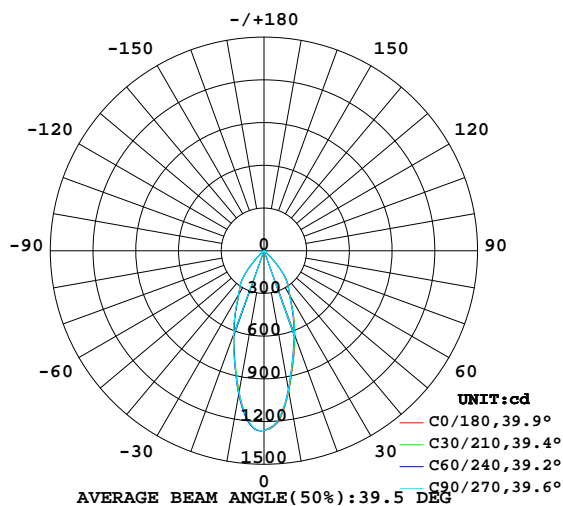


LUMINAIRE PHOTOMETRIC TEST REPORT

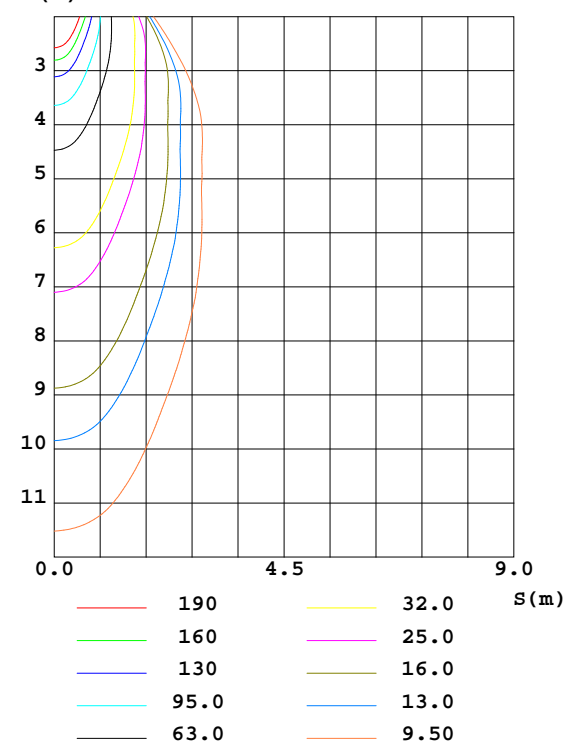
Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:857.669x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 80.91 lm/W			
MODEL	M031-11W-930-S-40	Imax(cd)	1266	S/MH(C0/180)	0.62
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.61
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	857.68	η UP,DN(C0-180)	1.2,48.6
NOMINAL FLUX(lm)	857.669	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.3,48.9
LAMPS INSIDE	1	η up(%)	2.4	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	226.5	η down(%)	97.6	CIBSE SHR MAX	0.65

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	1002	994.0	990.3	992.2	1009	1019	1019	1017	0- 10	108.1	108.1	12.6,12.6
20	633.3	623.9	622.3	625.7	627.2	620.3	628.6	639.5	10- 20	221.7	329.8	38.5,38.5
30	367.4	362.9	362.7	358.4	356.8	357.6	361.0	365.7	20- 30	220.4	550.2	64.1,64.1
40	210.7	203.7	201.1	194.1	194.5	193.5	198.1	207.9	30- 40	178.2	728.4	84.9,84.9
50	25.33	25.01	24.23	23.72	23.03	24.26	25.25	26.02	40- 50	69.40	797.8	93,93
60	14.00	13.90	13.93	14.17	14.18	14.30	14.40	14.35	50- 60	16.64	814.4	95,95
70	7.423	7.595	7.820	8.177	8.409	8.279	8.206	7.839	60- 70	10.51	824.9	96.2,96.2
80	5.063	5.347	5.709	6.274	6.769	6.388	6.211	5.651	70- 80	7.193	832.1	97,97
90	1.397	1.377	1.389	1.538	1.657	1.623	2.027	1.627	80- 90	4.878	837.0	97.6,97.6
100	1.528	1.536	1.557	1.563	1.917	1.896	1.892	1.892	90-100	1.754	838.8	97.8,97.8
110	1.941	1.958	1.975	1.983	2.337	2.322	2.310	2.308	100-110	2.023	840.8	98,98
120	2.630	2.634	2.654	2.678	2.976	2.961	2.944	2.939	110-120	2.428	843.2	98.3,98.3
130	3.593	3.605	3.625	3.646	3.871	3.850	3.833	3.828	120-130	2.905	846.1	98.7,98.7
140	4.672	4.681	4.696	4.718	4.869	4.850	4.834	4.826	130-140	3.284	849.4	99,99
150	5.458	5.467	5.471	5.490	5.590	5.578	5.565	5.559	140-150	3.242	852.6	99.4,99.4
160	6.003	6.001	6.003	6.017	6.102	6.093	6.077	6.078	150-160	2.676	855.3	99.7,99.7
170	6.346	6.348	6.343	6.367	6.417	6.410	6.401	6.403	160-170	1.760	857.1	99.9,99.9
180	6.592	6.589	6.588	6.599	6.590	6.586	6.581	6.601	170-180	0.6164	857.7	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

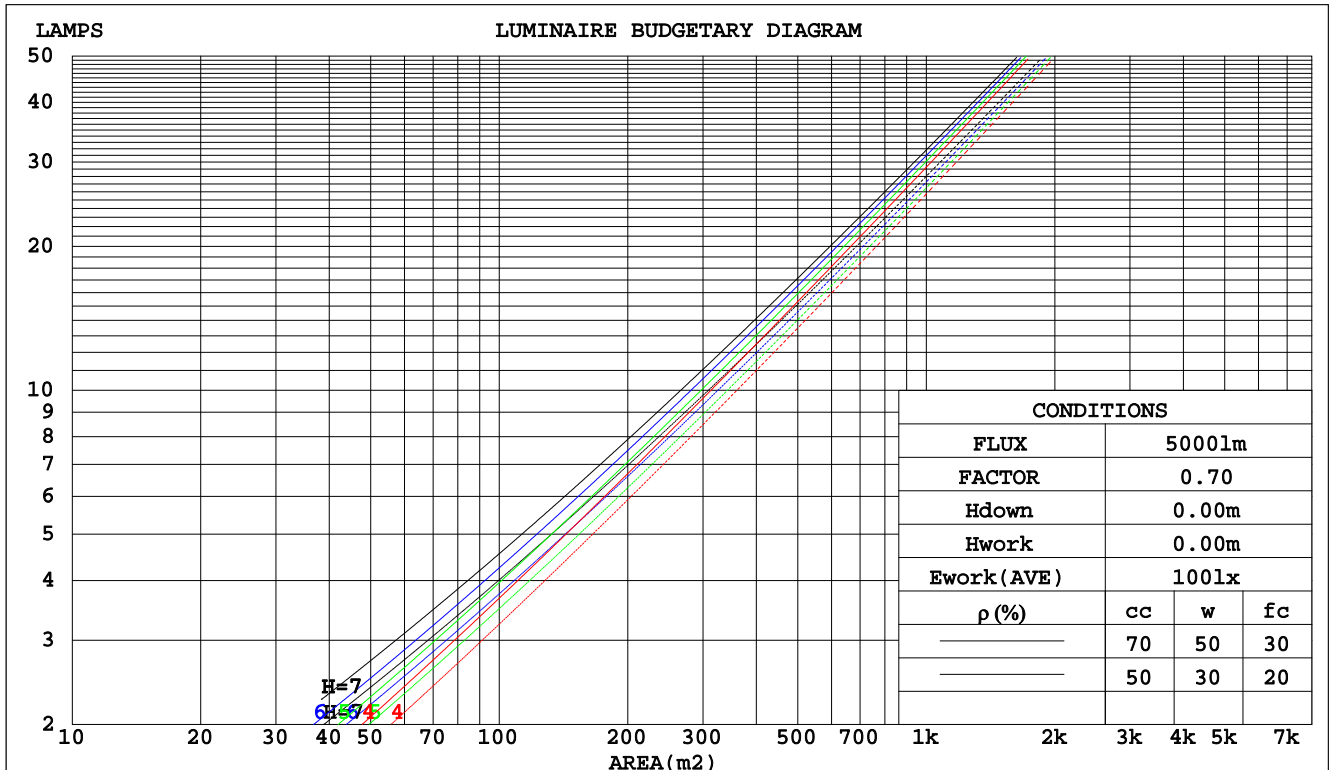
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZhangXiao
Test Date:2015-12-07

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:857.669x1 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	1.05	1.05	1.05	.00	.00	.00	.98
1.0	1.09	1.07	1.04	1.07	1.05	1.02	1.02	1.01	.99	.98	.97	.95	.94	.93	.92	.90
2.0	1.01	.97	.93	.99	.95	.92	.96	.92	.90	.92	.90	.87	.89	.87	.85	.83
3.0	.94	.89	.85	.92	.88	.84	.89	.85	.82	.87	.83	.80	.84	.81	.79	.77
4.0	.88	.82	.77	.86	.81	.77	.84	.79	.76	.81	.78	.74	.79	.76	.73	.72
5.0	.82	.76	.71	.81	.75	.71	.79	.74	.70	.77	.72	.69	.75	.71	.68	.67
6.0	.77	.70	.66	.76	.70	.66	.74	.69	.65	.72	.68	.64	.71	.67	.64	.62
7.0	.72	.66	.61	.71	.65	.61	.70	.64	.61	.68	.64	.60	.67	.63	.60	.58
8.0	.68	.62	.57	.67	.61	.57	.66	.61	.57	.65	.60	.56	.63	.59	.56	.55
9.0	.64	.58	.54	.63	.58	.54	.62	.57	.53	.61	.57	.53	.60	.56	.53	.51
10.0	.61	.55	.51	.60	.54	.51	.59	.54	.50	.58	.53	.50	.57	.53	.50	.49



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:857.669x1 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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.193	.110	.035	.186	.106	.034	.172	.099	.031	.159	.092	.029	.147	.085	.027	
2.0	.183	.100	.031	.176	.097	.030	.164	.091	.028	.153	.086	.027	.143	.081	.026	
3.0	.173	.092	.028	.167	.090	.027	.157	.085	.026	.147	.081	.025	.138	.077	.024	
4.0	.163	.085	.025	.158	.083	.025	.149	.079	.024	.141	.076	.023	.133	.072	.022	
5.0	.155	.079	.023	.150	.077	.023	.143	.074	.022	.135	.071	.021	.128	.068	.021	
6.0	.147	.074	.021	.143	.072	.021	.136	.070	.020	.129	.067	.020	.123	.065	.019	
7.0	.140	.069	.020	.136	.068	.019	.130	.066	.019	.124	.064	.019	.119	.062	.018	
8.0	.133	.065	.018	.130	.064	.018	.124	.062	.018	.119	.060	.017	.114	.059	.017	
9.0	.127	.061	.017	.124	.061	.017	.119	.059	.017	.114	.057	.016	.110	.056	.016	
10.0	.122	.058	.016	.119	.058	.016	.114	.056	.016	.110	.055	.016	.106	.053	.015	

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	.209	.209	.209	.179	.179	.179	.122	.122	.122	.070	.070	.070	.022	.022	.022	
1.0	.191	.176	.162	.163	.151	.140	.112	.104	.096	.064	.060	.056	.021	.019	.018	
2.0	.176	.151	.130	.151	.130	.112	.104	.090	.078	.060	.052	.046	.019	.017	.015	
3.0	.164	.132	.107	.141	.114	.093	.097	.079	.065	.056	.046	.038	.018	.015	.013	
4.0	.155	.118	.090	.133	.102	.078	.091	.071	.055	.053	.042	.033	.017	.014	.011	
5.0	.146	.106	.077	.125	.092	.067	.086	.064	.048	.050	.038	.028	.016	.012	.009	
6.0	.139	.097	.068	.119	.084	.059	.082	.059	.042	.048	.035	.025	.015	.011	.008	
7.0	.132	.090	.060	.114	.078	.053	.079	.055	.037	.046	.032	.022	.015	.011	.007	
8.0	.126	.084	.054	.109	.073	.047	.075	.051	.034	.044	.030	.020	.014	.010	.007	
9.0	.121	.079	.050	.104	.068	.043	.072	.048	.031	.042	.028	.018	.014	.009	.006	
10.0	.116	.074	.046	.100	.064	.040	.070	.045	.029	.041	.027	.017	.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:857.669x1 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	23.6	24.5	23.8	24.8	25.0	23.4	24.4	23.7	24.6	24.8	
	3H	23.5	24.4	23.8	24.7	24.9	23.4	24.3	23.7	24.5	24.8
	4H	23.5	24.4	23.9	24.7	24.9	23.4	24.3	23.7	24.5	24.8
	6H	23.6	24.4	23.9	24.7	25.0	23.5	24.3	23.8	24.6	24.9
	8H	23.7	24.4	24.0	24.7	25.0	23.6	24.4	23.9	24.7	25.0
	12H	23.7	24.5	24.1	24.8	25.1	23.7	24.5	24.1	24.8	25.1
4H	2H	23.4	24.2	23.7	24.5	24.8	23.2	24.1	23.5	24.3	24.6
	3H	23.4	24.1	23.8	24.5	24.8	23.3	24.0	23.6	24.3	24.6
	4H	23.5	24.1	23.9	24.5	24.8	23.4	24.0	23.7	24.4	24.7
	6H	23.6	24.2	24.0	24.6	25.0	23.6	24.1	24.0	24.5	24.9
	8H	23.8	24.3	24.2	24.7	25.1	23.7	24.3	24.2	24.7	25.1
	12H	23.9	24.4	24.4	24.9	25.3	24.0	24.5	24.4	24.9	25.3
8H	4H	23.4	24.0	23.9	24.4	24.8	23.3	23.9	23.8	24.3	24.7
	6H	23.7	24.1	24.2	24.6	25.0	23.6	24.1	24.1	24.5	25.0
	8H	23.9	24.3	24.4	24.8	25.3	23.9	24.3	24.4	24.8	25.3
	12H	24.3	24.6	24.8	25.1	25.6	24.4	24.7	24.9	25.2	25.7
12H	4H	23.4	23.9	23.9	24.3	24.8	23.3	23.8	23.7	24.2	24.6
	6H	23.7	24.1	24.2	24.6	25.1	23.7	24.1	24.2	24.5	25.0
	8H	24.0	24.3	24.5	24.8	25.3	24.0	24.3	24.5	24.8	25.3
Variations with the observer position at spacings:											
S = 1.0H	+ 2.0 / - 3.9					+ 1.9 / - 3.6					
1.5H	+ 4.0 / - 3.9					+ 3.9 / - 3.6					
2.0H	+ 3.9 / - 1.0					+ 3.6 / - 0.9					

CIE Pub.117 Corrected 857.7 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:857.669x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

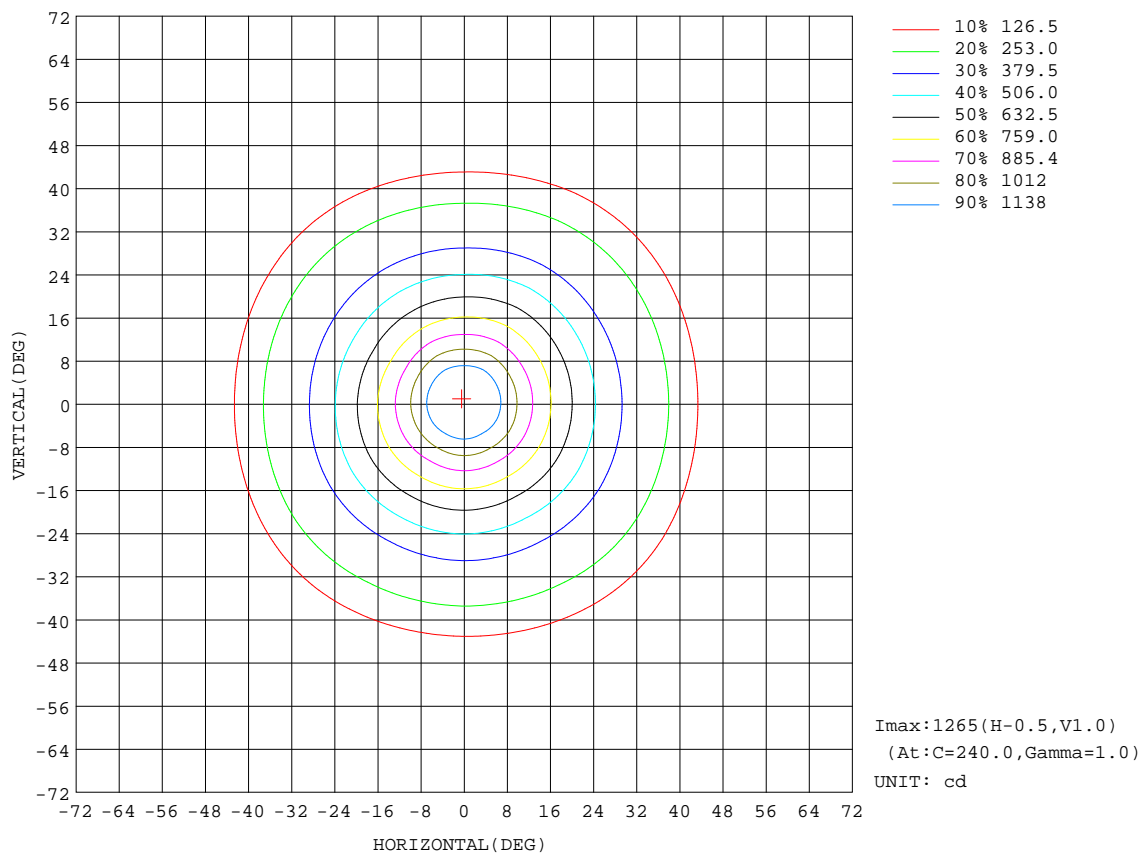
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	82	75	71	82	75	71	81	74	70	66
0.80	90	83	79	89	83	79	88	82	78	74
1.00	95	89	85	94	88	84	92	88	84	79
1.25	100	94	90	98	93	89	96	92	88	83
1.50	103	97	93	101	96	93	99	95	92	86
2.00	106	101	98	104	100	97	101	98	95	89
2.50	108	104	100	106	102	99	103	99	97	90
3.00	110	106	103	108	104	101	104	101	99	92
4.00	112	109	106	110	107	105	106	103	102	93
5.00	113	111	108	111	109	107	107	105	103	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:857.669x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:



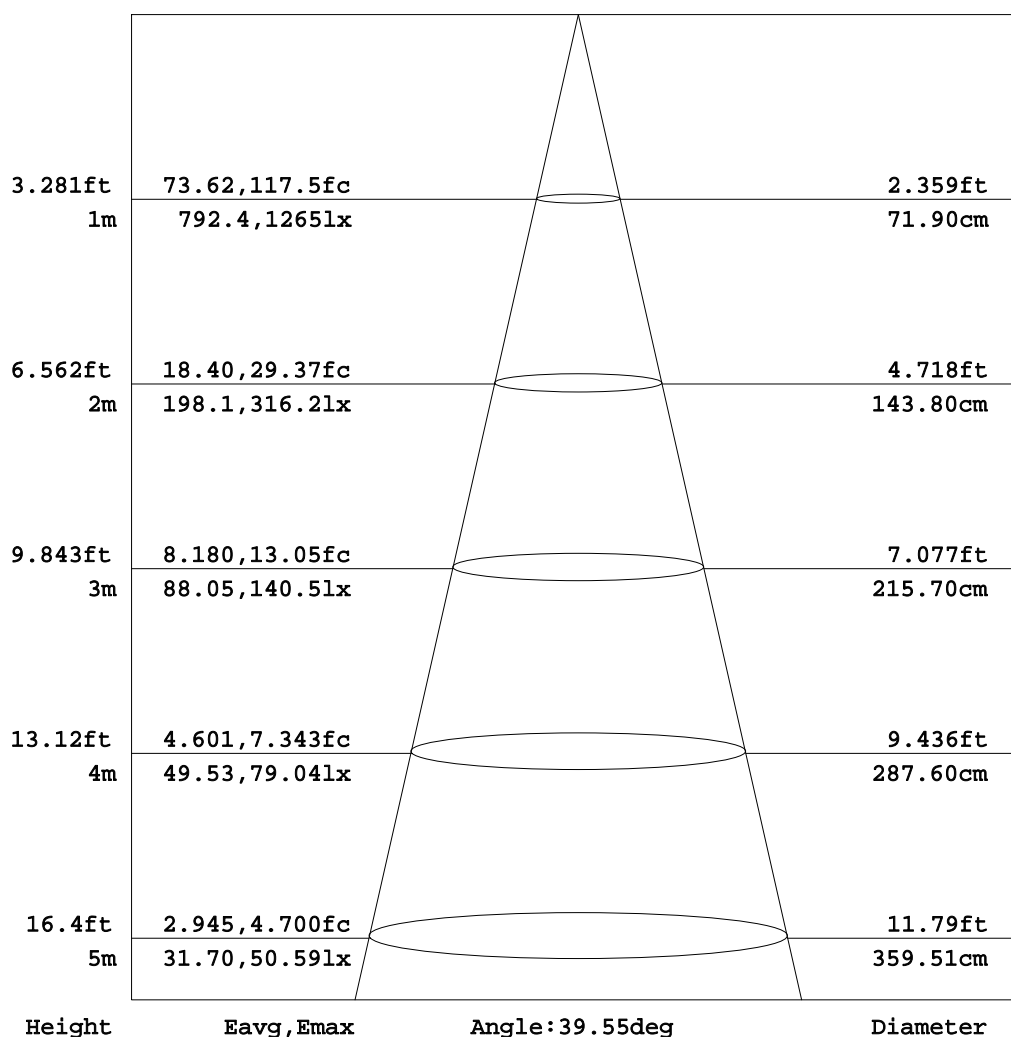
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZhangXiao
Test Date:2015-12-07

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:857.669x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:

Flux out:329.8 lm



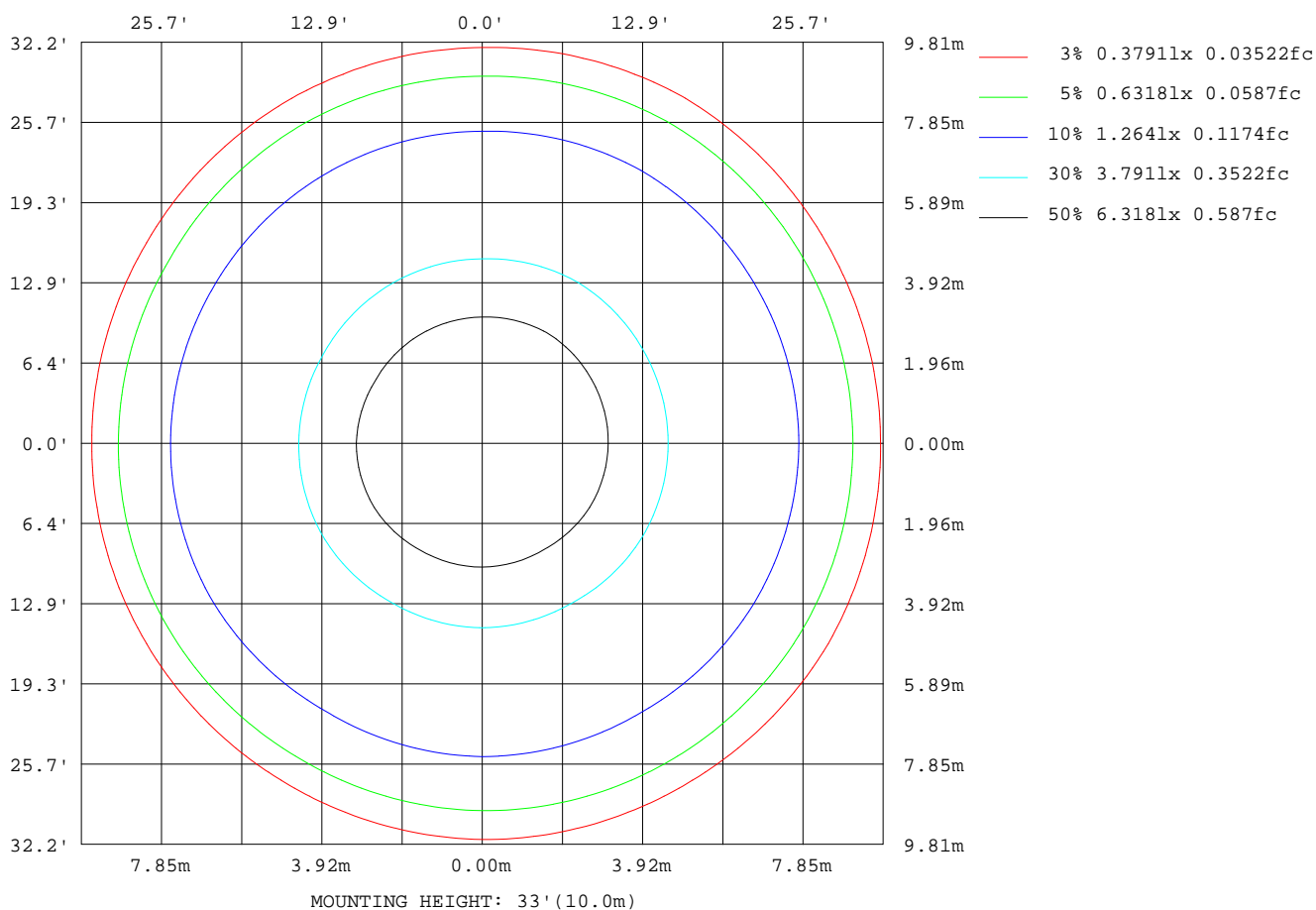
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

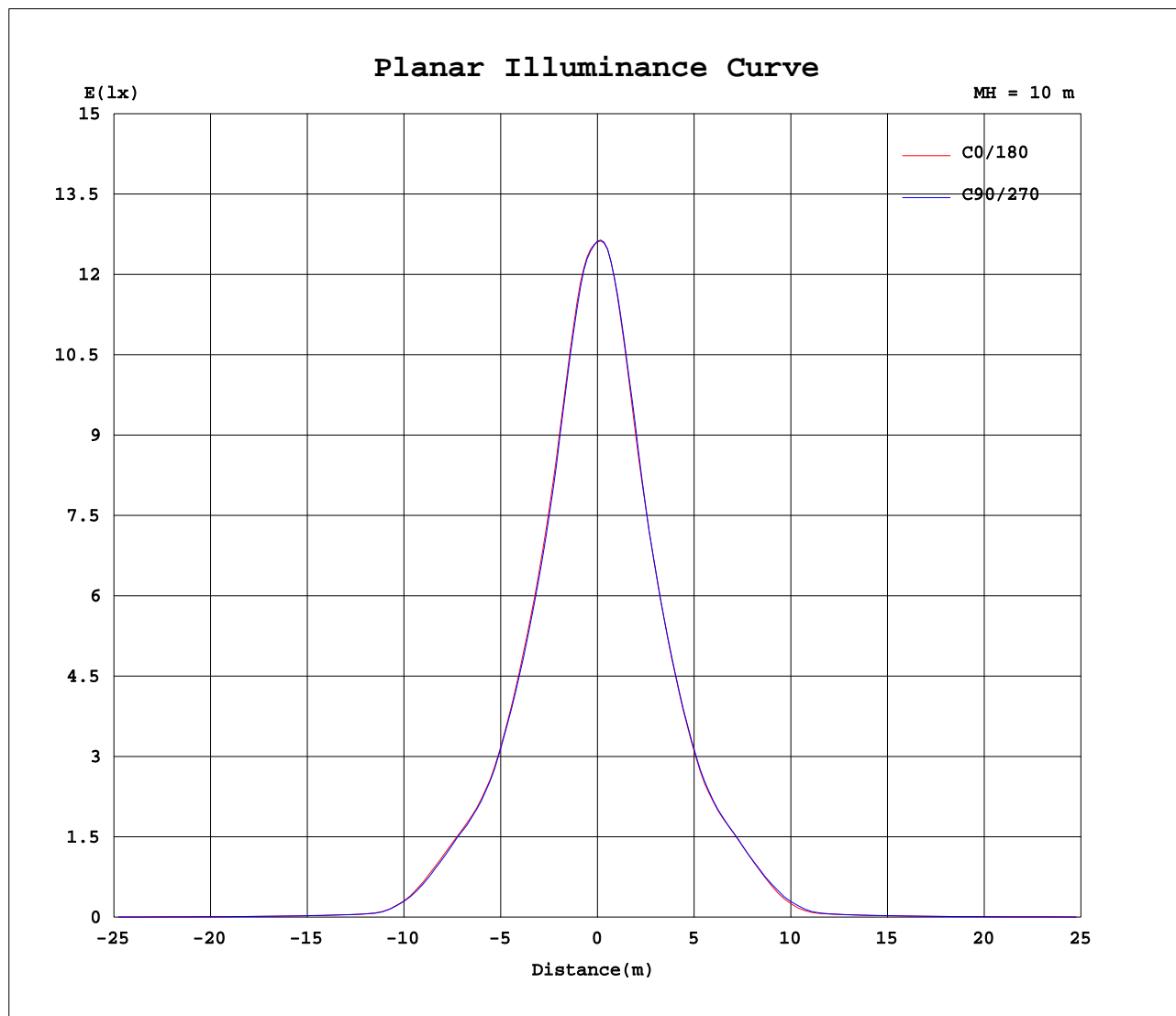
Test:U:226.5V I:0.0590A P:10.60W PF:0.7890 Lamp Flux:857.669x1 lm		
NAME:	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Rayconn	SUR.:	PROTECTION ANGLE:



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:857.669x1 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	1261	1261	1261	1261	1261	1261	1261	1261	1261	1261	1261	1261						
5	1199	1190	1187	1189	1187	1201	1207	1208	1214	1207	1215	1206						
10	1002	1000	988	990	986	998	1009	1012	1026	1019	1025	1008						
15	798	791	780	783	781	794	800	787	800	799	812	801						
20	633	630	618	622	621	630	627	617	624	629	643	636						
25	488	486	476	482	475	482	477	471	476	480	493	487						
30	367	367	359	363	357	360	357	355	360	361	367	364						
35	296	293	289	291	287	291	290	290	291	290	294	293						
40	211	205	202	201	191	197	195	190	197	198	207	209						
45	86.7	89.6	85.3	84.1	76.4	73.0	72.3	72.3	80.9	83.5	90.6	87.0						
50	25.3	25.2	24.8	24.2	23.8	23.6	23.0	23.5	25.0	25.3	25.8	26.2						
55	18.5	18.5	18.3	18.2	18.2	18.1	18.0	18.3	18.8	18.7	18.9	18.7						
60	14.0	13.9	13.9	13.9	14.1	14.2	14.2	14.1	14.5	14.4	14.5	14.2						
65	10.1	10.2	10.2	10.3	10.3	10.6	10.6	10.5	10.8	10.6	10.7	10.3						
70	7.42	7.55	7.64	7.82	8.02	8.33	8.41	8.27	8.29	8.21	8.06	7.62						
75	6.03	6.18	6.35	6.56	6.84	7.19	7.37	7.16	7.07	6.99	6.78	6.29						
80	5.06	5.24	5.45	5.71	6.06	6.49	6.77	6.49	6.29	6.21	5.93	5.38						
85	4.17	4.43	4.63	4.84	5.16	5.58	5.85	5.45	5.27	5.28	5.03	4.48						
90	1.40	1.37	1.38	1.39	1.68	1.39	1.66	1.63	1.62	2.03	1.62	1.63						
95	1.42	1.42	1.42	1.45	1.44	1.46	1.77	1.74	1.74	1.74	1.74	1.73						
100	1.53	1.54	1.53	1.56	1.56	1.57	1.92	1.89	1.90	1.89	1.89	1.89						
105	1.70	1.71	1.71	1.73	1.74	1.75	2.10	2.08	2.09	2.08	2.08	2.07						
110	1.94	1.95	1.96	1.97	1.98	1.99	2.34	2.32	2.32	2.31	2.31	2.30						
115	2.25	2.25	2.26	2.28	2.29	2.30	2.63	2.61	2.61	2.59	2.59	2.58						
120	2.63	2.63	2.64	2.65	2.68	2.68	2.98	2.96	2.96	2.94	2.94	2.94						
125	3.08	3.08	3.10	3.11	3.13	3.13	3.39	3.38	3.37	3.36	3.35	3.35						
130	3.59	3.59	3.62	3.63	3.65	3.64	3.87	3.86	3.84	3.83	3.83	3.83						
135	4.14	4.14	4.16	4.17	4.20	4.19	4.38	4.37	4.35	4.35	4.33	4.34						
140	4.67	4.67	4.69	4.70	4.72	4.72	4.87	4.86	4.84	4.83	4.82	4.83						
145	5.12	5.12	5.13	5.13	5.15	5.16	5.27	5.26	5.25	5.24	5.23	5.24						
150	5.46	5.46	5.48	5.47	5.49	5.49	5.59	5.58	5.58	5.57	5.56	5.56						
155	5.74	5.74	5.76	5.76	5.77	5.77	5.87	5.85	5.86	5.84	5.84	5.83						
160	6.00	6.00	6.01	6.00	6.01	6.02	6.10	6.09	6.10	6.08	6.08	6.07						
165	6.19	6.19	6.20	6.19	6.20	6.21	6.28	6.26	6.28	6.26	6.26	6.26						
170	6.35	6.35	6.35	6.34	6.36	6.37	6.42	6.41	6.41	6.40	6.41	6.40						
175	6.47	6.47	6.47	6.47	6.48	6.49	6.51	6.50	6.51	6.50	6.51	6.52						
180	6.59	6.58	6.59	6.59	6.60	6.60	6.59	6.58	6.59	6.58	6.60	6.60						

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: