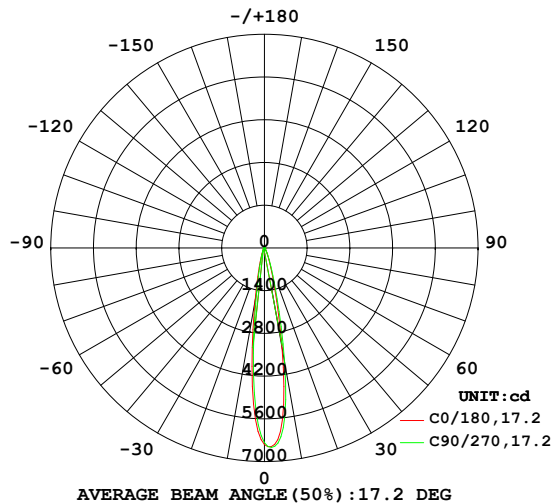


LUMINAIRE PHOTOMETRIC TEST REPORT

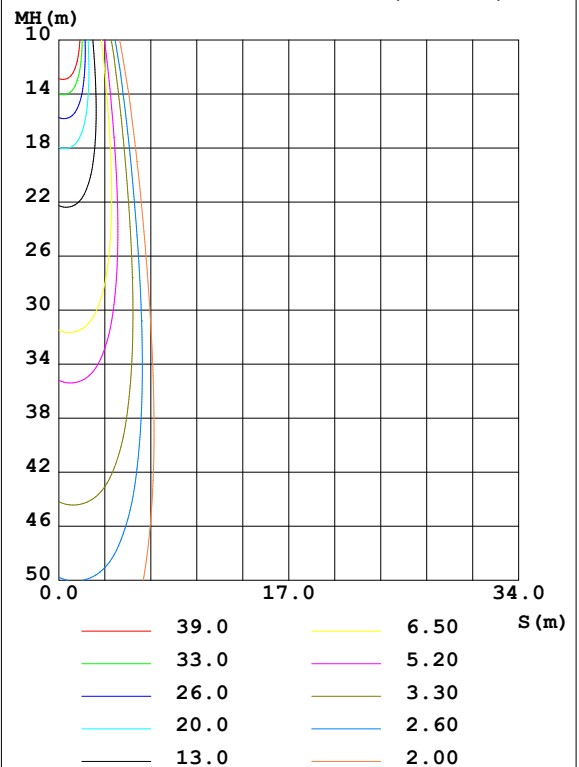
Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm					
NAME: 89014LED			TYPE:		WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700			DIM.:		SERIAL No.:
MFR.: CETTIGA			SUR.:		Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 64.48 lm/W
MODEL	CLU701 1002	I _{max} (cd)	6541	S/MH (C0/180)	0.25	
NOMINAL POWER (W)	12W	LOR (%)	100.0	S/MH (C90/270)	0.22	
RATED VOLTAGE (V)		TOTAL FLUX (lm)	864.49	η UP, DN (C0-180)	0.2, 63.3	
NOMINAL FLUX (lm)	864.491	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 36.4	
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	0.00	
TEST VOLTAGE (V)	220.2	η down (%)	99.7	CIBSE SHR MAX	1.00	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.286
 Humidity: 65.0%
 Test Distance: 6.810m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum,lamp
10	3333	3810	1771	1468					0- 10	409.5	409.5	47.4,47.4
20	496.8	552.8	305.8	256.2					10- 20	292.5	702.0	81.2,81.2
30	122.5	128.5	83.73	72.56					20- 30	94.44	796.4	92.1,92.1
40	40.09	42.38	30.85	28.72					30- 40	37.58	834.0	96.5,96.5
50	20.24	16.34	16.36	12.66					40- 50	19.40	853.4	98.7,98.7
60	4.360	0.8524	4.324	0.5135					50- 60	7.616	861.0	99.6,99.6
70	0.1135	0.0122	0.0849	0.0331					60- 70	0.6778	861.7	99.7,99.7
80	0	0	0	0.0105					70- 80	0.0119	861.7	99.7,99.7
90	0	0	0	0					80- 90	0.0007	861.7	99.7,99.7
100	0	0	0	0					90-100	0	861.7	99.7,99.7
110	0	0.0401	0	0					100-110	0.0051	861.7	99.7,99.7
120	0.0017	0.0401	0.0227	0.0244					110-120	0.0175	861.7	99.7,99.7
130	0.0522	0.0977	0.0698	0.0819					120-130	0.0391	861.8	99.7,99.7
140	0.2056	0.2513	0.1850	0.2284					130-140	0.1014	861.9	99.7,99.7
150	0.9145	0.7779	0.6770	0.7702					140-150	0.2575	862.1	99.7,99.7
160	3.612	3.426	2.765	3.083					150-160	0.8296	863.0	99.8,99.8
170	4.739	4.832	3.965	3.880					160-170	1.150	864.1	100,100
180	3.547	3.406	3.547	3.406					170-180	0.3794	864.5	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 845 lm

