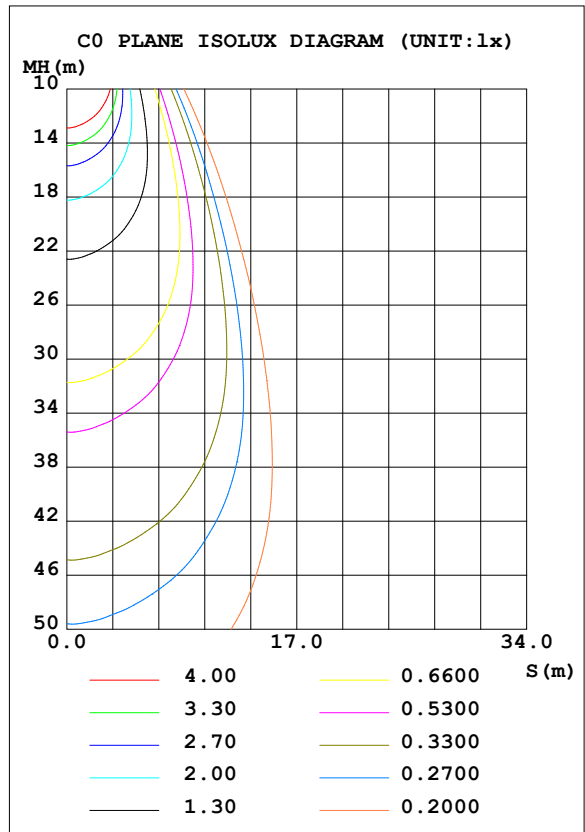
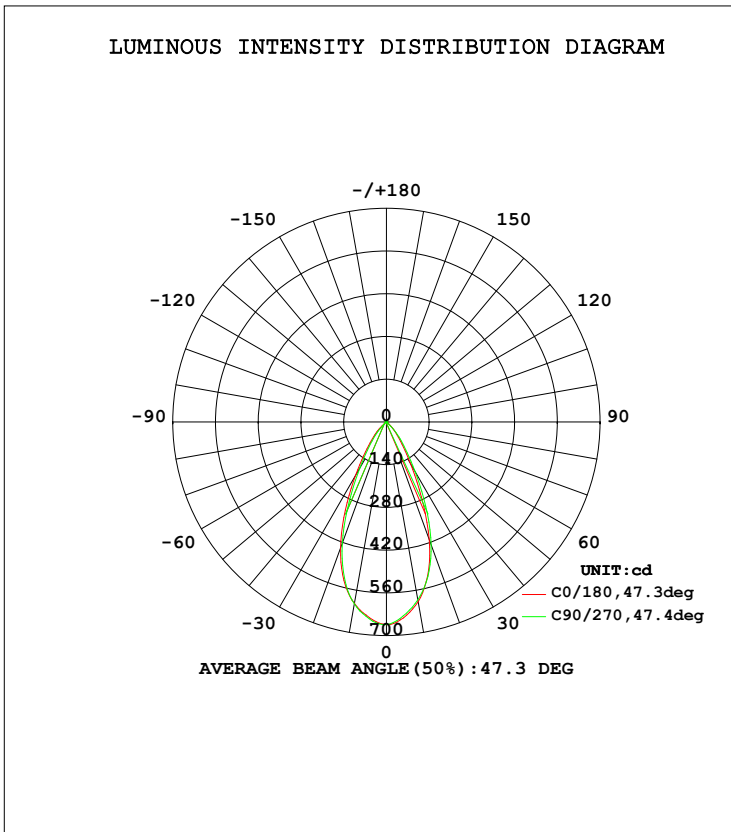


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:232.5V I:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 62.23 lm/W			
MODEL	CLU7A3 1201	I _{max} (cd)	664.2	S/MH (C0/180)	0.76
NOMINAL POWER (W)	7W	LOR (%)	100.0	S/MH (C90/270)	0.73
RATED VOLTAGE (V)		TOTAL FLUX (lm)	434.41	η UP, DN (C0-180)	0.2, 48.7
NOMINAL FLUX (lm)	434.407	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.1, 51.0
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220.2	η down (%)	99.7	CIBSE SHR MAX	0.75



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	598.1	592.0	603.8	605.2				0- 10	60.02	60.02	13.8,13.8
20	410.2	428.4	439.3	422.7				10- 20	145.7	205.7	47.3,47.3
30	158.6	188.5	202.7	174.0				20- 30	134.7	340.3	78.3,78.3
40	50.87	63.71	70.68	55.06				30- 40	67.60	407.9	93.9,93.9
50	7.961	2.936	8.441	3.127				40- 50	21.65	429.6	98.9,98.9
60	1.273	1.153	1.013	1.303				50- 60	1.965	431.6	99.3,99.3
70	0.8528	0.6691	0.6726	0.7690				60- 70	0.9707	432.5	99.6,99.6
80	0.3596	0.2179	0.2631	0.2757				70- 80	0.5239	433.1	99.7,99.7
90	0.0000	0	0	0				80- 90	0.1186	433.2	99.7,99.7
100	0	0	0	0				90-100	0.0000	433.2	99.7,99.7
110	0	0	0	0				100-110	0	433.2	99.7,99.7
120	0.0139	0.0035	0	0				110-120	0.0004	433.2	99.7,99.7
130	0.1411	0.1081	0.0506	0.0488				120-130	0.0327	433.2	99.7,99.7
140	0.4097	0.3647	0.1990	0.2179				130-140	0.1374	433.3	99.8,99.8
150	0.7687	0.7324	0.4762	0.4968				140-150	0.2802	433.6	99.8,99.8
160	1.090	1.080	0.7850	0.8057				150-160	0.3570	434.0	99.9,99.9
170	1.323	1.320	1.081	1.123				160-170	0.3012	434.3	100,100
180	1.400	1.428	1.399	1.426				170-180	0.1236	434.4	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

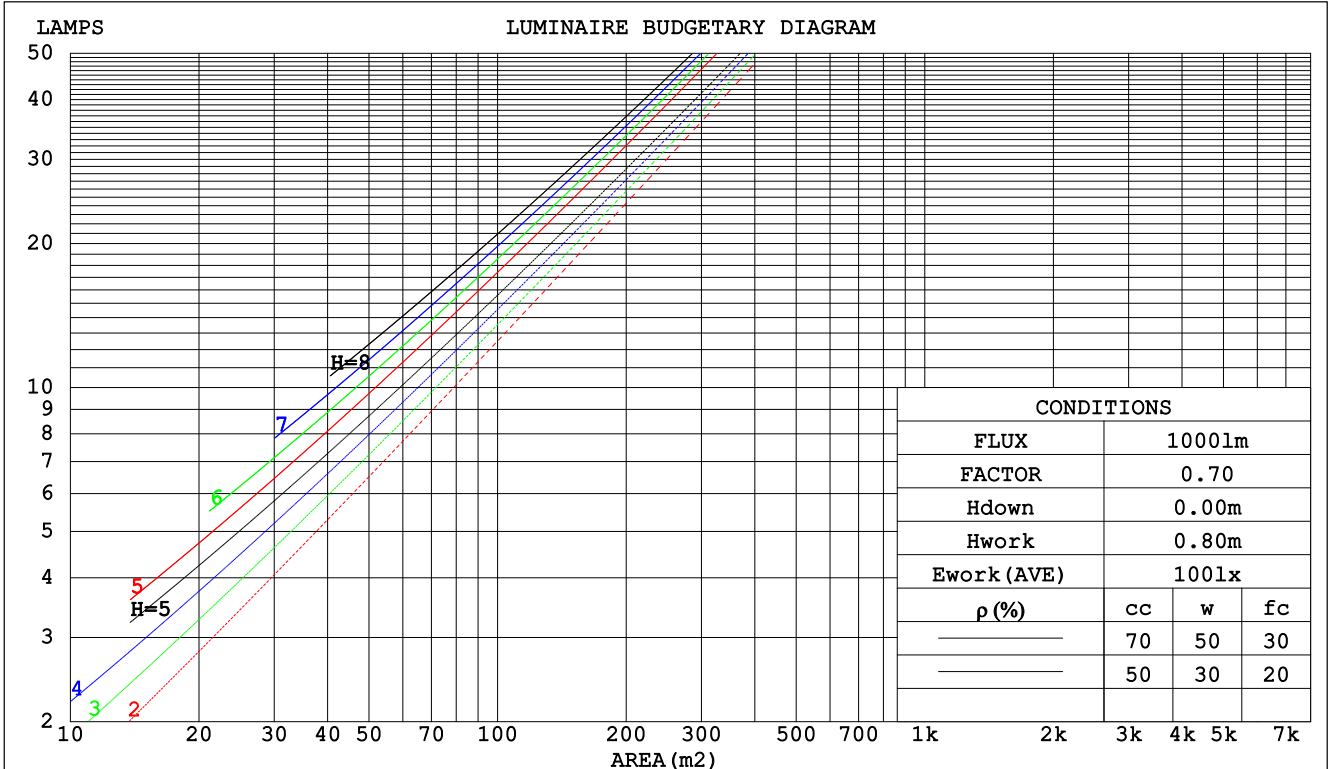
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Xie Bi
 Test Date:2023-11-29

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:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-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	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	.00	.99	.98	.97	.96	.94
2.0	1.04	1.00	.97	1.02	.99	.96	.99	.96	.94	.96	.94	.92	.93	.91	.90	.88
3.0	.98	.93	.89	.96	.92	.88	.94	.90	.87	.91	.88	.86	.89	.86	.84	.83
4.0	.92	.87	.83	.91	.86	.82	.88	.84	.81	.86	.83	.80	.85	.82	.79	.78
5.0	.86	.81	.77	.86	.80	.77	.84	.79	.76	.82	.78	.75	.81	.77	.75	.73
6.0	.82	.76	.72	.81	.76	.72	.79	.75	.71	.78	.74	.71	.77	.73	.70	.69
7.0	.77	.72	.68	.77	.71	.68	.75	.71	.67	.74	.70	.67	.73	.69	.66	.65
8.0	.73	.68	.64	.73	.67	.64	.72	.67	.63	.71	.66	.63	.70	.66	.63	.62
9.0	.70	.64	.60	.69	.64	.60	.68	.63	.60	.67	.63	.60	.67	.63	.60	.58
10.0	.66	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.57	.64	.60	.57	.55



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:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-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	.169	.096	.030	.162	.093	.029	.150	.086	.027	.138	.080	.026	.127	.074	.024	
2.0	.161	.088	.027	.155	.086	.026	.145	.080	.025	.135	.076	.024	.126	.071	.022	
3.0	.153	.081	.024	.148	.079	.024	.139	.075	.023	.131	.072	.022	.123	.068	.021	
4.0	.145	.076	.022	.141	.074	.022	.133	.071	.021	.126	.068	.020	.119	.065	.020	
5.0	.139	.071	.020	.135	.069	.020	.128	.067	.020	.122	.064	.019	.116	.062	.019	
6.0	.132	.066	.019	.129	.065	.019	.123	.063	.018	.118	.061	.018	.112	.059	.018	
7.0	.126	.062	.018	.124	.062	.018	.118	.060	.017	.113	.058	.017	.109	.057	.017	
8.0	.121	.059	.017	.119	.058	.016	.114	.057	.016	.109	.055	.016	.105	.054	.016	
9.0	.116	.056	.016	.114	.055	.016	.110	.054	.015	.106	.053	.015	.102	.052	.015	
10.0	.111	.053	.015	.109	.053	.015	.106	.052	.015	.102	.051	.014	.099	.050	.014	

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	.173	.160	.148	.148	.137	.127	.101	.094	.088	.058	.055	.051	.019	.018	.017	
2.0	.157	.135	.116	.134	.116	.100	.092	.080	.070	.053	.047	.041	.017	.015	.013	
3.0	.144	.116	.093	.124	.100	.081	.085	.069	.057	.049	.040	.033	.016	.013	.011	
4.0	.133	.101	.076	.115	.087	.066	.079	.061	.046	.046	.036	.028	.015	.012	.009	
5.0	.125	.089	.063	.107	.077	.055	.074	.054	.039	.043	.032	.023	.014	.010	.008	
6.0	.117	.080	.053	.100	.069	.046	.069	.048	.033	.040	.028	.019	.013	.009	.006	
7.0	.110	.072	.045	.095	.062	.039	.066	.044	.028	.038	.026	.017	.012	.008	.006	
8.0	.105	.066	.039	.090	.057	.034	.062	.040	.024	.036	.024	.014	.012	.008	.005	
9.0	.099	.061	.034	.086	.053	.030	.059	.037	.021	.035	.022	.013	.011	.007	.004	
10.0	.095	.056	.030	.082	.049	.026	.057	.034	.019	.033	.020	.011	.011	.007	.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:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm										
NAME: 21152LED					TYPE:			WEIGHT:		
SPEC.:P-21152LED-7W2746-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	11.3	12.2	11.5	12.4	12.5	11.9	12.8	12.2	13.0	13.2
3H	11.2	12.0	11.4	12.2	12.4	11.8	12.6	12.0	12.8	13.0
4H	11.1	11.9	11.4	12.1	12.3	11.7	12.5	12.0	12.7	12.9
6H	11.0	11.7	11.3	12.0	12.2	11.6	12.3	11.9	12.6	12.8
8H	11.0	11.7	11.3	11.9	12.2	11.6	12.3	11.9	12.5	12.8
12H	10.9	11.6	11.3	11.9	12.1	11.5	12.2	11.9	12.5	12.7
4H 2H	11.1	11.8	11.3	12.1	12.3	11.7	12.5	12.0	12.7	12.9
3H	10.9	11.6	11.2	11.9	12.1	11.5	12.2	11.9	12.5	12.7
4H	10.8	11.4	11.2	11.7	12.1	11.4	12.1	11.8	12.4	12.7
6H	10.8	11.3	11.1	11.6	12.0	11.4	11.9	11.7	12.2	12.6
8H	10.7	11.2	11.1	11.6	11.9	11.3	11.8	11.7	12.2	12.5
12H	10.7	11.1	11.1	11.5	11.9	11.3	11.7	11.7	12.1	12.5
8H 4H	10.7	11.2	11.1	11.5	11.9	11.3	11.8	11.7	12.2	12.5
6H	10.6	11.0	11.1	11.4	11.8	11.2	11.6	11.6	12.0	12.4
8H	10.6	10.9	11.0	11.4	11.8	11.2	11.5	11.6	11.9	12.4
12H	10.5	10.8	11.0	11.3	11.8	11.1	11.4	11.6	11.9	12.3
12H 4H	10.6	11.1	11.1	11.5	11.9	11.3	11.7	11.7	12.1	12.5
6H	10.6	10.9	11.0	11.3	11.8	11.2	11.5	11.6	11.9	12.4
8H	10.5	10.8	11.0	11.3	11.7	11.1	11.4	11.6	11.9	12.3
Variations with the observer position at spacings:										
S = 1.0H	+ 2.6 / -11.2					+ 3.1 / -13.2				
1.5H	+ 4.6 / -11.2					+ 5.6 / -12.8				
2.0H	+ 7.7 / - 6.4					+ 7.9 / - 5.4				

CIE Pub.117 Corrected 434.4 lm Total Lamp Luminous Flux. (8log(F/F0) = -2.9)

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:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-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	88	81	78	87	81	78	86	81	78	74
0.80	95	89	86	95	89	86	93	88	85	82
1.00	100	94	91	99	94	90	97	93	90	86
1.25	104	98	95	102	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	99	97	92
2.00	109	105	102	107	104	101	105	102	99	94
2.50	110	107	104	109	105	103	106	103	101	95
3.00	112	109	106	110	107	105	107	104	103	96
4.00	114	111	109	112	110	108	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	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

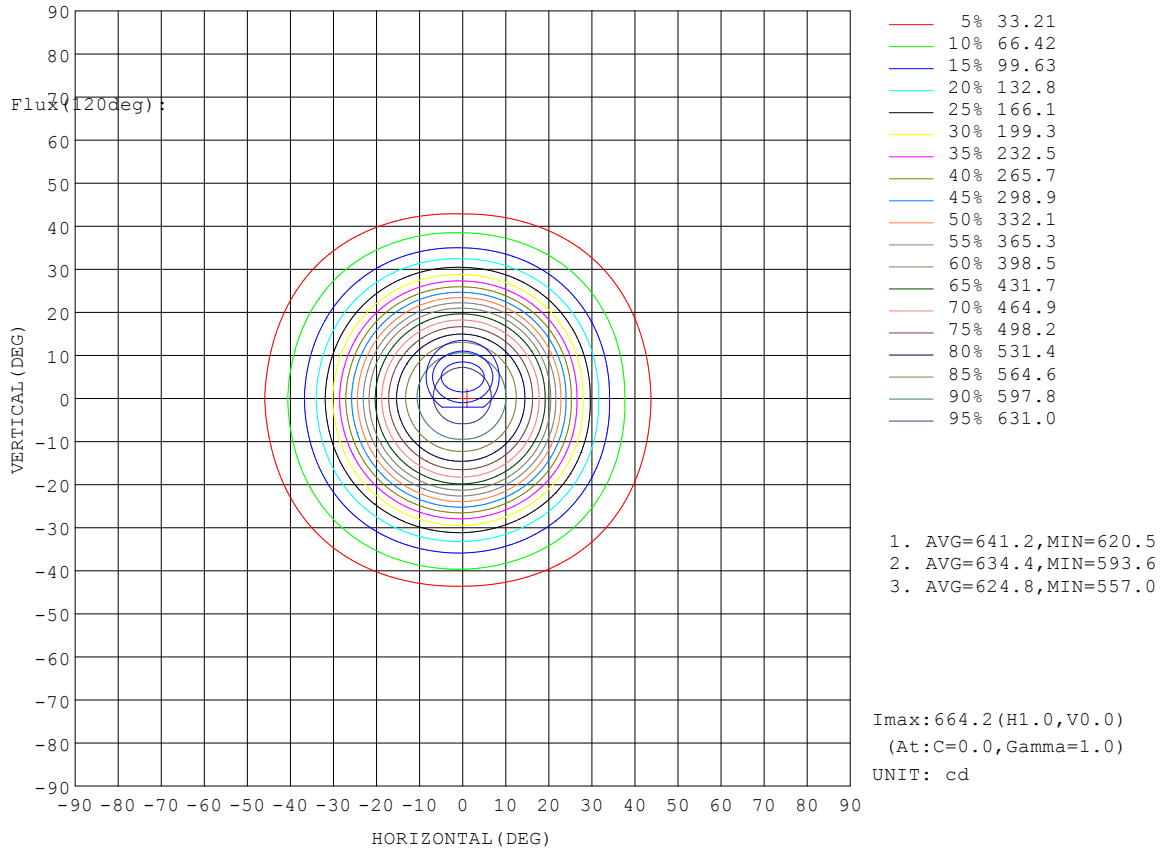
Test:U:232.5V I:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

423.84 lm
%lum = 97.6%
%lamp = 97.6%

Conical surface Flux(120deg):

431.56 lm
%lum = 99.3%
%lamp = 99.3%

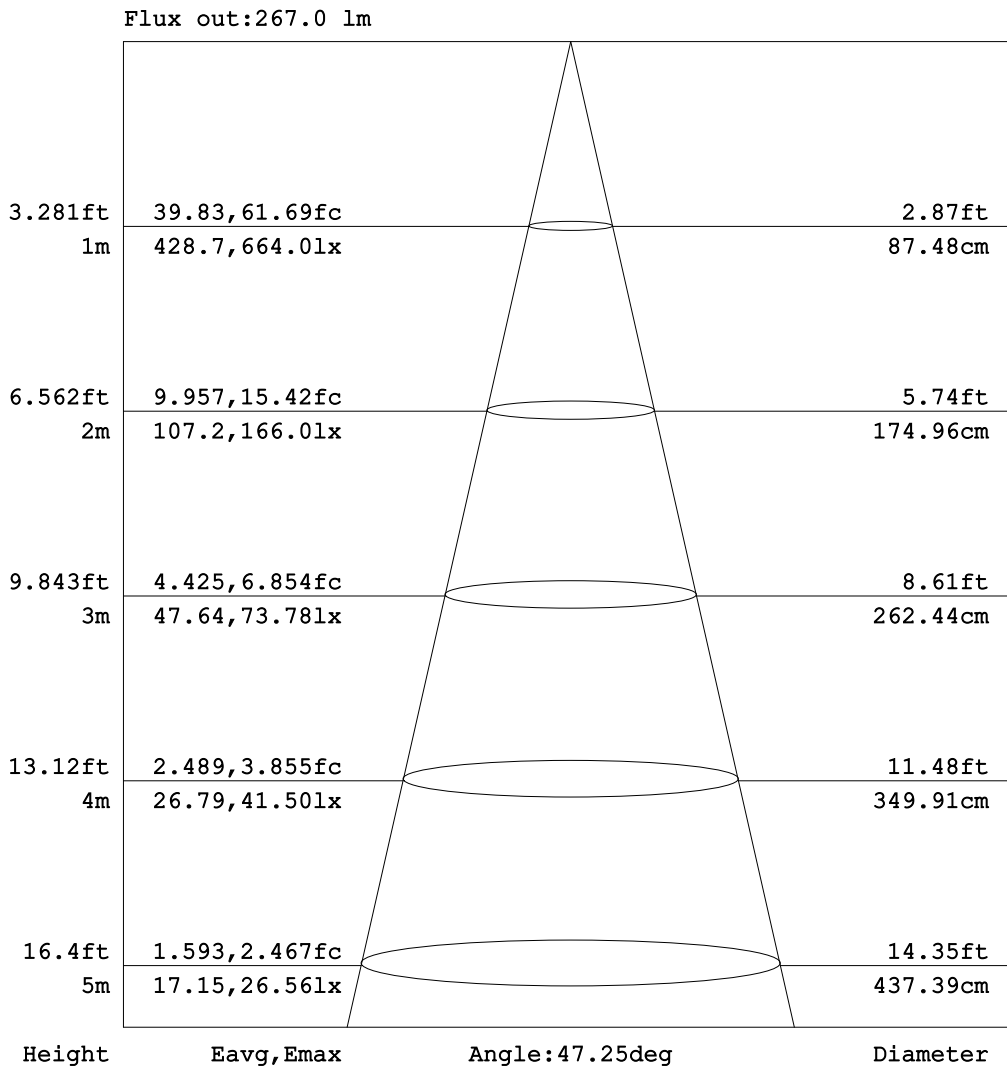


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Xie Bi
Test Date: 2023-11-29

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:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:



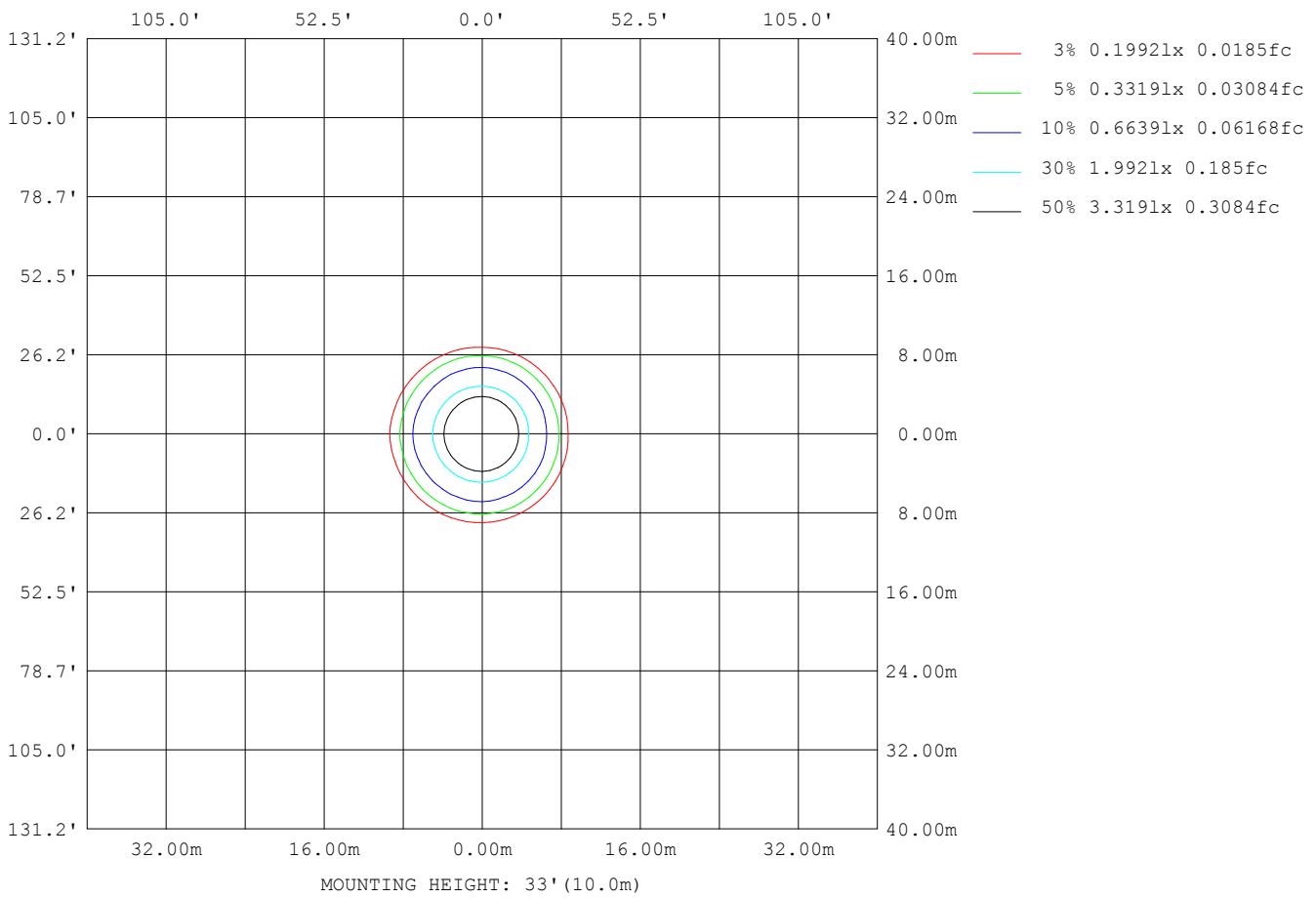
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

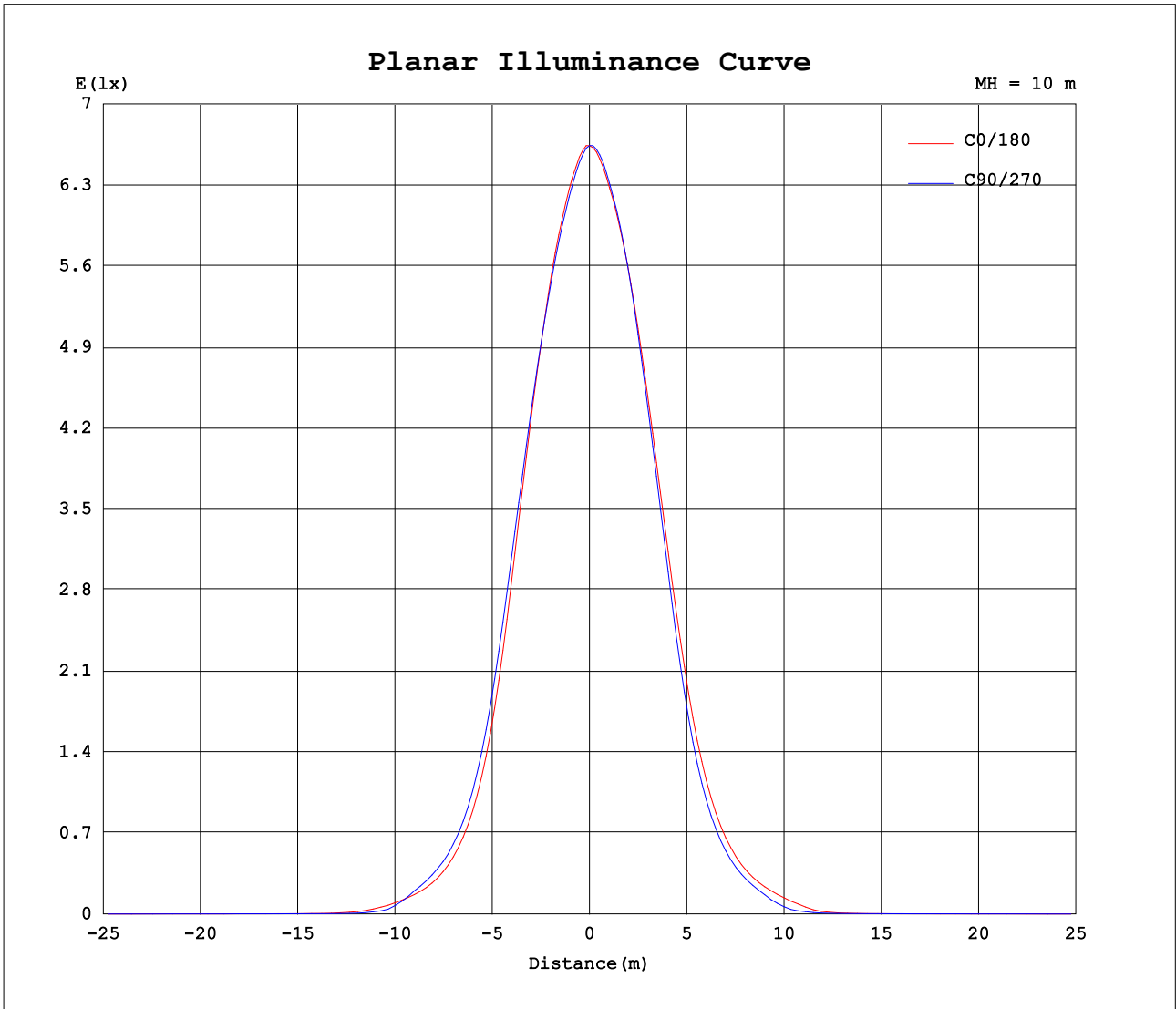
Test:U:232.5V I:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:



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:0.0341A P:6.981W PF:0.8795 Lamp Flux:434.407x1 lm		
NAME: 21152LED	TYPE:	WEIGHT:
SPEC.:P-21152LED-7W2746-CI15036R90-LDY500	DIM.:	SERIAL No.:
MFR.: CETTIGA	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	664	664	664	664															
5	644	638	643	647															
10	598	592	604	605															
15	522	525	538	531															
20	410	428	439	423															
25	271	305	319	289															
30	159	188	203	174															
35	89.9	110	120	99.3															
40	50.9	63.7	70.7	55.1															
45	27.4	20.6	39.6	17.8															
50	7.96	2.94	8.44	3.13															
55	2.02	1.35	1.90	1.53															
60	1.27	1.15	1.01	1.30															
65	1.09	0.94	0.86	1.07															
70	0.85	0.67	0.67	0.77															
75	0.59	0.43	0.45	0.50															
80	0.36	0.22	0.26	0.28															
85	0.16	0.04	0.11	0.08															
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	0.01	0.00	0.00	0.00															
125	0.06	0.04	0.02	0.01															
130	0.14	0.11	0.05	0.05															
135	0.26	0.21	0.11	0.12															
140	0.41	0.36	0.20	0.22															
145	0.58	0.54	0.32	0.35															
150	0.77	0.73	0.48	0.50															
155	0.94	0.91	0.63	0.65															
160	1.09	1.08	0.79	0.81															
165	1.22	1.21	0.93	0.96															
170	1.32	1.32	1.08	1.12															
175	1.39	1.40	1.25	1.29															
180	1.40	1.43	1.40	1.43															

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: