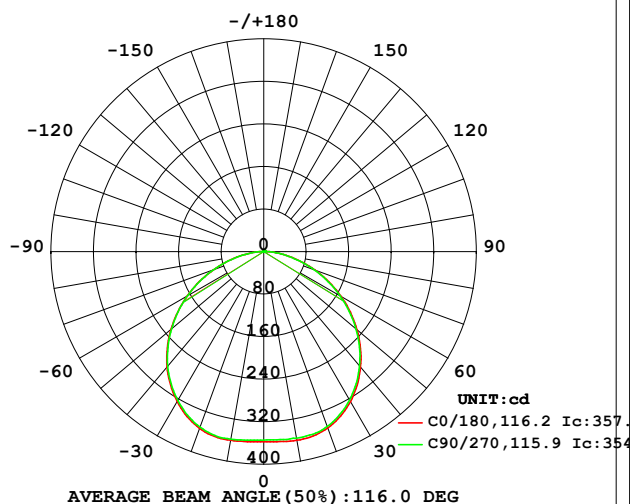


LUMINAIRE PHOTOMETRIC TEST REPORT

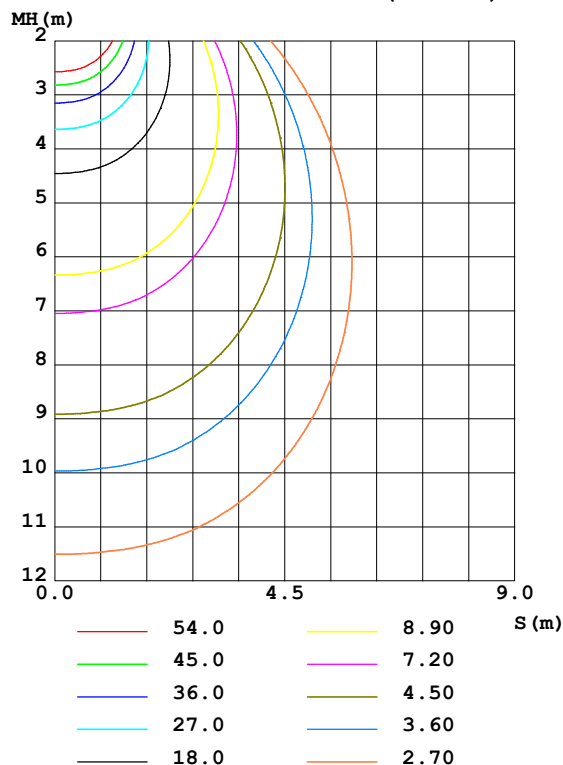
Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 52.78 lm/W
MODEL	--	I _{max} (cd)	360.6	S/MH(C0/180)	1.34	
NOMINAL POWER(W)	--	LOR(%)	100.0	S/MH(C90/270)	1.34	
RATED VOLTAGE(V)	--	TOTAL FLUX(lm)	1092.0	η UP,DN(C0-180)	0.5,49.6	
NOMINAL FLUX(lm)	1092.04	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.5,49.4	
LAMPS INSIDE	1	η up(%)	1.0	CIBSE SHR NOM	1.50	
TEST VOLTAGE(V)	--	η down(%)	99.0	CIBSE SHR MAX	1.50	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

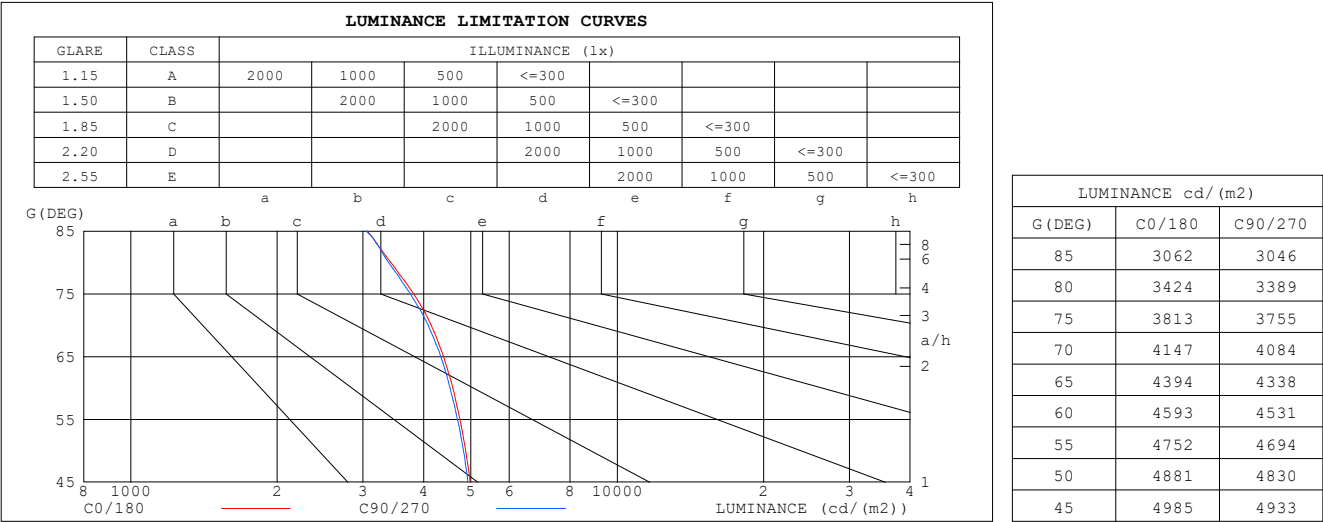
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	360.3	357.6	356.3	355.9	360.2	359.1	358.2	357.0	0- 10	34.04	34.04	3.12,3.12
20	352.9	350.9	350.0	349.2	353.6	352.4	351.1	349.7	10- 20	100.8	134.9	12.4,12.4
30	326.0	323.9	322.7	322.1	325.8	325.0	323.3	322.4	20- 30	156.3	291.2	26.7,26.7
40	283.5	282.0	280.6	279.7	283.0	282.6	281.2	280.1	30- 40	190.0	481.2	44.1,44.1
50	229.2	228.2	226.8	225.6	227.8	227.5	226.6	225.8	40- 50	196.8	678.0	62.1,62.1
60	167.8	167.1	165.5	164.6	165.7	165.6	165.1	164.9	50- 60	175.8	853.8	78.2,78.2
70	103.6	103.0	102.1	100.9	101.0	101.0	100.7	100.9	60- 70	132.2	986.0	90.3,90.3
80	43.44	43.35	43.00	41.94	41.07	40.79	40.70	41.32	70- 80	74.58	1061	97.1,97.1
90	0.7918	0.7661	0.6989	0.6937	0.4429	0.4515	0.4710	0.4756	80- 90	20.76	1081	99,99
100	0.9559	0.9563	0.9429	0.9347	0.7003	0.6851	0.6843	0.6777	90-100	0.7960	1082	99.1,99.1
110	1.383	1.371	1.371	1.370	1.100	1.084	1.056	1.063	100-110	1.074	1083	99.2,99.2
120	1.812	1.819	1.799	1.798	1.499	1.484	1.497	1.471	110-120	1.422	1085	99.3,99.3
130	2.212	2.212	2.213	2.191	1.870	1.884	1.869	1.848	120-130	1.651	1086	99.5,99.5
140	2.539	2.576	2.527	2.519	2.256	2.240	2.212	2.242	130-140	1.712	1088	99.6,99.6
150	2.797	2.826	2.769	2.797	2.556	2.554	2.540	2.555	140-150	1.595	1090	99.8,99.8
160	3.096	3.118	3.040	3.061	2.911	2.911	2.882	2.919	150-160	1.302	1091	99.9,99.9
170	3.211	3.226	3.202	3.182	3.125	3.104	3.096	3.097	160-170	0.8670	1092	100,100
180	3.240	3.240	3.211	3.211	3.268	3.247	3.211	3.211	170-180	0.3041	1092	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

LUMINANCE LIMITATION CURVES

Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	



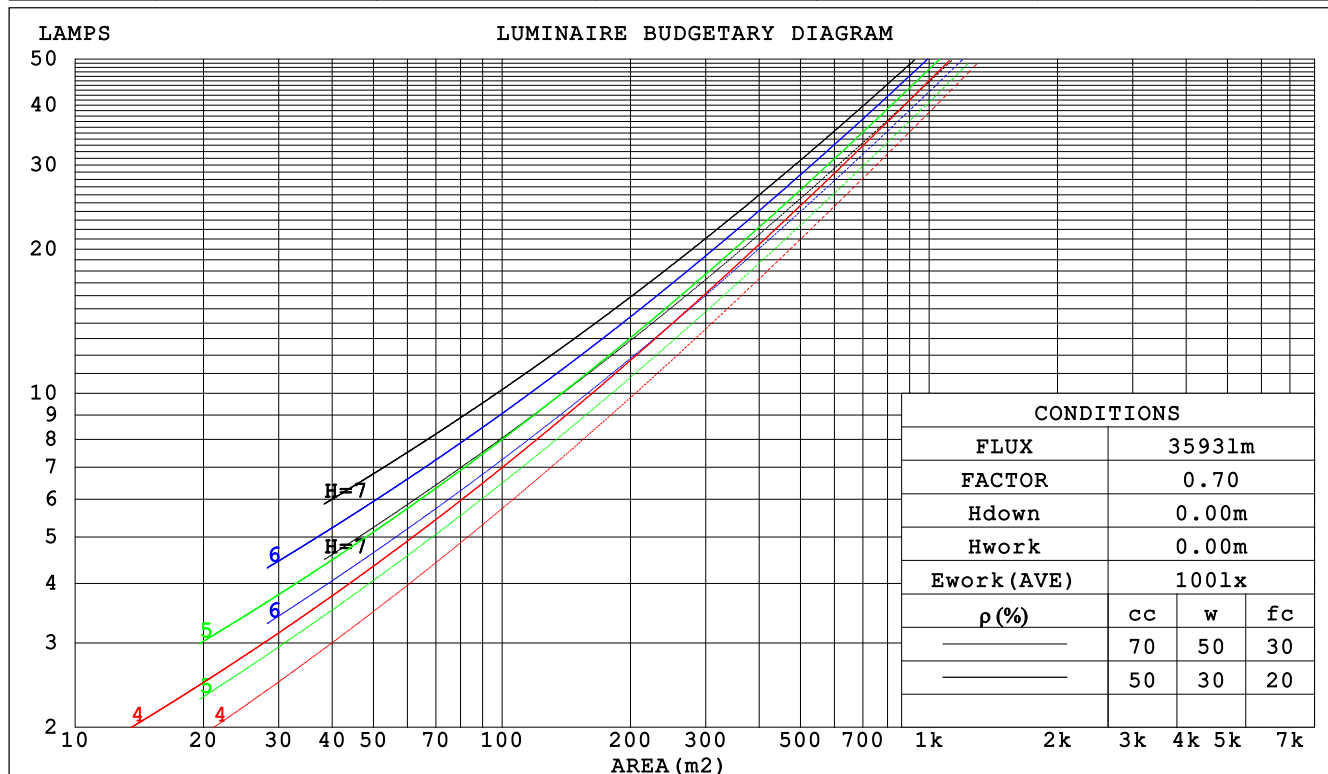
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	

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						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	1.01	1.01	1.01	.99
1.0	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.78	.88	.82	.77	.85	.79	.75	.81	.77	.73	.78	.74	.71	.69
3.0	.79	.71	.64	.78	.70	.64	.74	.68	.62	.71	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.57	.52	.61	.56	.52	.49
5.0	.63	.53	.47	.61	.53	.46	.59	.52	.46	.57	.50	.45	.55	.49	.45	.43
6.0	.56	.47	.41	.55	.47	.41	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.48	.41	.35	.47	.40	.35	.45	.39	.35	.33
8.0	.46	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.33	.28	.40	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.25	.24



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

GONIOPHOTOMETERS SYSTEM TEST REPORT

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WEC AND CCEC

Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	

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	.309	.176	.056	.302	.172	.055	.288	.165	.053	.275	.159	.051	.264	.153	.049	
2.0	.291	.160	.049	.285	.157	.048	.273	.152	.047	.261	.147	.046	.251	.142	.045	
3.0	.270	.144	.043	.264	.141	.043	.253	.137	.042	.243	.133	.041	.234	.129	.040	
4.0	.249	.129	.038	.244	.128	.038	.234	.124	.037	.225	.121	.036	.217	.118	.036	
5.0	.230	.117	.034	.226	.116	.034	.217	.113	.033	.209	.110	.033	.202	.108	.032	
6.0	.214	.107	.031	.210	.106	.030	.202	.103	.030	.195	.101	.030	.188	.099	.029	
7.0	.199	.098	.028	.195	.097	.028	.188	.095	.027	.182	.093	.027	.176	.091	.027	
8.0	.186	.091	.026	.183	.090	.025	.176	.088	.025	.171	.086	.025	.165	.085	.025	
9.0	.174	.084	.024	.171	.083	.023	.166	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.164	.078	.022	.161	.078	.022	.156	.076	.022	.151	.075	.021	.147	.074	.021	

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	.198	.198	.198	.169	.169	.169	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.188	.164	.142	.161	.140	.122	.110	.097	.084	.063	.056	.049	.020	.018	.016	
2.0	.180	.140	.106	.154	.120	.091	.106	.083	.064	.061	.048	.037	.020	.016	.012	
3.0	.172	.122	.082	.148	.105	.071	.101	.073	.050	.058	.043	.029	.019	.014	.010	
4.0	.164	.109	.066	.141	.094	.057	.097	.065	.040	.056	.038	.024	.018	.012	.008	
5.0	.157	.098	.055	.135	.085	.048	.093	.059	.034	.054	.035	.020	.017	.011	.007	
6.0	.150	.090	.047	.129	.078	.041	.089	.055	.029	.052	.032	.017	.017	.010	.006	
7.0	.143	.083	.041	.123	.072	.036	.085	.050	.025	.049	.030	.015	.016	.010	.005	
8.0	.137	.077	.036	.118	.067	.032	.081	.047	.023	.047	.028	.013	.015	.009	.004	
9.0	.131	.072	.033	.113	.063	.029	.078	.044	.020	.045	.026	.012	.015	.009	.004	
10.0	.125	.068	.030	.108	.059	.026	.075	.042	.019	.044	.025	.011	.014	.008	.004	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

GONIOPHOTOMETERS SYSTEM TEST REPORT

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UGR(Unified Glare Rating) Table

Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm										
NAME: Ezra					TYPE:--			SERIAL No.:FTS23091803L-04		
SPEC.:M16613					DIM.: --					
MFR.: Matteo Lighting					SUR.:305mm					
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	18.3	19.8	18.6	20.0	20.2	18.2	19.7	18.5	20.0	20.2
3H	19.8	21.2	20.1	21.4	21.7	19.7	21.1	20.0	21.3	21.6
4H	20.3	21.7	20.7	21.9	22.2	20.3	21.6	20.6	21.9	22.1
6H	20.8	22.0	21.1	22.3	22.6	20.7	21.9	21.0	22.2	22.5
8H	20.9	22.1	21.3	22.4	22.7	20.8	22.0	21.2	22.3	22.6
12H	21.0	22.1	21.4	22.5	22.8	20.9	22.1	21.3	22.4	22.7
4H 2H	18.9	20.2	19.2	20.5	20.7	18.8	20.1	19.2	20.4	20.7
3H	20.5	21.7	20.9	22.0	22.3	20.5	21.6	20.8	21.9	22.3
4H	21.2	22.3	21.6	22.6	23.0	21.2	22.2	21.6	22.6	22.9
6H	21.8	22.7	22.2	23.1	23.5	21.7	22.7	22.1	23.0	23.4
8H	22.0	22.9	22.4	23.2	23.6	21.9	22.8	22.3	23.2	23.6
12H	22.1	22.9	22.6	23.3	23.7	22.0	22.8	22.5	23.2	23.7
8H 4H	21.5	22.4	21.9	22.8	23.2	21.4	22.3	21.9	22.7	23.1
6H	22.2	22.9	22.6	23.3	23.8	22.1	22.8	22.6	23.3	23.7
8H	22.5	23.1	22.9	23.6	24.0	22.4	23.0	22.9	23.5	24.0
12H	22.7	23.2	23.2	23.7	24.2	22.6	23.2	23.1	23.6	24.1
12H 4H	21.5	22.3	21.9	22.7	23.1	21.4	22.2	21.9	22.7	23.1
6H	22.2	22.9	22.7	23.3	23.8	22.2	22.8	22.7	23.3	23.7
8H	22.6	23.1	23.1	23.6	24.1	22.5	23.1	23.0	23.5	24.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1092 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 0.3$)

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

UTILIZATION FACTORS TABLE

Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	

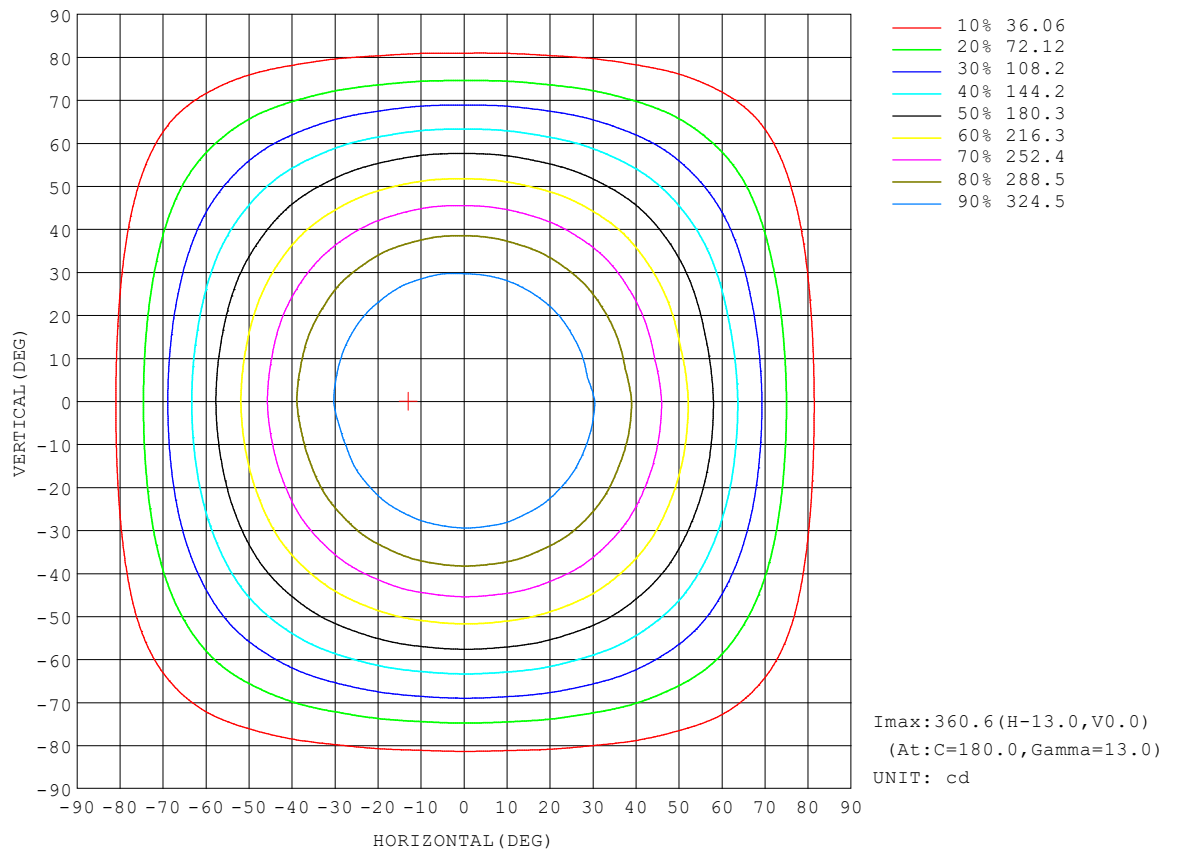
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	56	45	38	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	65	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	65	78	70	64	56
1.50	88	78	71	86	77	70	83	75	69	61
2.00	95	86	80	93	85	79	89	82	77	69
2.50	99	91	85	96	89	84	92	87	82	73
3.00	102	95	90	100	93	88	95	90	86	77
4.00	106	100	96	103	98	94	99	95	91	82
5.00	108	104	99	106	102	98	101	98	95	85
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jason Huang
 Test Date:2023-09-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:13.486m [K=1.0000]
 Remarks: ---

ISOCANDELA DIAGRAM

Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	

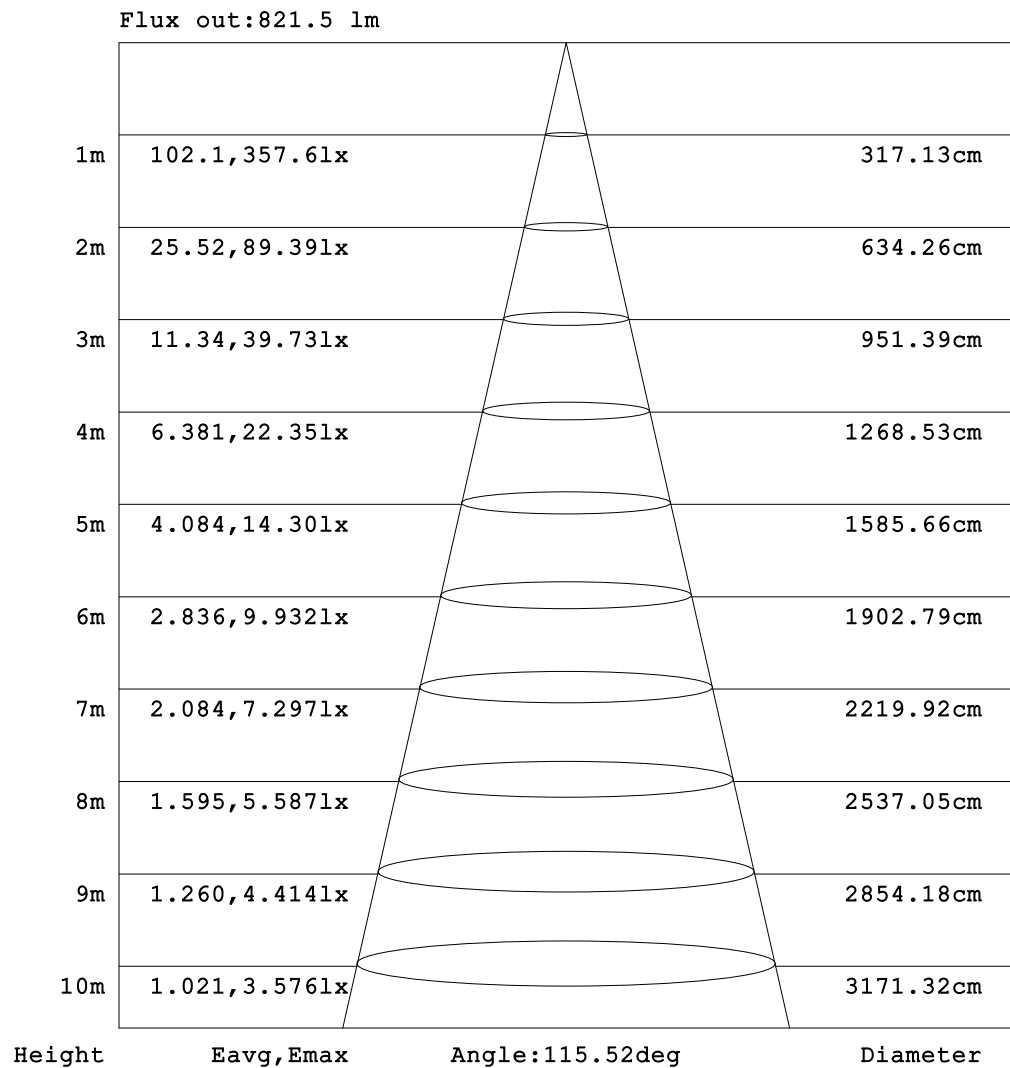


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

AAI Figure

Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	



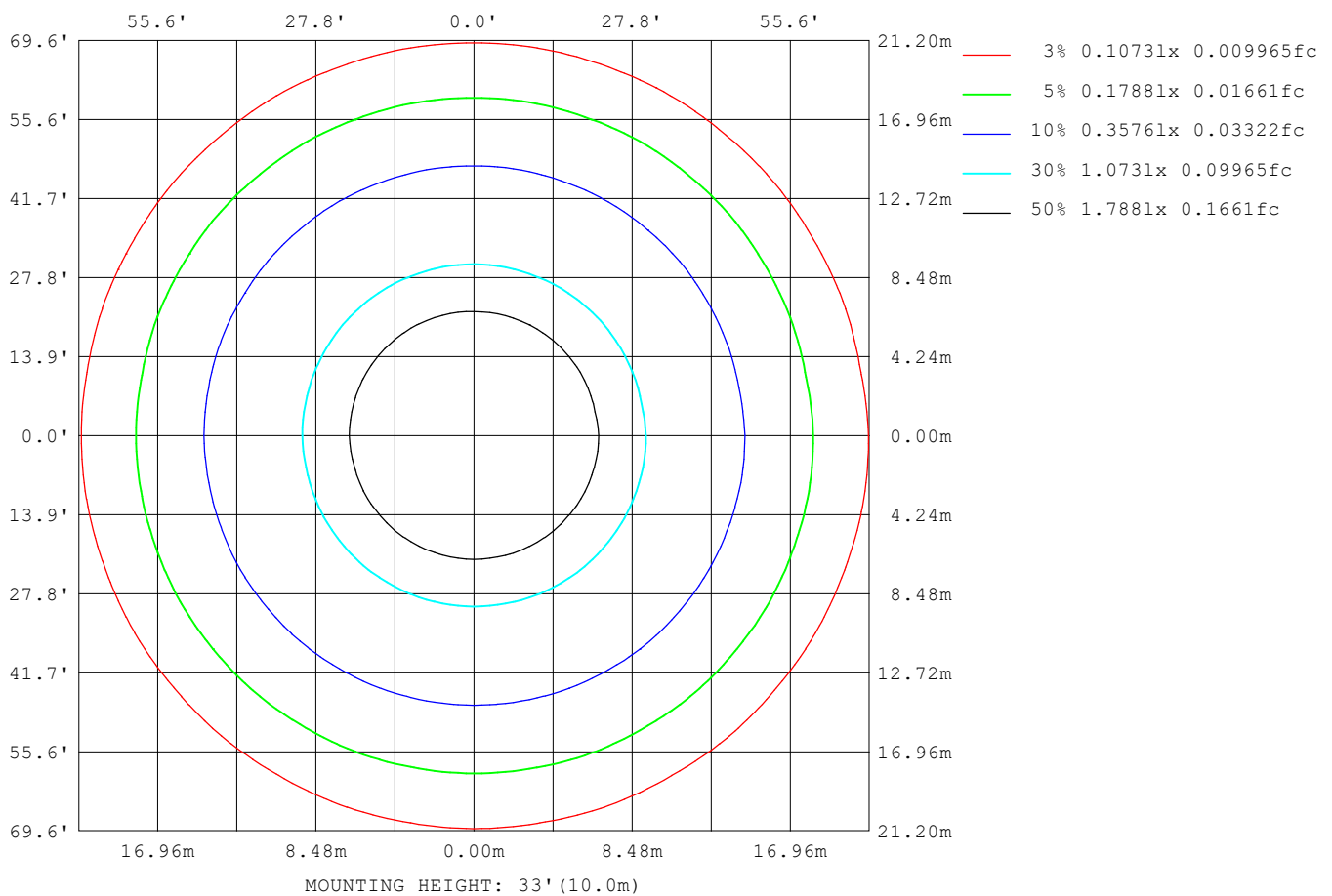
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jason Huang
 Test Date:2023-09-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:13.486m [K=1.0000]
 Remarks: ---

ISOLUX DIAGRAM

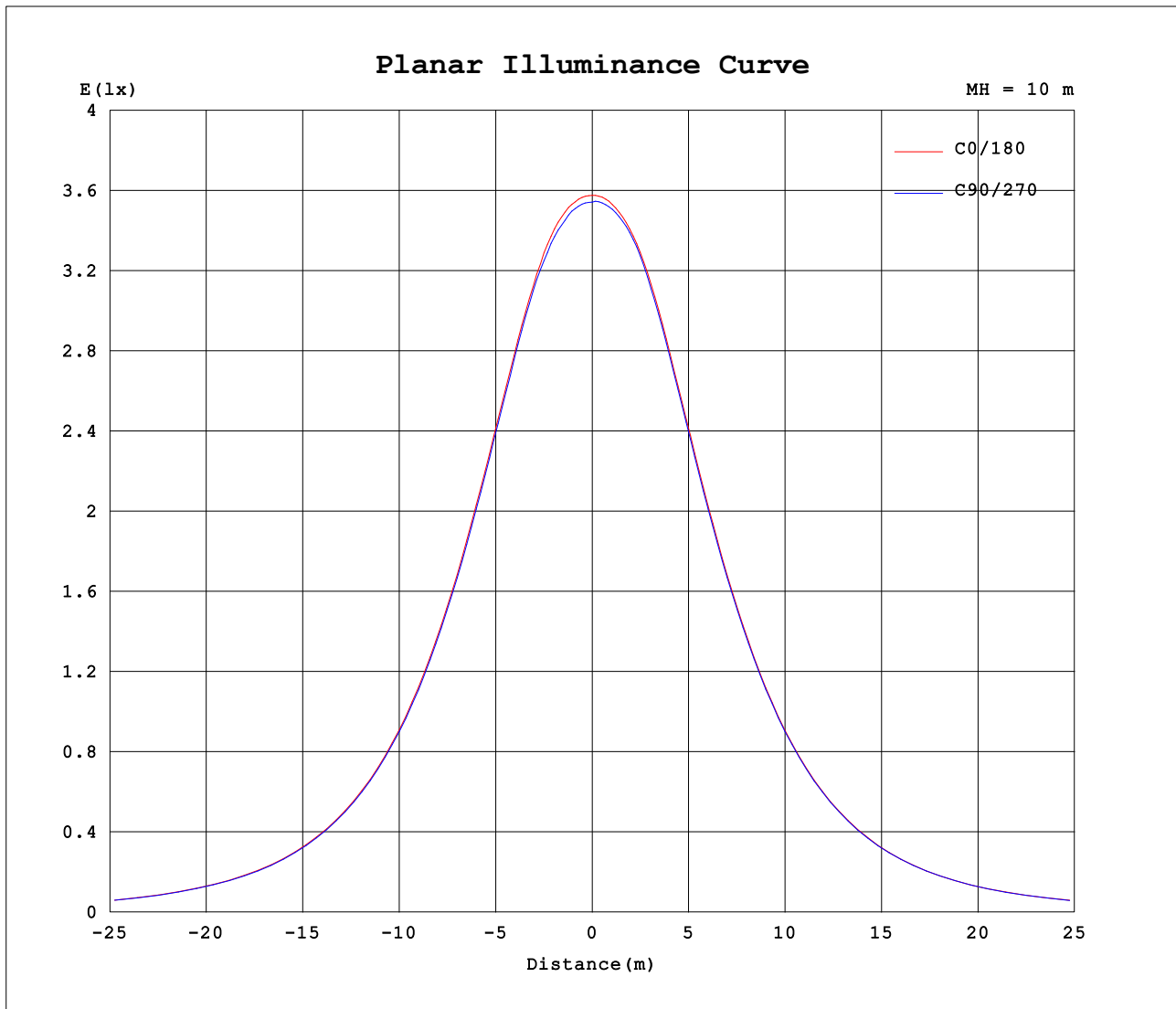
Test:U:120.1V I:0.1958A P:20.69W PF:0.8800 Freq:60.00Hz Lamp Flux:1092.04x1 lm		
NAME: Ezra	TYPE:--	SERIAL No.:FTS23091803L-04
SPEC.:M16613	DIM.: --	
MFR.: Matteo Lighting	SUR.:305mm	



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Huang
Test Date:2023-09-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity:65.0%
Test Distance:13.486m [K=1.0000]
Remarks: ---

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason Huang
Test Date: 2023-09-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
Humidity: 65.0%
Test Distance: 13.486m [K=1.0000]
Remarks: ---