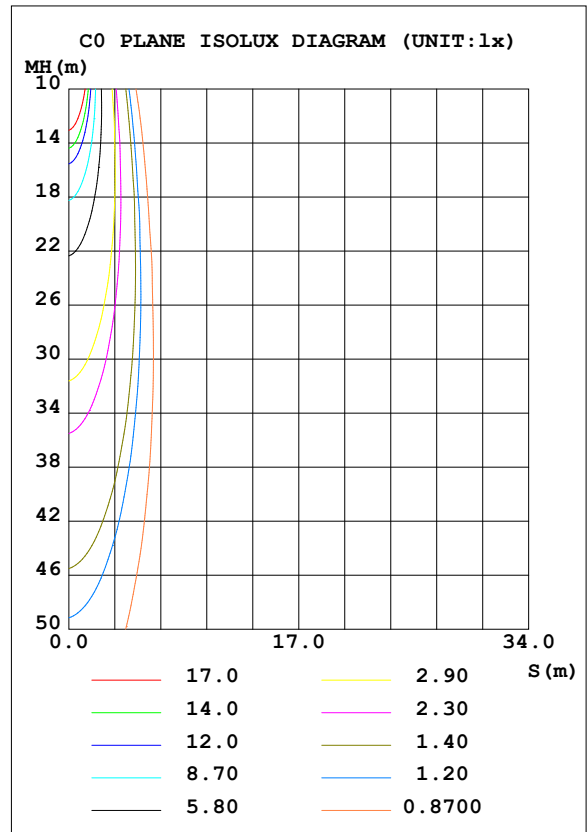
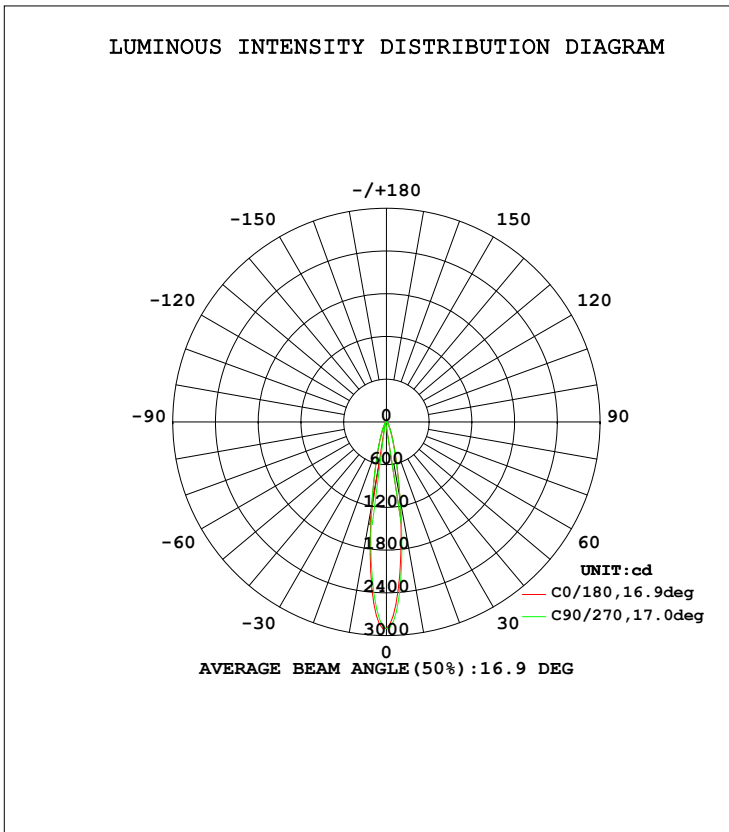


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 63.55 lm/W			
MODEL	CLU7A3 1201	I _{max} (cd)	2901	S/MH (C0/180)	0.30
NOMINAL POWER (W)	7W	LOR (%)	100.0	S/MH (C90/270)	0.30
RATED VOLTAGE (V)		TOTAL FLUX (lm)	443.61	η UP, DN (C0-180)	0.2, 48.4
NOMINAL FLUX (lm)	443.608	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 51.3
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



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2023-11-29

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	1102	1123	1200	1181				0- 10	177.4	177.4	40,40
20	249.7	234.6	261.3	265.4				10- 20	149.7	327.1	73.7,73.7
30	83.09	78.04	79.57	88.23				20- 30	66.52	393.6	88.7,88.7
40	32.84	30.40	32.35	34.20				30- 40	32.73	426.4	96.1,96.1
50	6.402	2.700	6.273	2.526				40- 50	12.97	439.3	99,99
60	0.9959	1.058	0.9398	1.015				50- 60	1.641	441.0	99.4,99.4
70	0.6488	0.5977	0.6168	0.5685				60- 70	0.8153	441.8	99.6,99.6
80	0.2357	0.1812	0.2248	0.1763				70- 80	0.4136	442.2	99.7,99.7
90	0	0	0	0				80- 90	0.0814	442.3	99.7,99.7
100	0	0	0	0				90-100	0	442.3	99.7,99.7
110	0	0	0	0				100-110	0	442.3	99.7,99.7
120	0	0	0	0				110-120	0	442.3	99.7,99.7
130	0.0400	0.0471	0.0244	0.0122				120-130	0.0087	442.3	99.7,99.7
140	0.1760	0.1920	0.1013	0.0872				130-140	0.0582	442.3	99.7,99.7
150	0.6568	0.6645	0.3245	0.2963				140-150	0.1694	442.5	99.8,99.8
160	1.826	1.830	1.079	1.088				150-160	0.4149	442.9	99.8,99.8
170	2.041	2.094	1.796	1.794				160-170	0.5064	443.4	100,100
180	1.655	1.695	1.653	1.695				170-180	0.1732	443.6	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

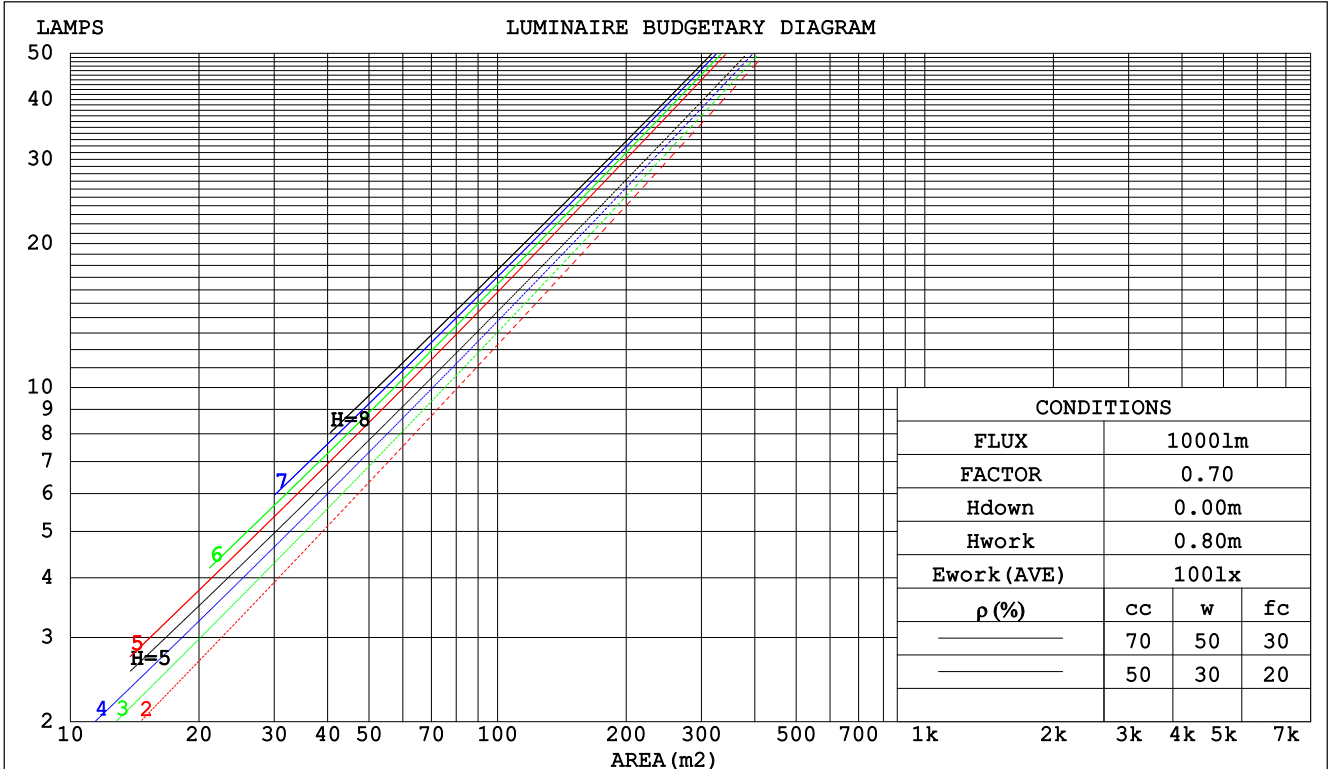
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-29

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:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:

ρcc	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	1.19	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	1.09	1.10	1.09	1.07	1.06	1.05	1.04	1.03	1.02	1.01	.99	.99	.98	.96
2.0	1.07	1.04	1.01	1.05	1.03	1.00	1.02	1.00	.98	.99	.98	.96	.97	.95	.94	.93
3.0	1.02	.99	.96	1.01	.98	.95	.98	.96	.93	.96	.94	.92	.94	.92	.91	.89
4.0	.98	.94	.91	.97	.93	.90	.95	.92	.89	.93	.90	.88	.91	.89	.87	.86
5.0	.94	.90	.87	.94	.90	.87	.92	.88	.86	.90	.87	.85	.89	.86	.84	.83
6.0	.91	.87	.84	.90	.86	.83	.89	.85	.83	.88	.85	.82	.86	.84	.82	.81
7.0	.88	.84	.81	.87	.83	.80	.86	.83	.80	.85	.82	.80	.84	.81	.79	.78
8.0	.85	.81	.78	.85	.81	.78	.84	.80	.78	.83	.80	.77	.82	.79	.77	.76
9.0	.83	.79	.76	.82	.78	.76	.81	.78	.75	.81	.77	.75	.80	.77	.75	.74
10.0	.80	.76	.74	.80	.76	.74	.79	.76	.73	.79	.75	.73	.78	.75	.73	.72



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-29

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:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION 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	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.140	.080	.025	.134	.076	.024	.121	.069	.022	.109	.063	.020	.099	.057	.018	
2.0	.131	.072	.022	.125	.069	.021	.115	.064	.020	.105	.059	.018	.096	.055	.017	
3.0	.122	.065	.019	.118	.063	.019	.109	.059	.018	.101	.055	.017	.093	.052	.016	
4.0	.115	.060	.018	.111	.058	.017	.103	.055	.016	.097	.052	.016	.090	.049	.015	
5.0	.108	.055	.016	.105	.054	.016	.098	.051	.015	.092	.049	.015	.087	.046	.014	
6.0	.102	.051	.015	.099	.050	.014	.094	.048	.014	.089	.046	.014	.084	.044	.013	
7.0	.097	.048	.014	.094	.047	.013	.090	.045	.013	.085	.044	.013	.081	.042	.012	
8.0	.092	.045	.013	.090	.044	.013	.086	.043	.012	.082	.041	.012	.078	.040	.012	
9.0	.088	.043	.012	.086	.042	.012	.082	.041	.012	.079	.040	.011	.076	.038	.011	
10.0	.084	.040	.011	.082	.040	.011	.079	.039	.011	.076	.038	.011	.073	.037	.011	

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	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.193	.193	.193	.165	.165	.165	.112	.112	.112	.065	.065	.065	.021	.021	.021	
1.0	.171	.160	.150	.146	.137	.129	.100	.094	.089	.058	.055	.052	.018	.018	.017	
2.0	.153	.135	.120	.131	.116	.104	.090	.080	.072	.052	.047	.042	.017	.015	.014	
3.0	.138	.116	.098	.119	.100	.085	.081	.069	.059	.047	.040	.035	.015	.013	.011	
4.0	.126	.100	.081	.108	.087	.070	.074	.060	.049	.043	.035	.029	.014	.012	.010	
5.0	.116	.088	.068	.099	.076	.059	.068	.053	.042	.040	.031	.025	.013	.010	.008	
6.0	.107	.078	.058	.092	.068	.050	.063	.047	.035	.037	.028	.021	.012	.009	.007	
7.0	.099	.070	.049	.085	.061	.043	.059	.043	.031	.034	.025	.018	.011	.008	.006	
8.0	.093	.063	.043	.080	.055	.037	.055	.039	.027	.032	.023	.016	.010	.007	.005	
9.0	.087	.058	.038	.075	.050	.033	.052	.035	.023	.030	.021	.014	.010	.007	.005	
10.0	.082	.053	.033	.071	.046	.029	.049	.032	.021	.029	.019	.012	.009	.006	.004	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-29

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:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm										
NAME: 21152LED					TYPE:			WEIGHT:		
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500					DIM.:			SERIAL No.:		
MFR.: CETTIGA					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	7.5	8.1	7.7	8.3	8.5	7.0	7.7	7.2	7.8	8.0
3H	7.4	8.0	7.6	8.2	8.4	6.9	7.5	7.1	7.7	7.9
4H	7.3	7.9	7.6	8.1	8.3	6.8	7.4	7.1	7.6	7.8
6H	7.2	7.8	7.5	8.0	8.3	6.7	7.3	7.0	7.5	7.8
8H	7.2	7.7	7.5	8.0	8.2	6.7	7.3	7.0	7.5	7.8
12H	7.1	7.7	7.5	7.9	8.2	6.7	7.2	7.0	7.5	7.7
4H 2H	7.3	7.9	7.5	8.1	8.3	6.8	7.4	7.1	7.6	7.8
3H	7.1	7.7	7.4	7.9	8.2	6.7	7.2	7.0	7.5	7.7
4H	7.1	7.5	7.4	7.8	8.2	6.6	7.1	6.9	7.4	7.7
6H	7.0	7.4	7.4	7.8	8.1	6.5	6.9	6.9	7.3	7.6
8H	6.9	7.3	7.3	7.7	8.1	6.5	6.9	6.9	7.2	7.6
12H	6.9	7.3	7.3	7.6	8.0	6.4	6.8	6.8	7.2	7.5
8H 4H	6.9	7.3	7.3	7.7	8.0	6.5	6.9	6.9	7.2	7.6
6H	6.8	7.2	7.3	7.6	8.0	6.4	6.7	6.8	7.1	7.5
8H	6.8	7.1	7.3	7.5	8.0	6.3	6.6	6.8	7.0	7.5
12H	6.7	7.0	7.2	7.4	7.9	6.3	6.5	6.7	7.0	7.4
12H 4H	6.9	7.2	7.3	7.6	8.0	6.4	6.8	6.8	7.1	7.5
6H	6.8	7.1	7.2	7.5	7.9	6.3	6.6	6.8	7.0	7.5
8H	6.7	7.0	7.2	7.4	7.9	6.3	6.5	6.7	7.0	7.4
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / - 9.6					+ 2.5 / - 9.8				
1.5H	+ 4.2 / - 9.9					+ 4.7 / - 9.5				
2.0H	+ 7.5 / - 6.6					+ 6.4 / - 4.1				

CIE Pub.117 Corrected 443.6 lm Total Lamp Luminous Flux. (8log(F/F0) = -2.8)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-29

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:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	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	89	83	80	89	83	79	88	83	79	76
0.80	96	91	87	96	91	87	95	90	87	83
1.00	100	95	92	100	95	91	98	94	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	101	105	102	100	95
2.50	111	107	104	109	106	103	106	103	101	96
3.00	112	109	106	110	108	105	107	105	103	97
4.00	114	112	109	112	110	108	108	107	105	98
5.00	115	113	111	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:2023-11-29

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

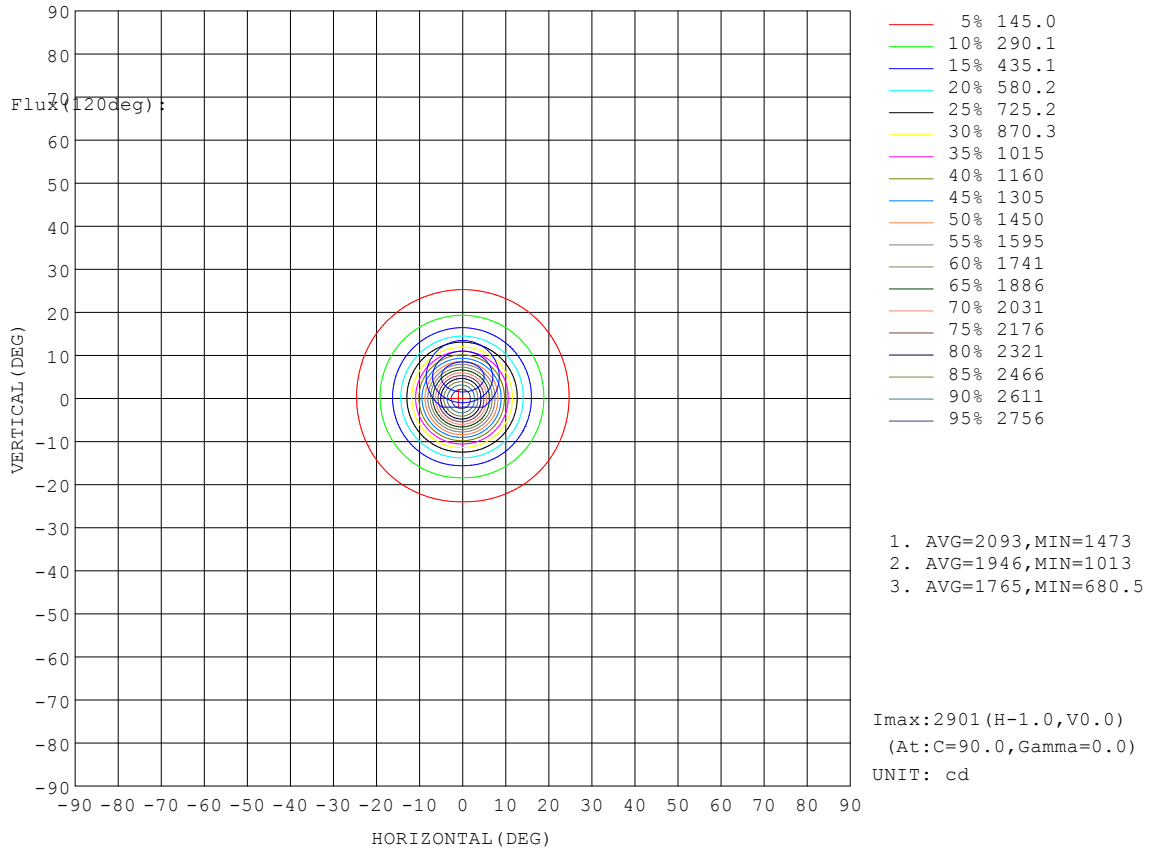
Test:U:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

435.45 lm
%lum = 98.2%
%lamp = 98.2%

Conical surface Flux(120deg):

440.97 lm
%lum = 99.4%
%lamp = 99.4%

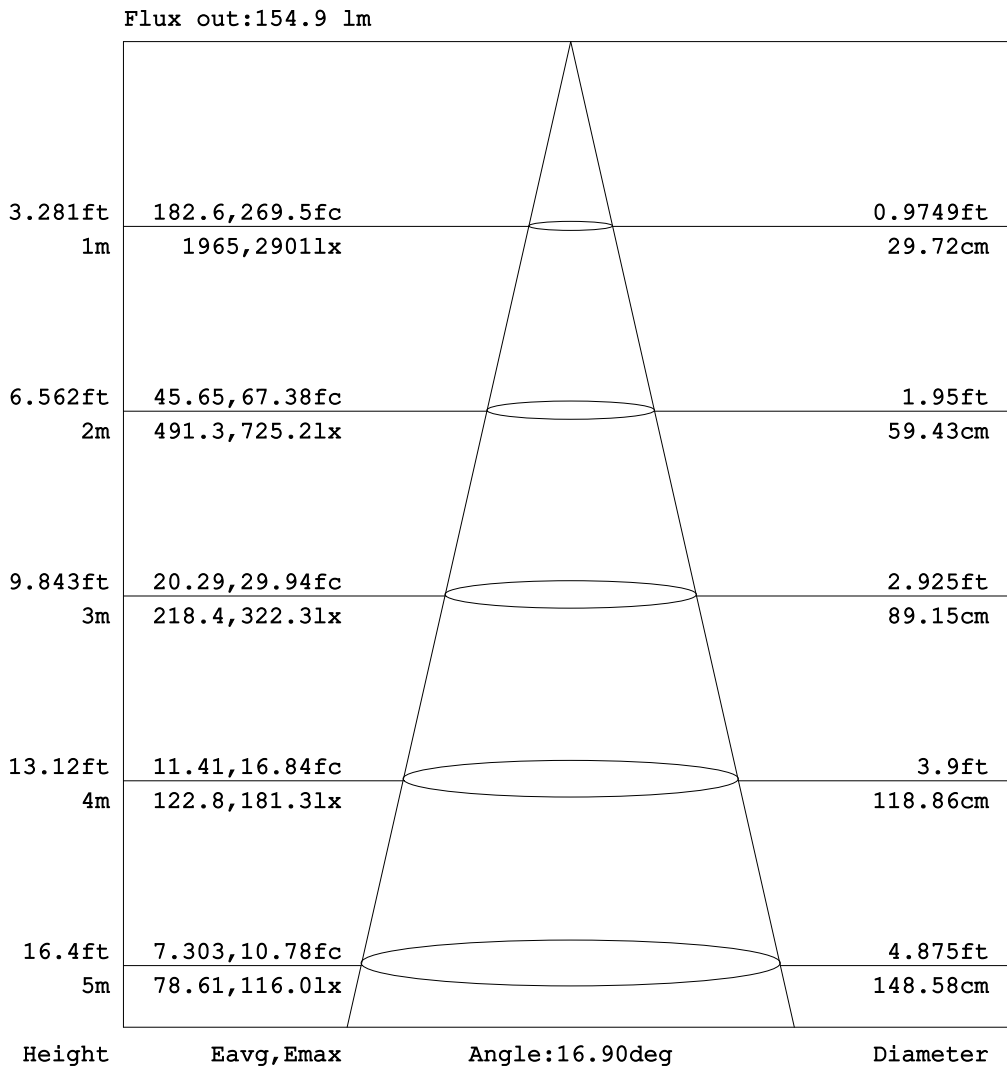


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Xie Bi
Test Date:2023-11-29

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:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:



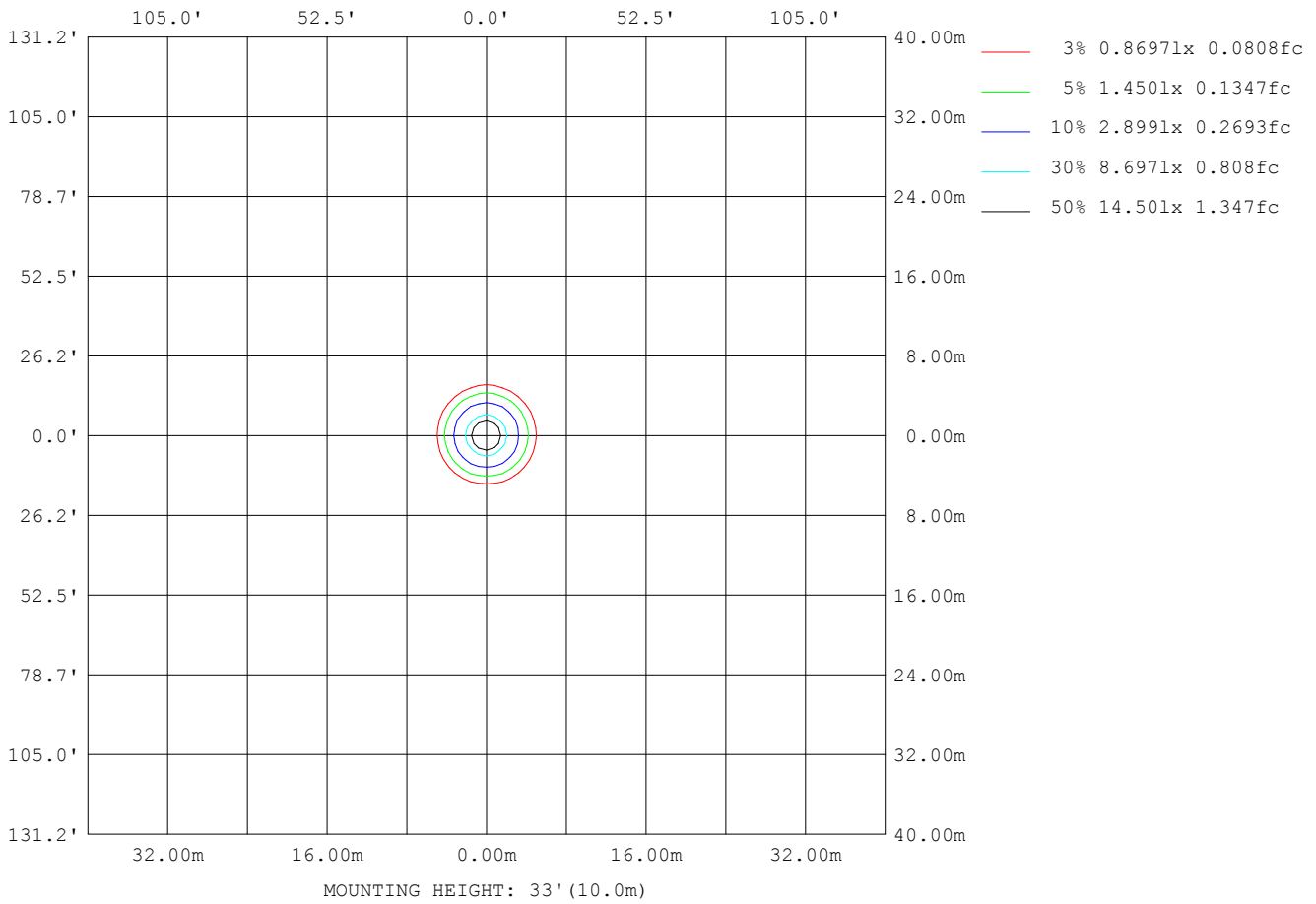
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Xie Bi
 Test Date: 2023-11-29

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

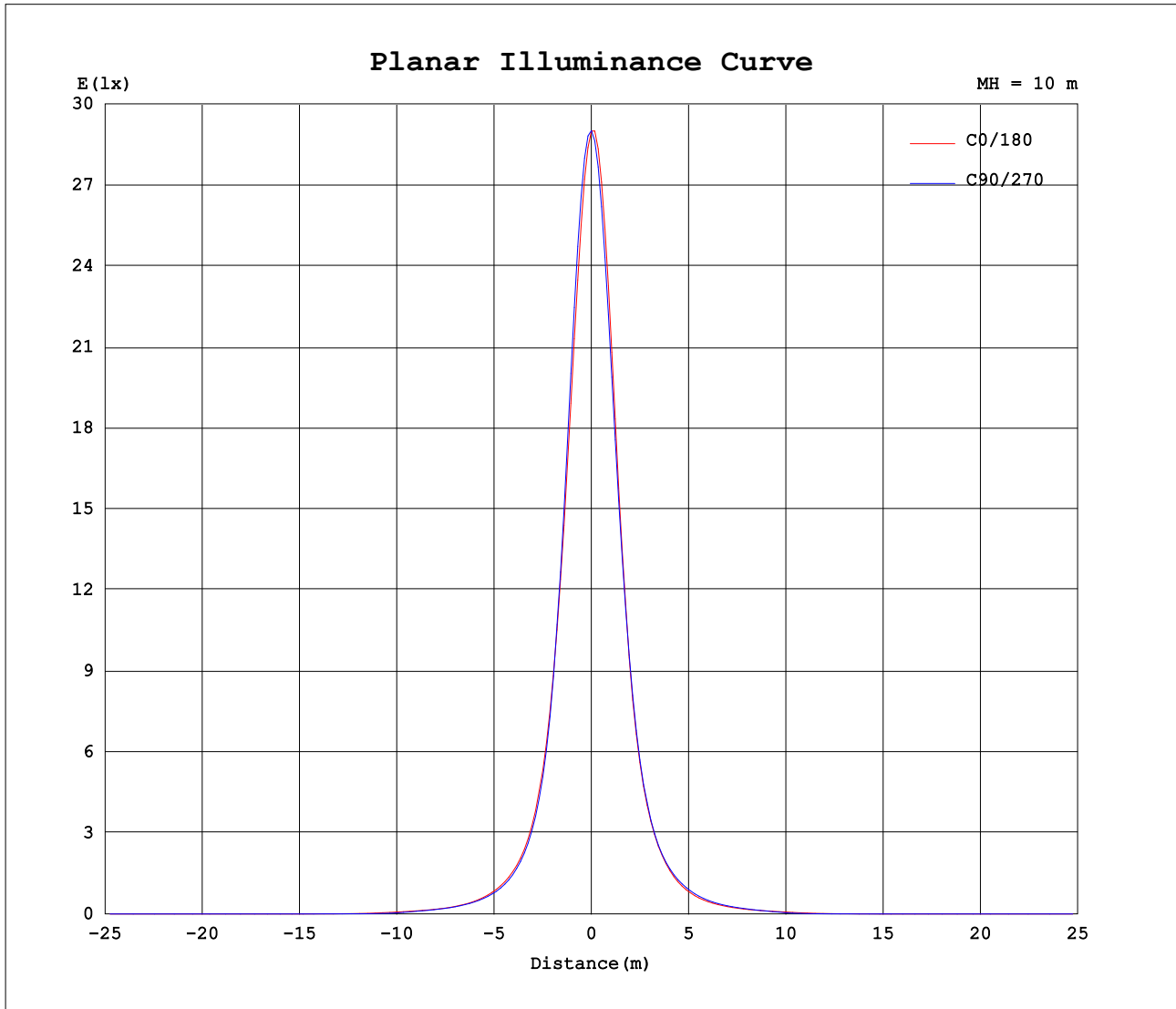
Test:U:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-29

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: 2023-11-29

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:232.5V I:0.0342A P:6.980W PF:0.8787 Lamp Flux:443.608x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2718-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	2899	2901	2899	2901															
5	2154	2272	2353	2245															
10	1102	1123	1200	1181															
15	507	476	525	534															
20	250	235	261	265															
25	140	129	138	150															
30	83.1	78.0	79.6	88.2															
35	50.7	48.6	49.4	55.0															
40	32.8	30.4	32.3	34.2															
45	20.3	11.7	20.1	12.3															
50	6.40	2.70	6.27	2.53															
55	1.66	1.24	1.73	1.20															
60	1.00	1.06	0.94	1.02															
65	0.85	0.86	0.80	0.83															
70	0.65	0.60	0.62	0.57															
75	0.42	0.37	0.40	0.35															
80	0.24	0.18	0.22	0.18															
85	0.09	0.03	0.09	0.04															
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	0.00	0.00															
110	0.00	0.00	0.00	0.00															
115	0.00	0.00	0.00	0.00															
120	0.00	0.00	0.00	0.00															
125	0.01	0.01	0.01	0.00															
130	0.04	0.05	0.02	0.01															
135	0.09	0.10	0.06	0.04															
140	0.18	0.19	0.10	0.09															
145	0.34	0.36	0.18	0.16															
150	0.66	0.66	0.32	0.30															
155	1.21	1.20	0.61	0.59															
160	1.83	1.83	1.08	1.09															
165	2.14	2.19	1.58	1.59															
170	2.04	2.09	1.80	1.79															
175	1.75	1.79	1.71	1.72															
180	1.65	1.69	1.65	1.69															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-29

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: