	24.5	25.4	27.3	27.9	27.8	27.0	24.7	24.2	23.5	22.9	23.0							
45	15.7	16.4	17.4	18.4	18.5	17.8	17.6	17.2	16.9	16.0	15.4	15.9							
50	10.8	10.7	11.1	11.7	11.6	11.3	11.1	10.5	10.4	10.4	10.4	10.9							
55	7.83	7.36	7.59	7.88	7.80	7.49	7.25	7.13	7.23	7.32	7.48	8.00							
60	5.06	5.09	5.28	5.52	5.52	5.38	5.16	5.07	5.14	5.09	4.89	4.60							
65	3.16	3.31	3.55	3.78	3.84	3.86	3.66	3.59	3.56	3.30	3.05	2.94							
70	2.19	2.23	2.31	2.52	2.62	2.72	2.49	2.44	2.35	2.23	2.10	2.05							
75	1.74	1.78	1.86	1.98	2.06	2.08	1.89	1.88	1.78	1.70	1.63	1.63							
80	1.25	1.29	1.41	1.43	1.56	1.66	1.48	1.40	1.30	1.25	1.19	1.20							
85	1.02	1.11	1.21	1.11	1.29	1.26	1.18	1.19	1.20	1.10	1.09	1.15							
90	0.84	1.06	1.40	0.93	1.30	1.10	1.10	1.17	1.36	1.09	1.32	1.27							
95	0.70	0.89	1.43	0.77	1.16	0.94	1.13	1.23	1.45	1.11	1.44	1.27							
100	0.67	0.76	1.08	0.68	0.85	0.76	1.16	1.20	1.48	1.17	1.40	1.24							
105	0.79	0.86	1.06	0.74	0.87	0.77	1.19	1.20	1.58	1.18	1.43	1.26							
110	0.96	1.03	1.20	0.90	1.04	0.91	1.23	1.26	1.52	1.24	1.49	1.33							
115	1.11	1.21	1.37	1.06	1.23	1.06	1.30	1.34	1.61	1.33	1.63	1.46							
120	1.36	1.49	1.65	1.25	1.46	1.26	1.42	1.49	1.80	1.49	1.87	1.68							
125	1.76	1.89	2.05	1.55	1.79	1.55	1.64	1.76	2.17	1.81	2.28	2.07							
130	2.37	2.47	2.62	2.04	2.27	2.01	2.05	2.21	2.67	2.34	2.82	2.65							
135	3.04	3.14	3.28	2.70	2.90	2.65	2.64	2.80	3.28	2.96	3.37	3.26							
140	3.53	3.71	3.81	3.30	3.57	3.33	3.25	3.37	3.90	3.48	3.84	3.74							
145	3.85	4.00	4.12	3.71	3.99	3.78	3.70	3.78	4.15	3.83	4.02	4.00							
150	4.06	4.20	4.25	3.97	4.17	4.02	3.99	4.03	4.27	4.06	4.15	4.19							
155	4.21	4.32	4.33	4.14	4.28	4.19	4.17	4.19	4.34	4.20	4.25	4.28							
160	4.29	4.35	4.37	4.26	4.34	4.30	4.29	4.28	4.39	4.28	4.30	4.35							
165	4.27	4.25	4.28	4.28	4.31	4.31	4.31	4.32	4.37	4.30	4.25	4.25							
170	4.10	4.12	4.20	4.22	4.26	4.25	4.26	4.25	4.22	4.20	4.12	4.08							
175	3.86	3.92	4.03	4.06	4.09	4.07	4.11	4.10	4.05	4.00	3.92	3.85							
180	3.96	3.99	4.00	4.00	3.97	3.93	3.98	4.00	4.01	4.00	3.97	3.93							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QiuMing
Test Date:2016-06-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.250m [K=1.0000]
Remarks: