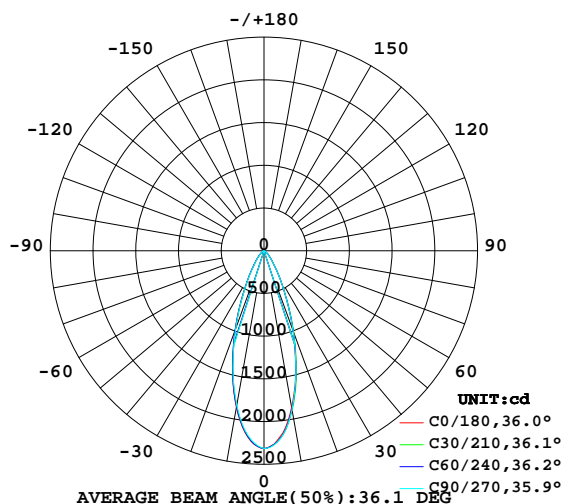


LUMINAIRE PHOTOMETRIC TEST REPORT

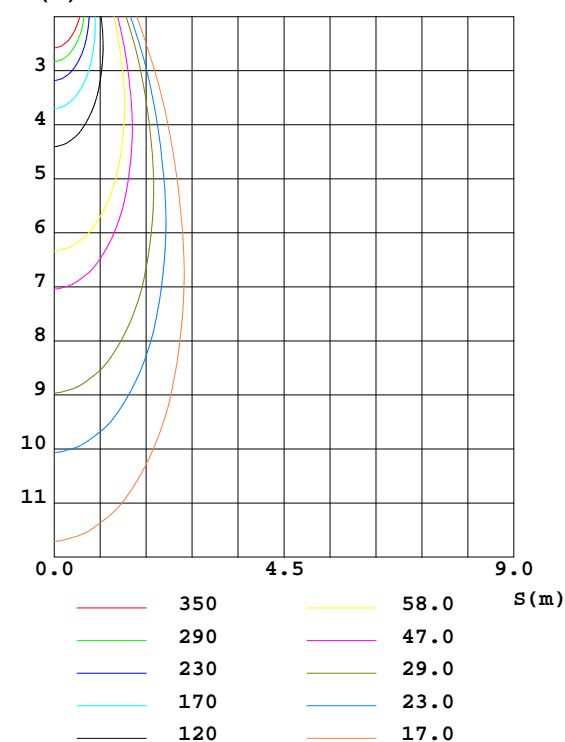
Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.00 lm/W			
MODEL	M032-11W-840-S-38	Imax(cd)	2316	S/MH(C0/180)	0.59
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.59
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	1166.0	η UP,DN(C0-180)	1.2,48.9
NOMINAL FLUX(lm)	1166	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.4,48.5
LAMPS INSIDE	1	η up(%)	2.6	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	226.4	η down(%)	97.4	CIBSE SHR MAX	0.60

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:ZhangXiao
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.590m [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	1863	1890	1889	1863	1864	1849	1838	1853	0- 10	198.5	198.5	17,17
20	992.9	1012	1001	973.0	988.5	984.0	973.5	983.3	10- 20	390.5	589.0	50.5,50.5
30	370.1	377.7	369.7	358.8	362.2	363.6	358.3	362.3	20- 30	285.9	874.9	75,75
40	129.5	136.9	128.9	124.8	129.3	135.5	128.6	129.3	30- 40	138.3	1013	86.9,86.9
50	48.90	52.76	48.03	47.06	50.93	50.66	48.53	49.54	40- 50	64.34	1078	92.4,92.4
60	21.89	22.29	22.40	20.88	21.87	22.57	22.20	21.43	50- 60	29.12	1107	94.9,94.9
70	11.43	11.23	11.53	10.97	11.61	11.21	11.43	11.15	60- 70	15.87	1123	96.3,96.3
80	5.244	6.806	5.428	6.369	5.432	7.068	5.481	6.625	70- 80	8.873	1131	97,97
90	2.103	2.358	2.268	2.436	2.538	2.773	2.669	2.794	80- 90	4.267	1136	97.4,97.4
100	2.076	2.404	2.234	2.486	2.745	3.015	2.846	3.042	90-100	2.798	1138	97.6,97.6
110	2.474	2.833	2.617	2.943	3.140	3.479	3.234	3.412	100-110	2.988	1141	97.9,97.9
120	3.488	3.705	3.602	3.840	3.979	4.252	4.063	4.136	110-120	3.422	1145	98.2,98.2
130	5.057	5.166	5.154	5.278	5.398	5.524	5.468	5.448	120-130	4.106	1149	98.5,98.5
140	6.806	6.873	6.891	6.970	7.049	7.098	7.105	7.083	130-140	4.753	1154	98.9,98.9
150	8.181	8.279	8.259	8.372	8.360	8.451	8.395	8.468	140-150	4.836	1159	99.4,99.4
160	8.828	8.837	8.849	8.850	8.965	8.952	8.929	8.936	150-160	4.023	1163	99.7,99.7
170	8.895	8.913	8.918	8.899	9.007	8.982	8.959	8.972	160-170	2.533	1165	99.9,99.9
180	9.090	9.106	9.092	9.080	9.121	9.106	9.085	9.081	170-180	0.8560	1166	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