%lum = 97.7%

%lamp = 97.7%

Conical surface Flux(120deg): 861.02 lm

%lum = 99.6%

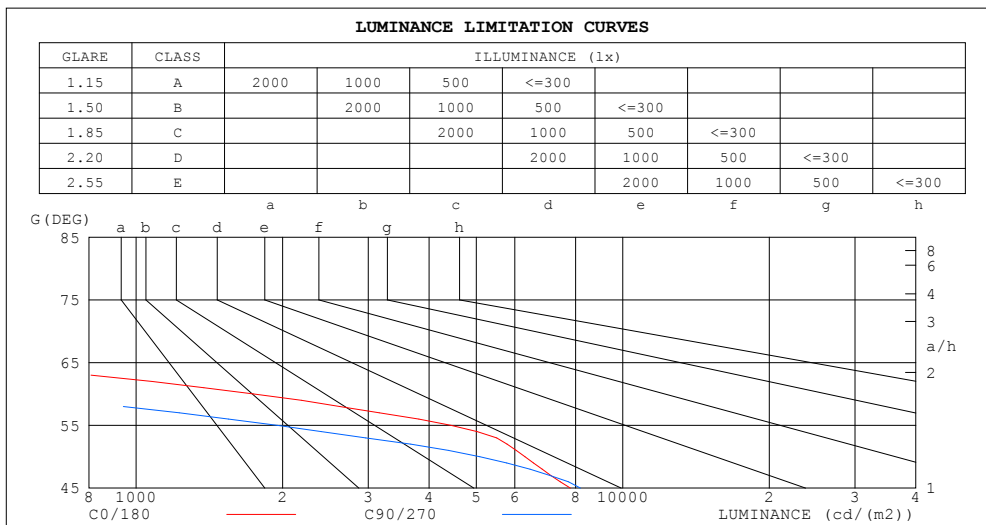
%lamp = 99.6%

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	0	0
75	0	0
70	66	7
65	369	73
60	1744	341
55	4437	1951
50	6296	5086
45	7803	8185

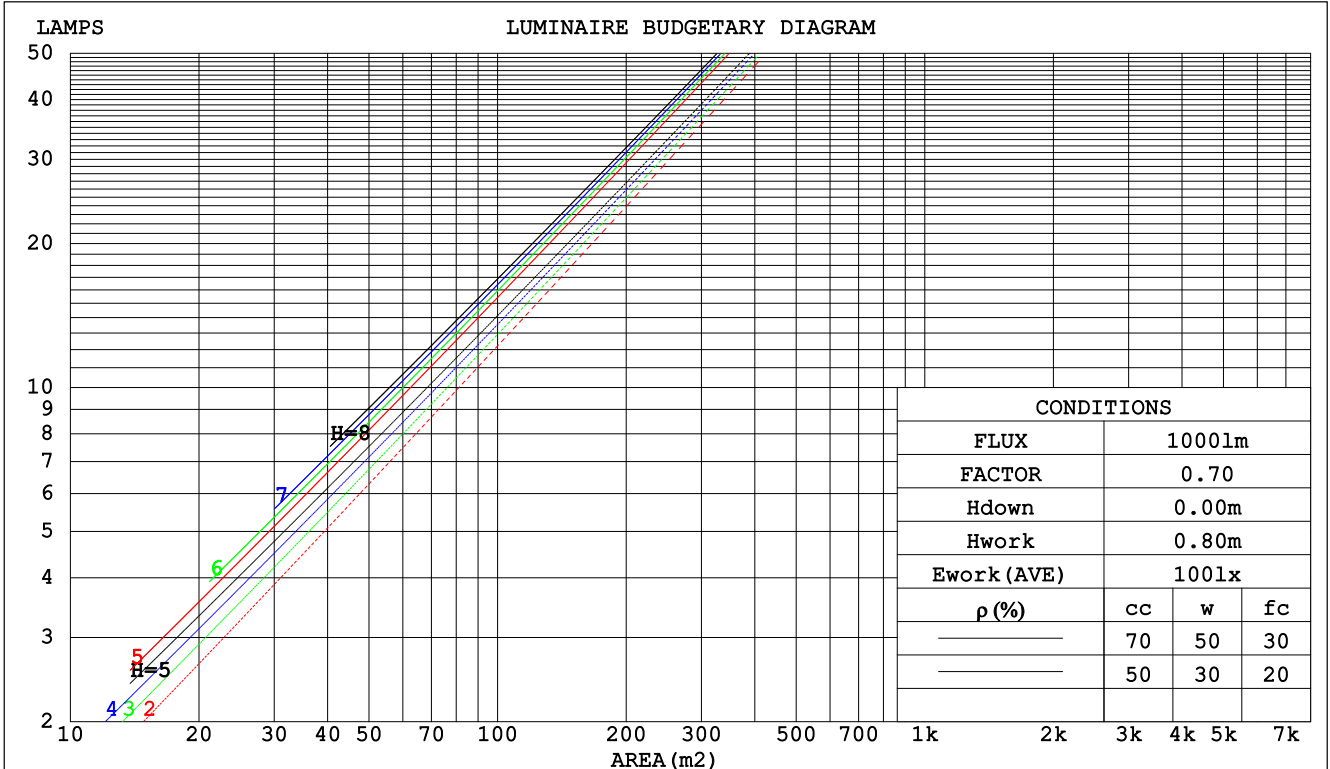
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding 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	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	.00
1.0	1.13	1.11	1.10	1.11	1.09	1.08	1.07	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.08	1.05	1.03	1.06	1.04	1.02	1.03	1.01	.99	1.00	.99	.97	.98	.96	.95	.94
3.0	1.04	1.00	.98	1.02	.99	.97	.00	.97	.95	.98	.95	.94	.95	.94	.92	.91
4.0	.00	.96	.93	.99	.95	.93	.97	.94	.92	.95	.93	.91	.93	.91	.90	.88
5.0	.97	.93	.90	.96	.92	.89	.94	.91	.89	.93	.90	.88	.91	.89	.87	.86
6.0	.94	.90	.87	.93	.89	.87	.92	.88	.86	.90	.88	.85	.89	.87	.85	.84
7.0	.91	.87	.84	.90	.87	.84	.89	.86	.84	.88	.85	.83	.87	.85	.83	.82
8.0	.89	.85	.82	.88	.84	.82	.87	.84	.82	.86	.83	.81	.86	.83	.81	.80
9.0	.86	.83	.80	.86	.82	.80	.85	.82	.80	.84	.82	.79	.84	.81	.79	.78
10.0	.84	.81	.78	.84	.81	.78	.83	.80	.78	.83	.80	.78	.82	.79	.78	.77



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	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	.132	.075	.024	.125	.071	.023	.113	.065	.021	.101	.058	.019	.090	.052	.017		
2.0	.122	.067	.021	.116	.064	.020	.106	.059	.018	.097	.054	.017	.088	.050	.016		
3.0	.113	.060	.018	.109	.058	.018	.100	.054	.017	.092	.051	.016	.085	.047	.015		
4.0	.106	.055	.016	.102	.053	.016	.095	.050	.015	.088	.047	.014	.082	.044	.014		
5.0	.099	.051	.015	.096	.049	.014	.090	.047	.014	.084	.044	.013	.079	.042	.013		
6.0	.094	.047	.013	.091	.046	.013	.085	.044	.013	.081	.042	.012	.076	.040	.012		
7.0	.089	.044	.012	.086	.043	.012	.081	.041	.012	.077	.040	.012	.073	.038	.011		
8.0	.084	.041	.012	.082	.040	.011	.078	.039	.011	.074	.038	.011	.071	.036	.011		
9.0	.080	.039	.011	.078	.038	.011	.075	.037	.010	.071	.036	.010	.068	.035	.010		
10.0	.076	.037	.010	.075	.036	.010	.071	.035	.010	.069	.034	.010	.066	.033	.009		

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	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.170	.160	.151	.146	.137	.130	.100	.095	.090	.057	.055	.052	.018	.018	.017	
2.0	.152	.135	.121	.130	.116	.105	.089	.081	.073	.051	.047	.043	.017	.015	.014	
3.0	.137	.116	.099	.117	.100	.086	.081	.069	.060	.047	.041	.035	.015	.013	.012	
4.0	.124	.100	.082	.106	.087	.071	.073	.060	.050	.042	.035	.030	.014	.012	.010	
5.0	.113	.088	.069	.097	.076	.060	.067	.053	.042	.039	.031	.025	.013	.010	.008	
6.0	.104	.078	.059	.089	.067	.051	.062	.047	.036	.036	.028	.022	.012	.009	.007	
7.0	.096	.070	.051	.083	.060	.044	.057	.042	.031	.033	.025	.019	.011	.008	.006	
8.0	.090	.063	.044	.077	.054	.039	.053	.038	.027	.031	.023	.016	.010	.007	.005	
9.0	.084	.057	.039	.072	.049	.034	.050	.035	.024	.029	.021	.014	.009	.007	.005	
10.0	.079	.052	.034	.068	.045	.030	.047	.032	.021	.027	.019	.013	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2023-11-14

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm											
NAME: 89014LED					TYPE:			WEIGHT:			
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700					DIM.:			SERIAL No.:			
MFR.: CETTIGA					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		11.4	12.0	11.6	12.1	12.3	11.0	11.6	11.2	11.8	11.9
3H		11.2	11.8	11.5	12.0	12.2	10.9	11.5	11.1	11.6	11.8
4H		11.2	11.7	11.4	11.9	12.1	10.8	11.4	11.1	11.6	11.8
6H		11.1	11.6	11.4	11.8	12.1	10.7	11.2	11.0	11.5	11.7
8H		11.0	11.5	11.3	11.8	12.0	10.7	11.2	11.0	11.4	11.7
12H		11.0	11.5	11.3	11.7	12.0	10.6	11.1	10.9	11.4	11.6
4H 2H		11.2	11.8	11.5	12.0	12.2	10.9	11.4	11.1	11.6	11.8
3H		11.0	11.5	11.3	11.8	12.0	10.7	11.2	11.0	11.4	11.7
4H		10.9	11.4	11.3	11.7	12.0	10.6	11.0	10.9	11.3	11.6
6H		10.8	11.2	11.2	11.6	11.9	10.5	10.9	10.9	11.2	11.6
8H		10.8	11.1	11.2	11.5	11.9	10.4	10.8	10.8	11.2	11.5
12H		10.7	11.1	11.1	11.4	11.8	10.4	10.7	10.8	11.1	11.5
8H 4H		10.8	11.1	11.2	11.5	11.9	10.4	10.8	10.8	11.2	11.5
6H		10.7	11.0	11.1	11.4	11.8	10.3	10.6	10.8	11.0	11.4
8H		10.6	10.9	11.0	11.3	11.7	10.3	10.5	10.7	11.0	11.4
12H		10.5	10.8	11.0	11.2	11.7	10.2	10.4	10.7	10.9	11.3
12H 4H		10.7	11.1	11.1	11.4	11.8	10.4	10.7	10.8	11.1	11.5
6H		10.6	10.9	11.0	11.3	11.7	10.3	10.5	10.7	11.0	11.4
8H		10.5	10.8	11.0	11.2	11.7	10.2	10.4	10.7	10.9	11.3
Variations with the observer position at spacings:											
S = 1.0H		+ 2.2 / - 4.8					+ 2.7 / - 9.9				
1.5H		+ 2.4 / - 3.2					+ 3.0 / - 4.7				
2.0H		+ 3.9 / -13.2					+ 5.2 / -18.0				

CIE Pub.117, 864.5 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.5)
Area: 0.005 m2

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

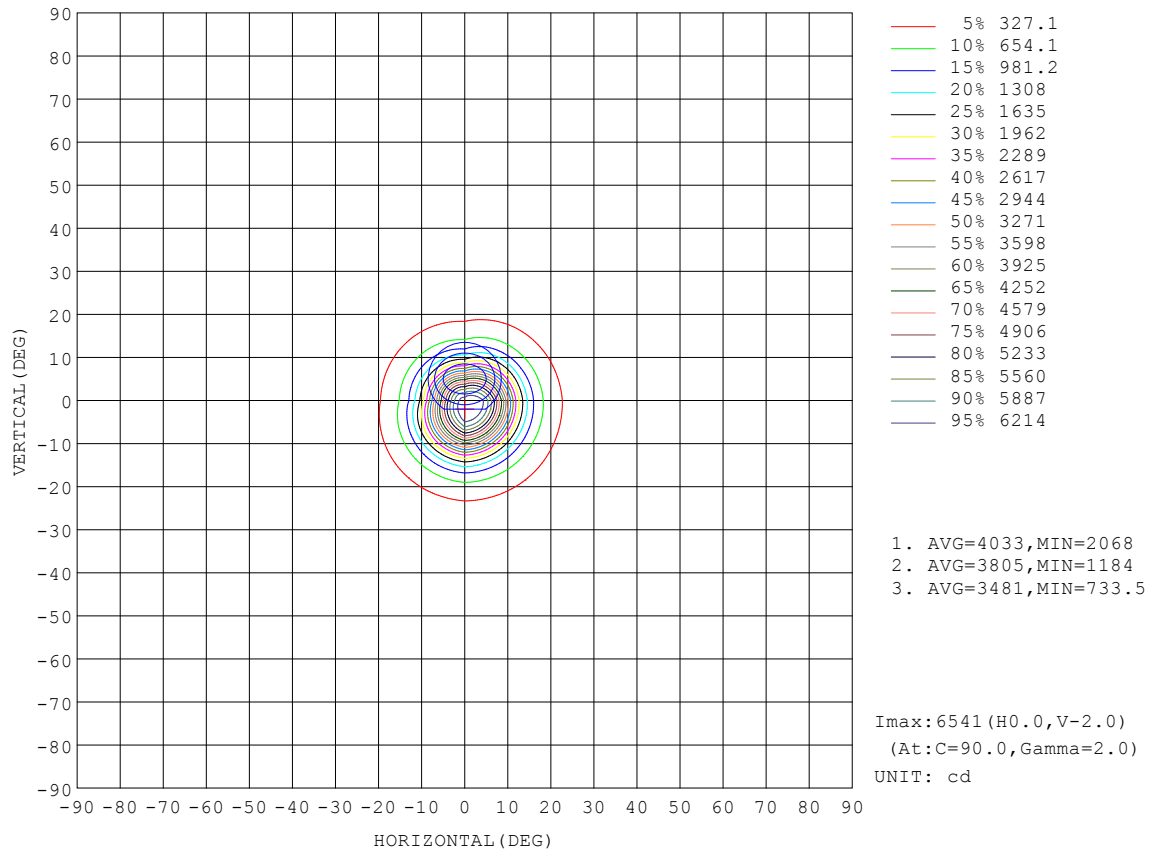
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	87	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	87
1.25	104	99	96	103	99	96	101	98	95	91
1.50	107	102	99	106	102	99	103	100	98	93
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	104	109	106	104	106	104	102	96
3.00	112	109	107	110	108	105	107	105	103	97
4.00	114	112	110	112	110	108	108	107	105	98
5.00	115	113	112	113	111	110	109	108	107	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

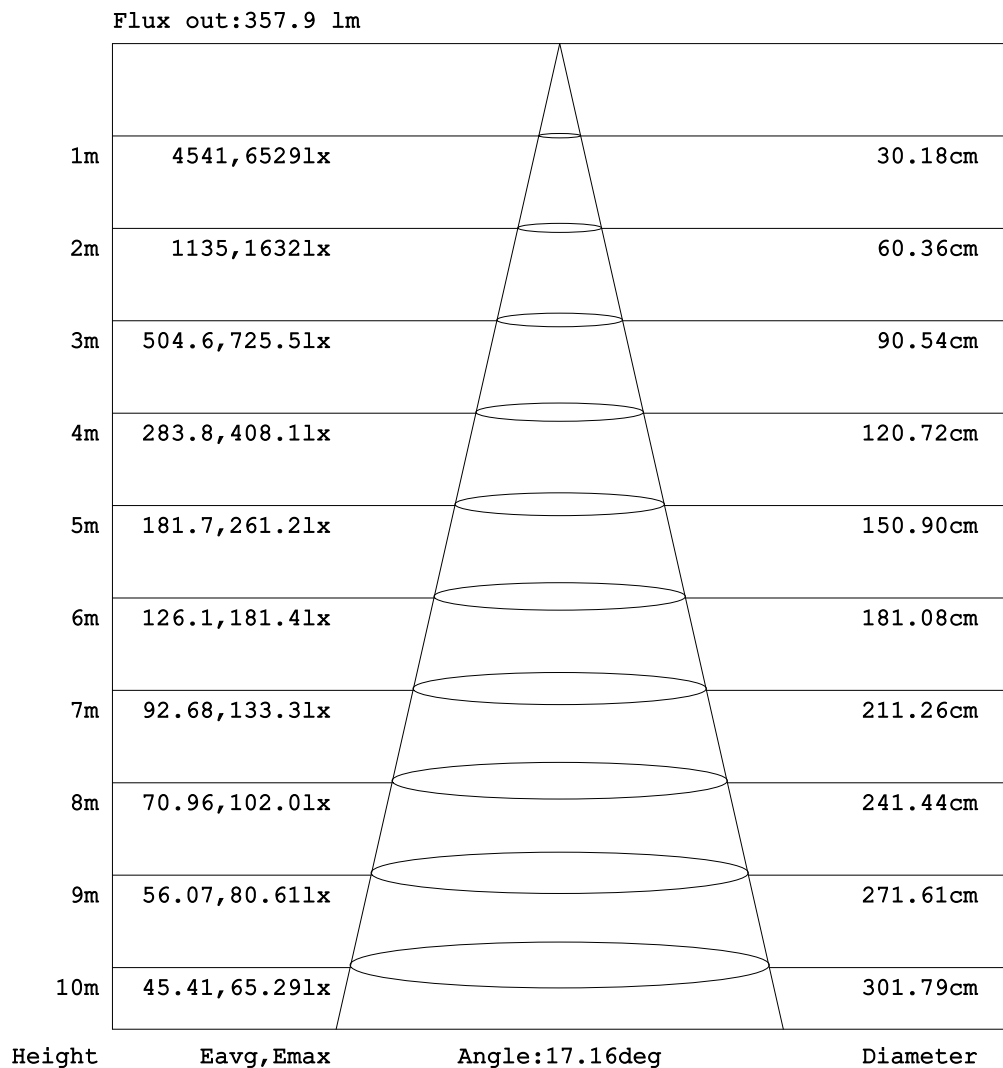


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2023-11-14

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity: 65.0%
Test Distance: 6.810m [K=1.0000]
Remarks:

AAI Figure

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.49lx1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



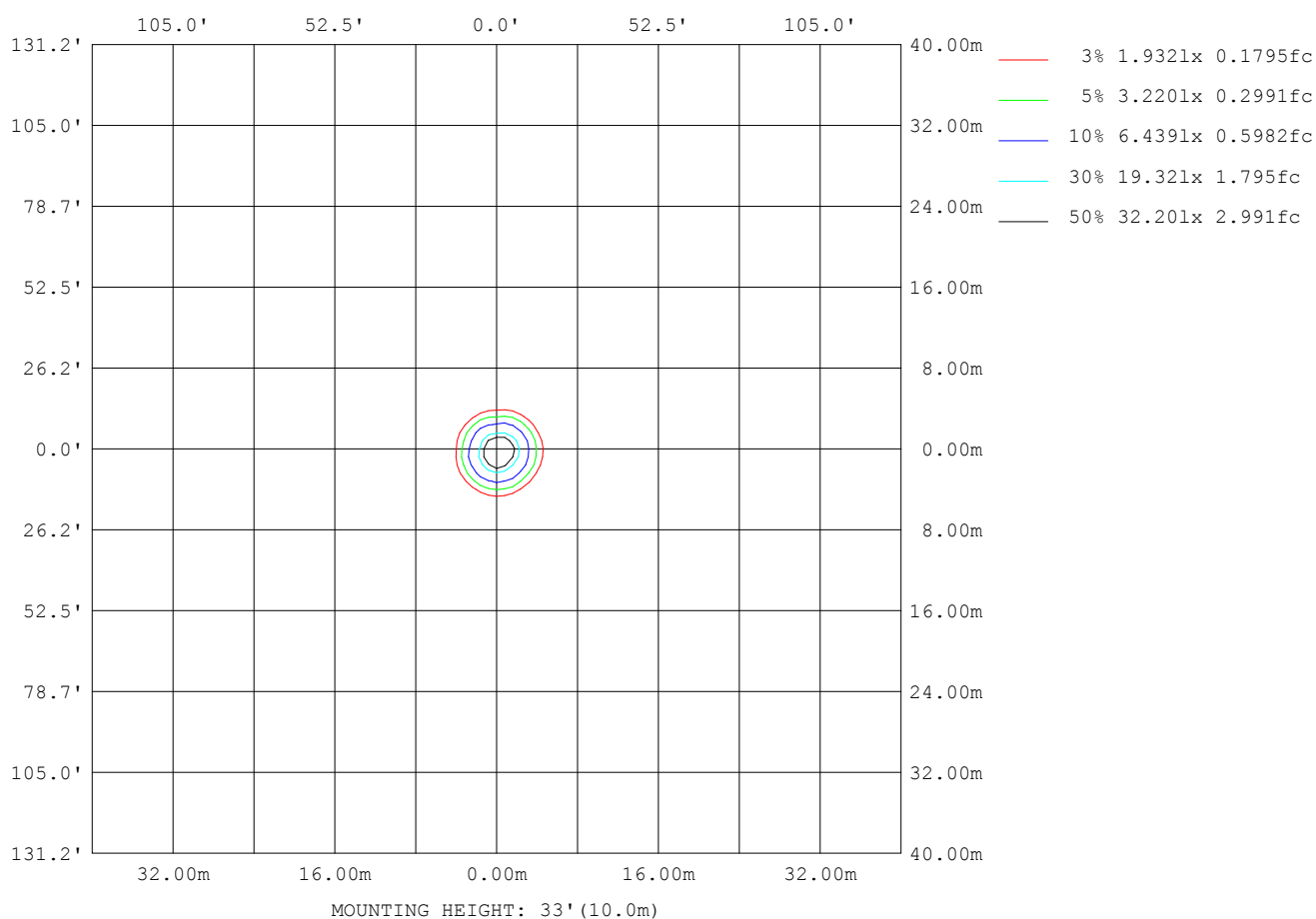
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2023-11-14

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2023-11-14

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
Test Distance:6.810m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

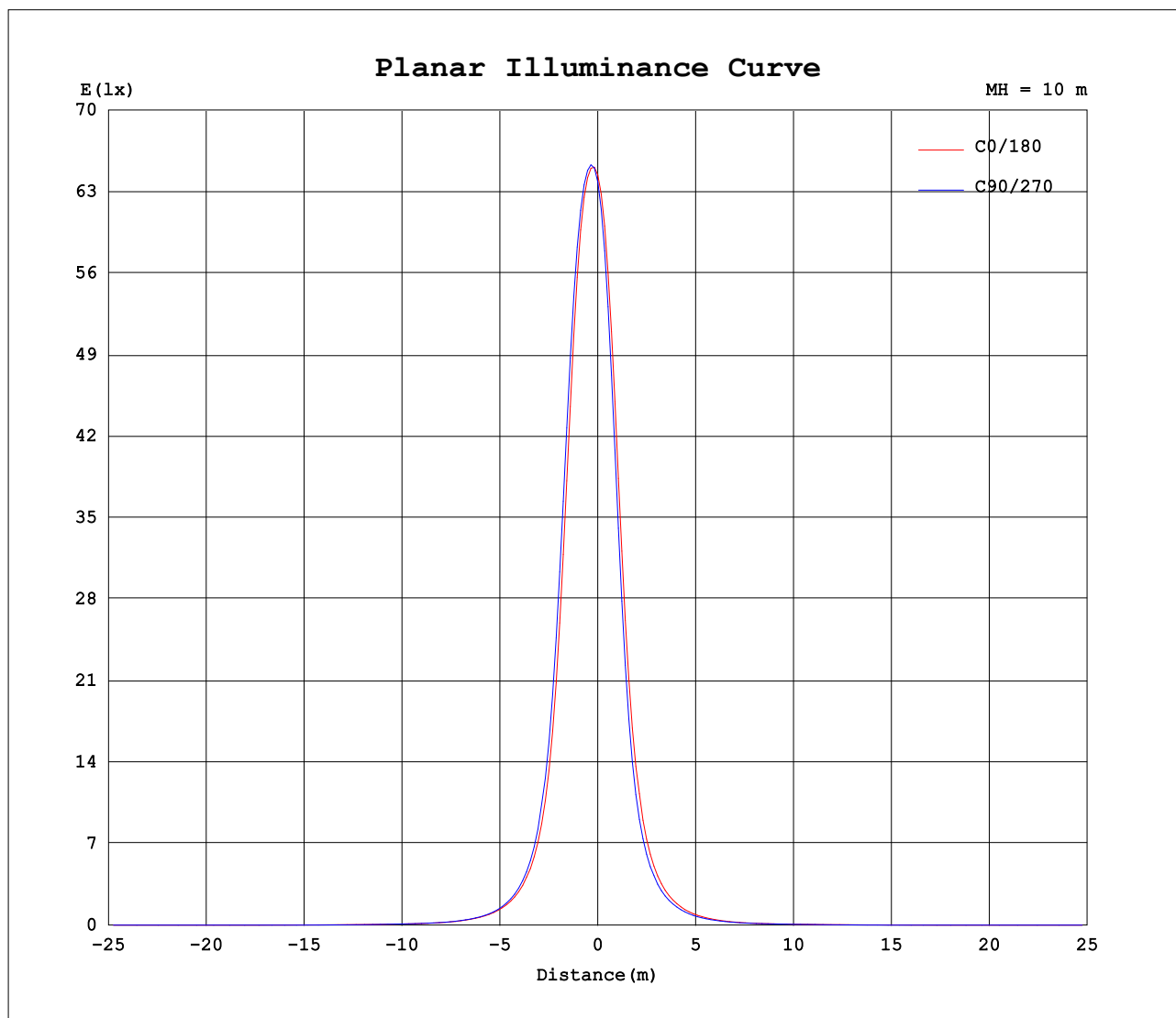
AvgL	cd/m2
L_0~180 (65) av	286
L_0~180 (75) av	0
L_0~180 (85) av	0
L_90~270 (65) av	64
L_90~270 (75) av	7
L_90~270 (85) av	4
L_45 (65) av	142
L_45 (75) av	5
L_45 (85) av	3

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
 Humidity:65.0%
 Test Distance:6.810m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2023-11-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity: 65.0%
Test Distance: 6.810m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:232.30V I:0.0681A P:13.408W PF:0.8476 Freq:50.00Hz Lamp Flux:864.491x1 lm		
NAME: 89014LED	TYPE:	WEIGHT:
SPEC.:P-89014LED-12W2715-CI35031R90-HEK700	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270															
0	6439	6380	6439	6380															
5	6039	6210	4549	4125															
10	3333	3810	1771	1468															
15	1188	1401	676	558															
20	497	553	306	256															
25	235	256	153	131															
30	122	129	83.7	72.6															
35	68.3	71.4	47.3	42.4															
40	40.1	42.4	30.8	28.7															
45	27.6	28.9	22.4	21.1															
50	20.2	16.3	16.4	12.7															
55	12.7	5.60	10.8	4.10															
60	4.36	0.85	4.32	0.51															
65	0.78	0.16	0.43	0.12															
70	0.11	0.01	0.08	0.03															
75	0.00	0.00	0.00	0.02															
80	0.00	0.00	0.00	0.01															
85	0.00	0.00	0.00	0.00															
90	0.00	0.00	0.00	0.00															
95	0.00	0.00	0.00	0.00															
100	0.00	0.00	0.00	0.00															
105	0.00	0.00	0.02	0.00															
110	0.00	0.04	0.00	0.00															
115	0.00	0.07	0.01	0.01															
120	0.00	0.04	0.02	0.02															
125	0.02	0.06	0.04	0.05															
130	0.05	0.10	0.07	0.08															
135	0.10	0.15	0.11	0.14															
140	0.21	0.25	0.19	0.23															
145	0.42	0.42	0.33	0.39															
150	0.91	0.78	0.68	0.77															
155	2.07	1.90	1.50	1.78															
160	3.61	3.43	2.77	3.08															
165	4.71	4.63	3.82	3.96															
170	4.74	4.83	3.97	3.88															
175	4.05	4.09	3.56	3.28															
180	3.55	3.41	3.55	3.41															

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C Interval: 90.0DEG
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γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.286
Humidity:65.0%
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