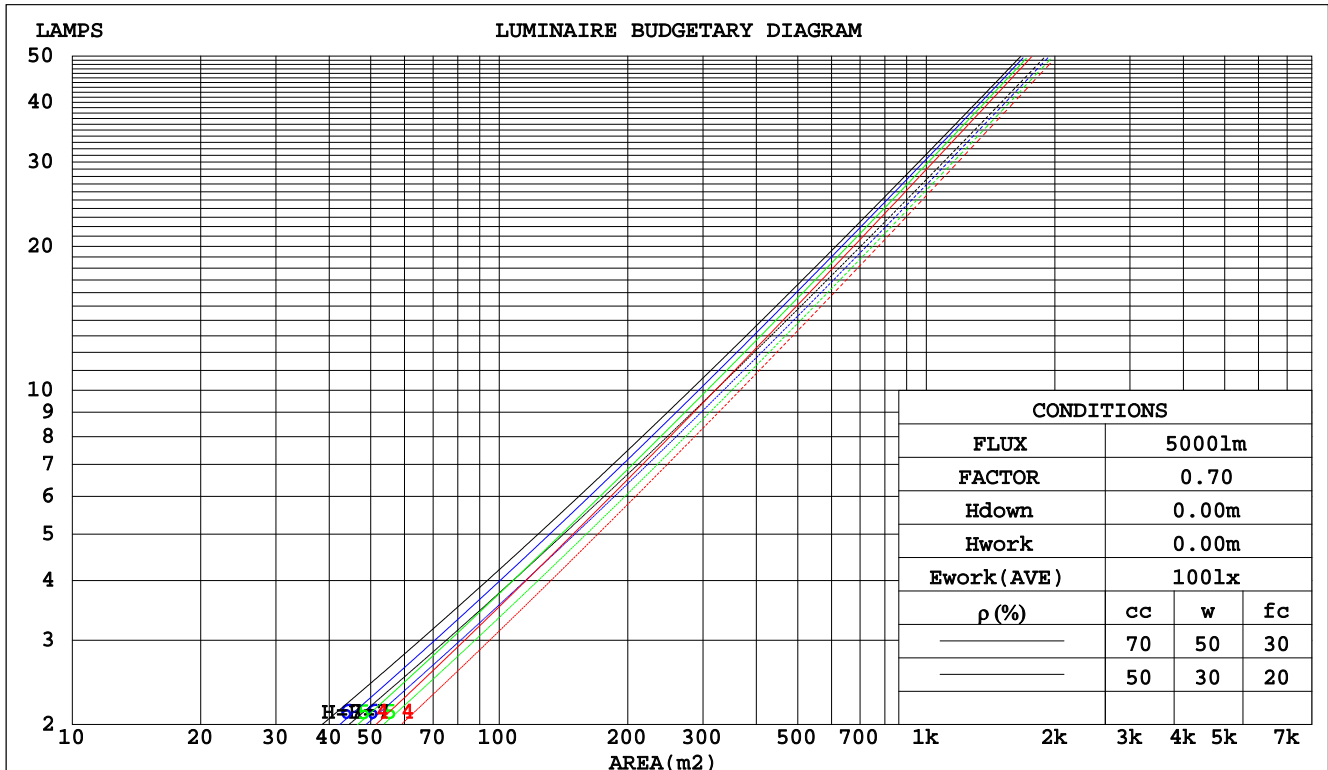
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZhangXiao
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.590m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm		
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						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	1.10	1.08	1.05	1.08	1.05	1.03	1.03	1.01	.00	.99	.98	.96	.95	.94	.93	.91
2.0	1.03	.99	.95	1.01	.97	.94	.97	.94	.91	.94	.91	.89	.91	.89	.87	.85
3.0	.96	.91	.87	.94	.90	.86	.91	.88	.85	.89	.86	.83	.86	.84	.81	.80
4.0	.90	.85	.81	.89	.84	.80	.86	.82	.79	.84	.81	.78	.82	.79	.77	.75
5.0	.85	.79	.75	.84	.79	.75	.82	.77	.74	.80	.76	.73	.78	.75	.72	.71
6.0	.80	.75	.71	.79	.74	.70	.78	.73	.70	.76	.72	.69	.75	.71	.68	.67
7.0	.76	.71	.67	.75	.70	.66	.74	.69	.66	.73	.68	.65	.71	.68	.65	.63
8.0	.73	.67	.63	.72	.67	.63	.71	.66	.62	.69	.65	.62	.68	.64	.62	.60
9.0	.69	.64	.60	.69	.63	.60	.67	.63	.59	.66	.62	.59	.65	.62	.59	.57
10.0	.66	.61	.57	.66	.60	.57	.65	.60	.57	.64	.59	.56	.63	.59	.56	.55



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZhangXiao
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.590m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0	
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
p _{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.180	.102	.032	.173	.098	.031	.158	.091	.029	.145	.084	.027	.134	.077	.025		
2.0	.169	.093	.028	.163	.090	.028	.151	.084	.026	.140	.079	.025	.130	.073	.023		
3.0	.159	.085	.025	.154	.082	.025	.144	.078	.024	.134	.074	.023	.125	.069	.021		
4.0	.150	.078	.023	.145	.076	.023	.137	.072	.022	.128	.069	.021	.121	.065	.020		
5.0	.142	.072	.021	.138	.071	.021	.130	.068	.020	.123	.065	.019	.116	.062	.019		
6.0	.134	.067	.019	.131	.066	.019	.124	.063	.018	.117	.061	.018	.111	.059	.017		
7.0	.128	.063	.018	.124	.062	.018	.118	.060	.017	.113	.058	.017	.107	.056	.016		
8.0	.122	.059	.017	.119	.058	.017	.113	.057	.016	.108	.055	.016	.103	.053	.015		
9.0	.116	.056	.016	.113	.055	.016	.108	.054	.015	.104	.052	.015	.099	.050	.015		
10.0	.111	.053	.015	.109	.052	.015	.104	.051	.014	.100	.050	.014	.096	.048	.014		

pcc	80%			70%			50%			30%			10%			0	
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
p _{fc}	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	.070	.070	.070	.023	.023	.023		
1.0	.191	.177	.165	.164	.152	.142	.112	.105	.098	.064	.061	.057	.021	.019	.018		
2.0	.176	.153	.133	.151	.131	.115	.103	.091	.080	.060	.053	.047	.019	.017	.015		
3.0	.163	.134	.110	.140	.115	.095	.096	.080	.067	.056	.047	.039	.018	.015	.013		
4.0	.153	.119	.093	.131	.103	.081	.090	.072	.057	.052	.042	.034	.017	.014	.011		
5.0	.144	.107	.081	.123	.093	.070	.085	.065	.050	.049	.038	.029	.016	.012	.010		
6.0	.136	.098	.071	.117	.085	.062	.081	.059	.044	.047	.035	.026	.015	.011	.009		
7.0	.129	.090	.063	.111	.078	.055	.077	.055	.039	.045	.032	.023	.014	.011	.008		
8.0	.123	.084	.057	.106	.073	.050	.073	.051	.036	.043	.030	.021	.014	.010	.007		
9.0	.118	.079	.053	.101	.068	.046	.070	.048	.033	.041	.028	.019	.013	.009	.006		
10.0	.113	.074	.049	.097	.065	.043	.068	.045	.030	.039	.027	.018	.013	.009	.006		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZhangXiao
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.590m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm											
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	2H	22.1	23.0	22.4	23.2	23.4	22.0	22.9	22.2	23.1	23.3
	3H	22.4	23.2	22.7	23.4	23.7	22.2	23.1	22.5	23.3	23.5
	4H	22.5	23.3	22.8	23.5	23.8	22.4	23.1	22.7	23.4	23.7
	6H	22.6	23.3	22.9	23.6	23.9	22.5	23.3	22.9	23.5	23.8
	8H	22.6	23.3	23.0	23.6	23.9	22.6	23.3	22.9	23.6	23.9
	12H	22.7	23.3	23.0	23.7	24.0	22.7	23.3	23.0	23.6	24.0
4H	2H	22.1	22.9	22.4	23.1	23.4	22.0	22.8	22.3	23.0	23.3
	3H	22.5	23.1	22.8	23.5	23.8	22.4	23.0	22.7	23.3	23.7
	4H	22.7	23.3	23.1	23.6	24.0	22.6	23.2	23.0	23.5	23.9
	6H	22.9	23.4	23.3	23.8	24.2	22.9	23.5	23.4	23.9	24.3
	8H	23.0	23.5	23.4	23.9	24.3	23.1	23.6	23.5	24.0	24.4
	12H	23.1	23.5	23.5	23.9	24.4	23.2	23.7	23.6	24.1	24.5
8H	4H	22.7	23.2	23.2	23.6	24.0	22.7	23.2	23.1	23.6	24.0
	6H	23.0	23.4	23.5	23.9	24.3	23.2	23.6	23.7	24.1	24.5
	8H	23.2	23.5	23.7	24.0	24.5	23.5	23.8	24.0	24.3	24.8
	12H	23.3	23.6	23.8	24.1	24.7	23.7	24.0	24.2	24.5	25.0
12H	4H	22.7	23.2	23.2	23.6	24.0	22.6	23.1	23.1	23.5	24.0
	6H	23.1	23.4	23.6	23.9	24.4	23.2	23.6	23.7	24.1	24.6
	8H	23.3	23.6	23.8	24.1	24.6	23.6	23.9	24.1	24.4	24.9
Variations with the observer position at spacings:											
S = 1.0H	+ 1.1 / - 1.6					+ 1.0 / - 1.4					
1.5H	+ 1.9 / - 1.4					+ 1.8 / - 1.2					
2.0H	+ 2.2 / - 1.2					+ 1.8 / - 0.9					

CIE Pub.117 Corrected 1166 lm Total Lamp Luminous Flux.(8log(F/F0) = 0.5)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZhangXiao
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.590m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

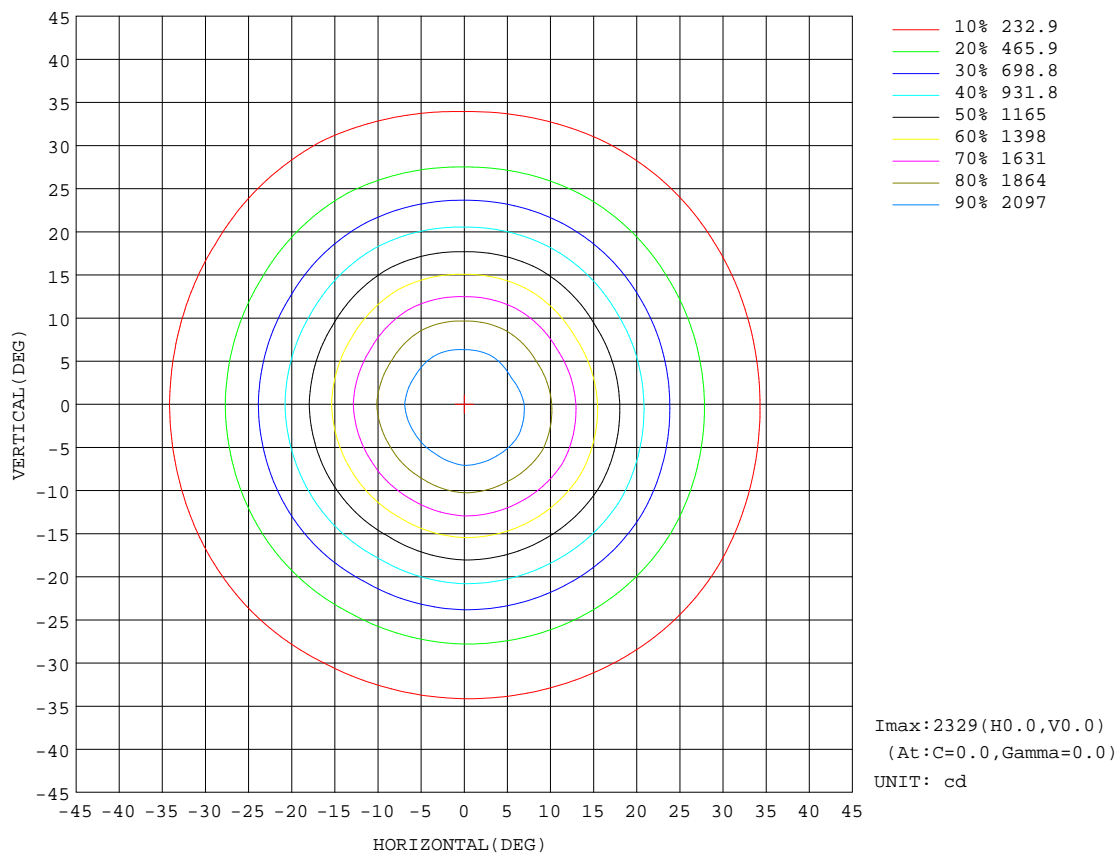
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	83	76	72	83	76	72	82	76	72	68
0.80	91	85	81	90	84	80	89	83	80	76
1.00	96	90	86	95	89	85	93	89	85	80
1.25	100	94	91	99	94	90	97	92	89	84
1.50	103	98	94	102	97	94	99	95	92	87
2.00	106	102	98	105	100	97	102	98	95	89
2.50	108	104	101	106	103	100	103	100	97	91
3.00	110	106	103	108	105	102	104	101	99	92
4.00	112	109	107	110	107	105	106	104	102	94
5.00	114	111	109	111	109	107	107	105	104	95
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:ZhangXiao
Test Date:2015-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.590m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:



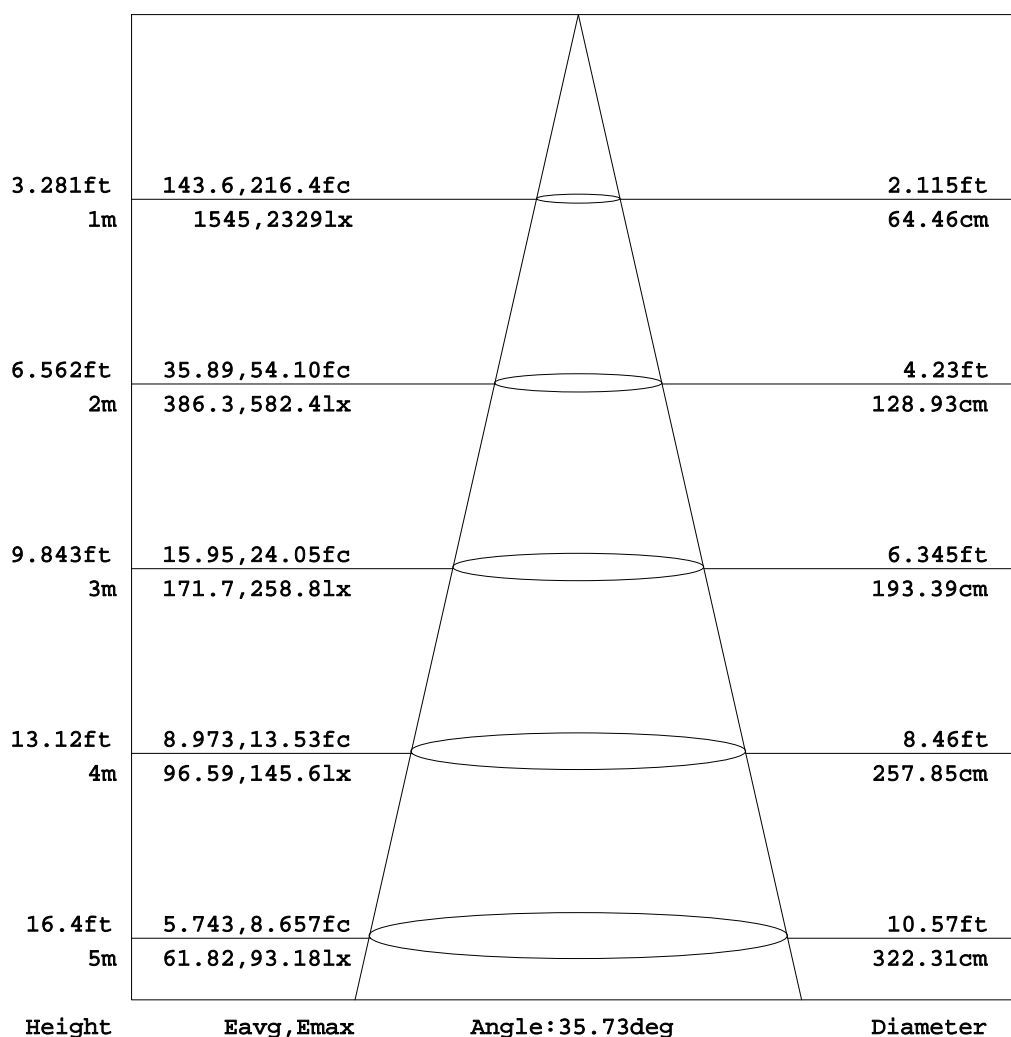
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ZhangXiao
Test Date: 2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.590m [K=1.0000]
Remarks:

AAI Figure

Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

Flux out:512.6 lm



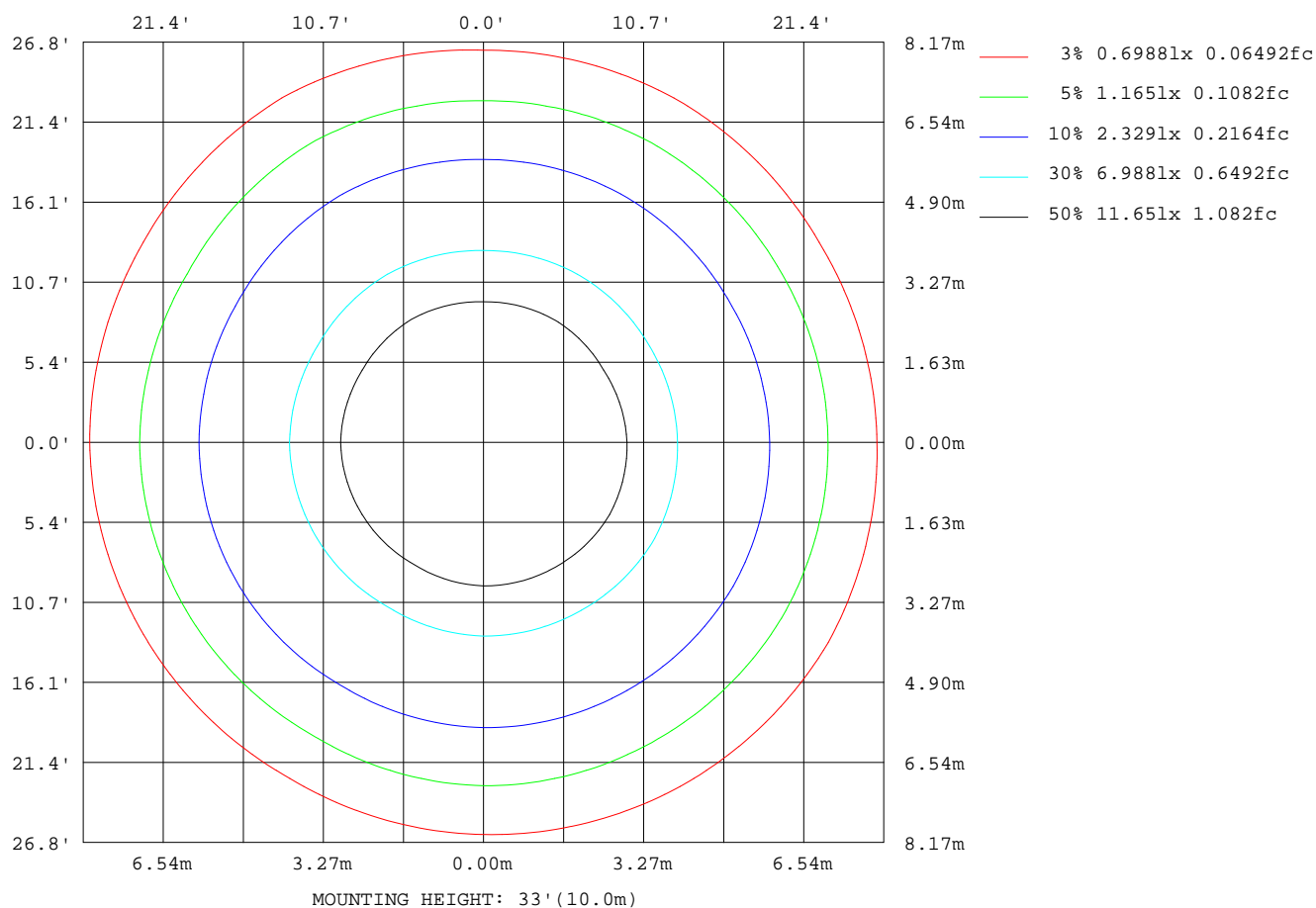
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZhangXiao
Test Date:2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
Test Distance:6.590m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

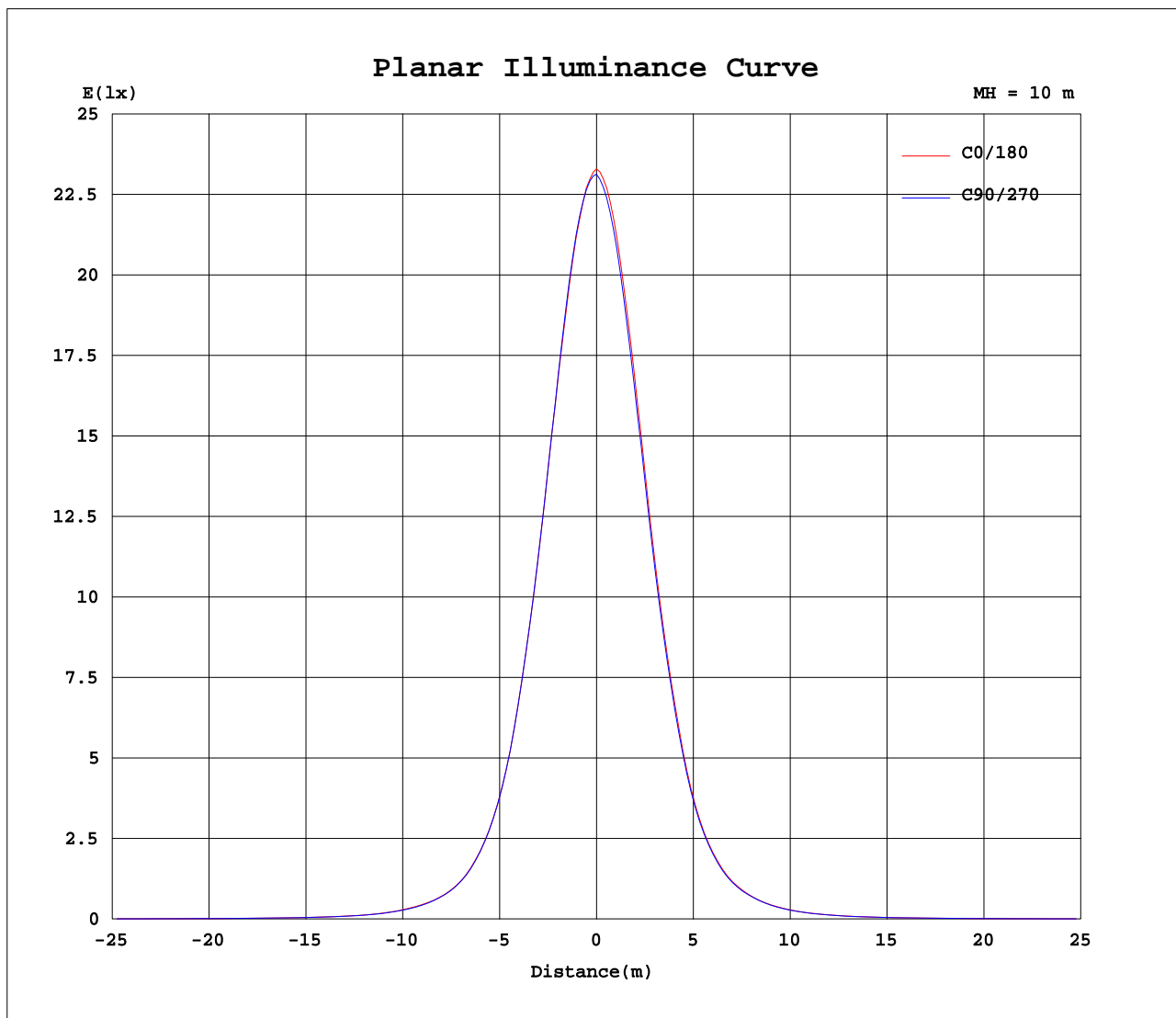
Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ZhangXiao
Test Date: 2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.590m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ZhangXiao
Test Date: 2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.590m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:1166x1 lm																	
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	2316	2316	2316	2316	2316	2316	2316	2316	2316	2316	2316	2316						
5	2184	2205	2203	2209	2192	2194	2189	2177	2184	2170	2178	2173						
10	1863	1897	1883	1889	1861	1864	1864	1843	1854	1838	1854	1851						
15	1430	1461	1447	1443	1410	1418	1424	1405	1423	1405	1417	1405						
20	993	1021	1003	1001	963	983	988	973	995	974	988	978						
25	619	632	627	622	600	614	616	597	617	607	614	610						
30	370	380	375	370	355	362	362	358	370	358	363	361						
35	214	218	214	213	203	209	212	206	216	208	213	212						
40	129	138	135	129	124	126	129	132	139	129	131	128						
45	81.9	87.9	84.1	78.5	76.8	77.4	80.0	81.9	86.9	78.4	81.4	79.7						
50	48.9	53.7	51.8	48.0	47.4	46.7	50.9	49.5	51.8	48.5	49.2	49.9						
55	32.0	32.5	31.6	32.4	29.5	29.5	32.1	31.3	31.7	31.7	31.2	29.9						
60	21.9	22.6	22.0	22.4	21.0	20.8	21.9	22.2	23.0	22.2	21.8	21.1						
65	15.9	16.1	16.0	16.0	15.2	15.2	16.0	15.7	16.3	16.0	16.2	15.2						
70	11.4	11.3	11.2	11.5	10.9	11.1	11.6	11.1	11.3	11.4	11.4	10.9						
75	8.03	7.98	7.83	8.19	7.69	7.83	8.18	7.79	7.93	8.06	8.00	7.76						
80	5.24	5.22	8.40	5.43	5.18	7.56	5.43	5.24	8.90	5.48	5.52	7.73						
85	3.11	3.16	4.02	3.29	3.23	3.69	3.37	3.31	4.38	3.48	3.55	4.28						
90	2.10	2.11	2.60	2.27	2.29	2.58	2.54	2.54	3.01	2.67	2.65	2.94						
95	2.06	2.07	2.62	2.21	2.23	2.61	2.62	2.61	3.13	2.74	2.72	3.06						
100	2.08	2.10	2.71	2.23	2.23	2.74	2.74	2.74	3.29	2.85	2.83	3.25						
105	2.21	2.23	2.83	2.36	2.35	2.90	2.90	2.90	3.54	3.01	2.98	3.42						
110	2.47	2.49	3.18	2.62	2.62	3.27	3.14	3.14	3.82	3.23	3.20	3.63						
115	2.91	2.91	3.58	3.03	3.05	3.55	3.49	3.49	4.19	3.58	3.53	3.92						
120	3.49	3.49	3.92	3.60	3.63	4.05	3.98	3.99	4.52	4.06	4.00	4.27						
125	4.22	4.21	4.56	4.32	4.35	4.76	4.62	4.64	5.08	4.70	4.63	4.84						
130	5.06	5.05	5.28	5.15	5.19	5.37	5.40	5.41	5.64	5.47	5.40	5.50						
135	5.95	5.94	6.09	6.04	6.07	6.18	6.23	6.24	6.37	6.30	6.23	6.31						
140	6.81	6.80	6.95	6.89	6.93	7.01	7.05	7.05	7.15	7.11	7.04	7.12						
145	7.57	7.56	7.75	7.65	7.69	7.82	7.78	7.78	7.91	7.83	7.78	7.87						
150	8.18	8.18	8.38	8.26	8.29	8.46	8.36	8.35	8.56	8.39	8.36	8.58						
155	8.60	8.61	8.62	8.65	8.67	8.96	8.76	8.74	9.10	8.76	8.74	9.07						
160	8.83	8.84	8.83	8.85	8.84	8.86	8.97	8.95	8.96	8.93	8.93	8.94						
165	8.89	8.91	8.91	8.91	8.91	8.91	9.02	9.00	9.00	8.96	8.98	8.99						
170	8.90	8.92	8.90	8.92	8.90	8.90	9.01	8.98	8.98	8.96	8.97	8.98						
175	8.95	8.97	8.95	8.96	8.94	8.95	9.03	9.01	9.01	8.99	8.98	9.00						
180	9.09	9.12	9.09	9.09	9.07	9.09	9.12	9.10	9.11	9.09	9.09	9.08						

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ZhangXiao
Test Date: 2015-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity: 65.0%
Test Distance: 6.590m [K=1.0000]
Remarks: