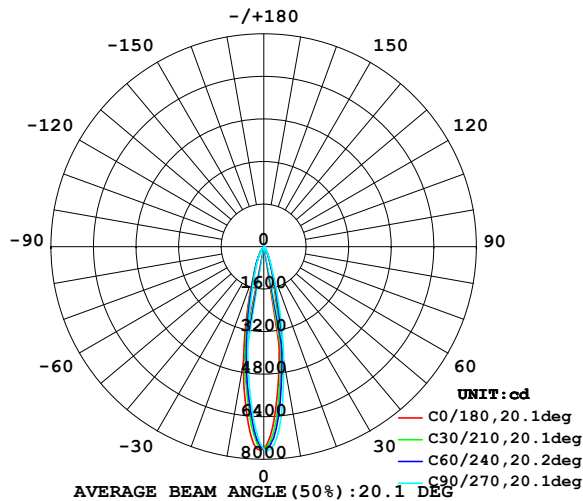


LUMINAIRE PHOTOMETRIC TEST REPORT

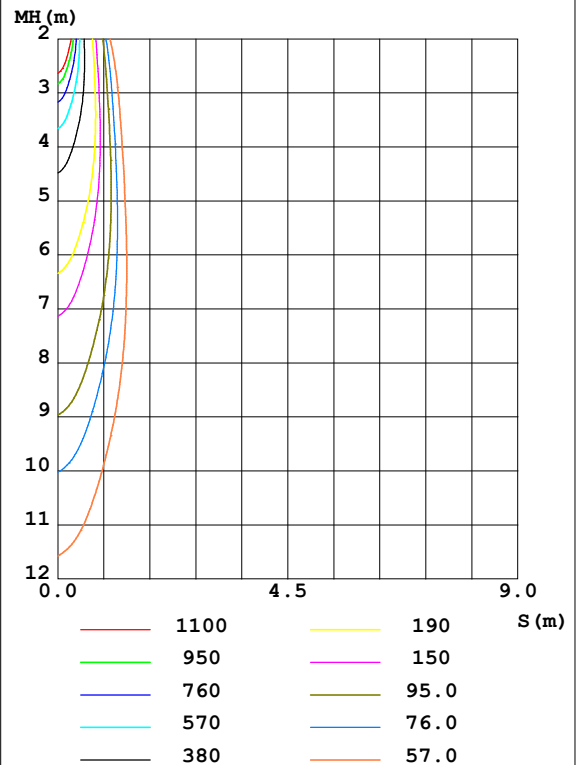
NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 113.35 lm/W			
MCR-3 (13W, 15°)		Imax(cd)	7710	S/MH(C0/180)	0.39
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.31
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1417.1	η UP,DN(C0-180)	0.7,50.3
NOMINAL FLUX(lm)	1417.06	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.6,48.3
LAMPS INSIDE	1	η up(%)	1.3	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	120	η down(%)	98.7	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



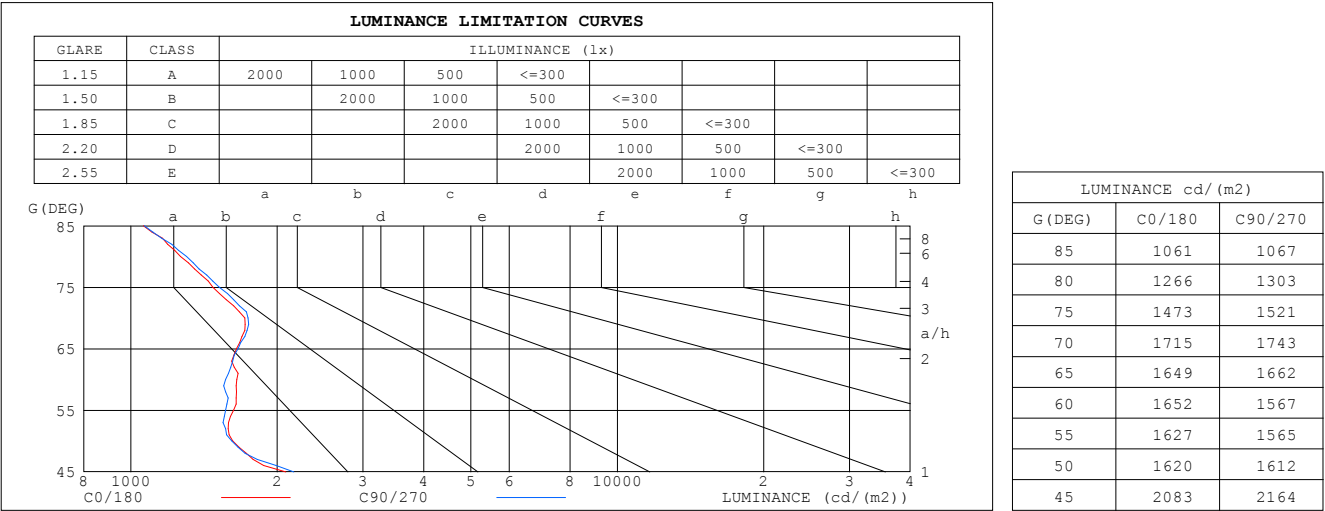
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	3291	3784	4324	4553	4437	3903	3410	3209	0- 10	516.7	516.7	36.5,36.5
20	759.2	812.5	946.8	1059	1119	1070	934.4	809.8	10- 20	546.3	1063	75,75
30	214.1	212.1	246.8	297.8	340.5	350.9	311.9	250.9	20- 30	244.2	1307	92.3,92.3
40	11.50	11.94	12.95	14.66	17.82	21.03	16.12	12.30	30- 40	77.31	1385	97.7,97.7
50	4.671	4.898	4.666	4.268	3.905	3.731	3.798	4.065	40- 50	5.914	1391	98.1,98.1
60	3.707	3.861	3.529	3.136	2.747	2.569	2.745	3.124	50- 60	3.279	1394	98.4,98.4
70	2.632	2.862	2.685	2.282	1.932	1.848	1.969	2.236	60- 70	2.726	1397	98.6,98.6
80	0.9864	1.065	1.019	0.8722	0.7230	0.7046	0.7636	0.8470	70- 80	1.624	1398	98.7,98.7
90	0.0049	0.0047	0	0.0048	0.0090	0.0092	0.0228	0.0114	80- 90	0.4153	1399	98.7,98.7
100	0.0045	0.0271	0.0407	0.0159	0.0270	0.0203	0.0181	0.0204	90-100	0.0134	1399	98.7,98.7
110	0.2782	0.3062	0.2848	0.2235	0.0857	0.0721	0.0768	0.0904	100-110	0.0816	1399	98.7,98.7
120	1.203	1.191	1.062	0.8922	0.3648	0.3580	0.3834	0.4655	110-120	0.3928	1399	98.7,98.7
130	3.939	3.703	3.312	3.009	1.329	1.412	1.605	1.799	120-130	1.289	1400	98.8,98.8
140	8.000	7.765	7.352	7.030	4.232	4.555	5.042	5.332	130-140	3.227	1404	99,99
150	10.42	10.33	10.21	10.02	8.319	8.509	8.863	9.114	140-150	4.967	1409	99.4,99.4
160	11.05	10.91	10.97	10.98	10.43	10.28	10.40	10.42	150-160	4.739	1413	99.7,99.7
170	9.388	9.583	9.933	9.984	9.631	9.269	9.237	9.113	160-170	2.936	1416	99.9,99.9
180	8.216	8.302	8.261	8.314	8.212	8.295	8.243	8.305	170-180	0.8474	1417	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



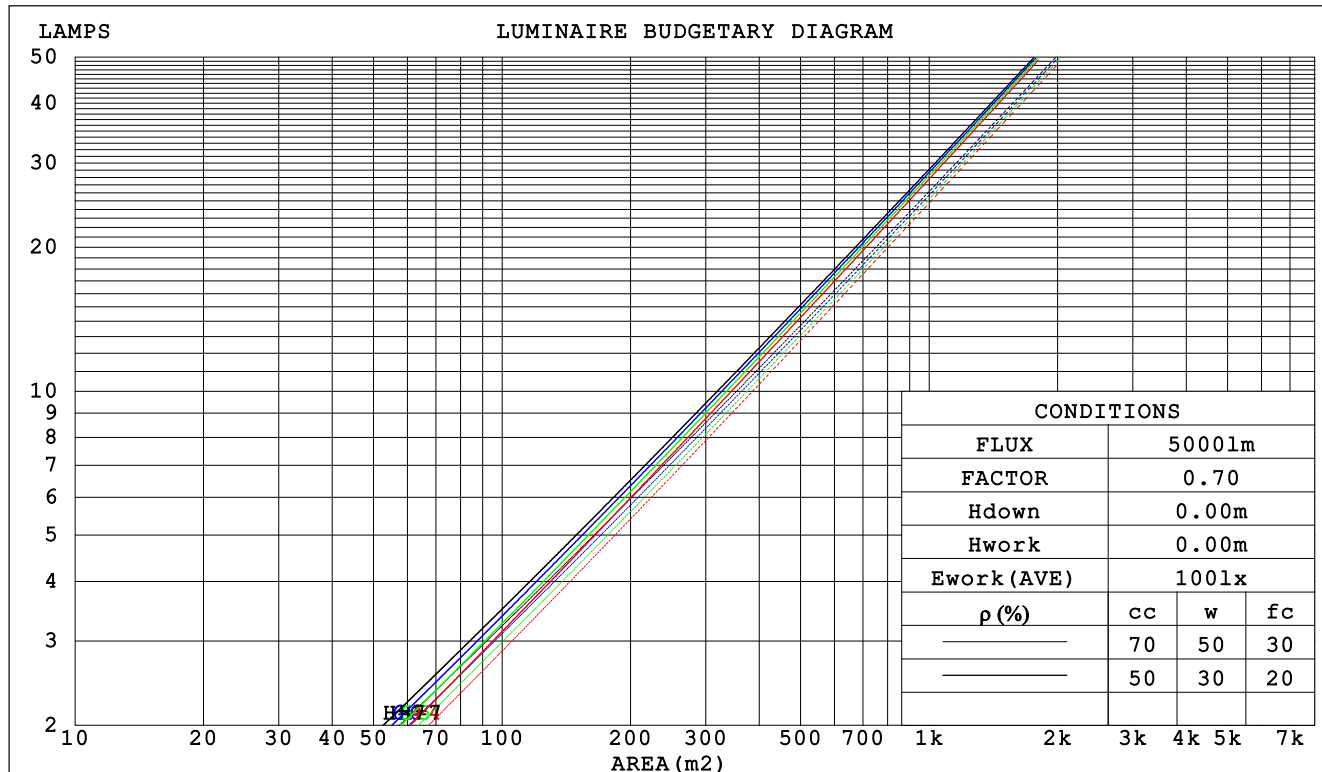
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	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	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.99
1.0	1.12	1.10	1.09	1.10	1.08	1.07	1.06	1.05	1.03	1.02	1.01	1.00	.98	.98	.97	.95
2.0	1.07	1.04	1.01	1.05	1.02	1.00	1.02	.00	.98	.99	.97	.96	.96	.95	.93	.92
3.0	1.02	.99	.96	1.01	.98	.95	.98	.95	.93	.96	.94	.92	.93	.92	.90	.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	.81	.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: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks:

WEC AND CCEC

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	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	.140	.080	.025	.133	.076	.024	.120	.069	.022	.108	.062	.020	.097	.056	.018		
2.0	.130	.071	.022	.124	.068	.021	.113	.063	.020	.103	.058	.018	.094	.053	.017		
3.0	.121	.064	.019	.116	.062	.019	.107	.058	.018	.098	.054	.017	.090	.050	.016		
4.0	.113	.059	.017	.109	.057	.017	.101	.054	.016	.094	.051	.015	.087	.047	.014		
5.0	.107	.054	.016	.103	.053	.015	.097	.050	.015	.090	.048	.014	.084	.045	.014		
6.0	.101	.051	.014	.098	.049	.014	.092	.047	.014	.087	.045	.013	.082	.043	.013		
7.0	.096	.047	.013	.093	.046	.013	.088	.045	.013	.083	.043	.012	.079	.041	.012		
8.0	.091	.045	.013	.089	.044	.012	.084	.042	.012	.080	.041	.012	.076	.039	.011		
9.0	.087	.042	.012	.085	.042	.012	.081	.040	.011	.077	.039	.011	.074	.037	.011		
10.0	.084	.040	.011	.082	.039	.011	.078	.038	.011	.075	.037	.011	.071	.036	.010		

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	.200	.200	.200	.171	.171	.171	.117	.117	.117	.067	.067	.067	.021	.021	.021		
1.0	.179	.168	.158	.153	.144	.136	.105	.099	.094	.060	.057	.055	.019	.018	.018		
2.0	.161	.143	.128	.138	.123	.110	.094	.085	.077	.054	.049	.045	.017	.016	.015		
3.0	.146	.123	.106	.125	.106	.091	.086	.074	.064	.050	.043	.038	.016	.014	.012		
4.0	.134	.108	.089	.115	.093	.077	.079	.065	.054	.046	.038	.032	.015	.012	.011		
5.0	.123	.096	.076	.106	.083	.066	.073	.058	.047	.042	.034	.028	.014	.011	.009		
6.0	.114	.086	.066	.098	.074	.057	.068	.052	.040	.039	.031	.024	.013	.010	.008		
7.0	.107	.078	.058	.092	.067	.050	.064	.047	.036	.037	.028	.021	.012	.009	.007		
8.0	.100	.071	.051	.086	.062	.044	.060	.043	.032	.035	.026	.019	.011	.008	.006		
9.0	.095	.066	.046	.082	.057	.040	.057	.040	.028	.033	.024	.017	.011	.008	.006		
10.0	.090	.061	.041	.077	.053	.036	.054	.037	.026	.031	.022	.015	.010	.007	.005		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2025-11-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.050m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

NAME: MCR-3 (13W, 15°)					TYPE:LED					WEIGHT:				
SPEC.:12.6W					DIM.:					SERIAL No.:1				
MFR.: Utopia Lighting					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					8.9	9.6	9.1	9.7	9.9	9.6	10.3	9.8	10.4	10.6
3H					9.0	9.6	9.3	9.8	10.0	9.7	10.3	9.9	10.5	10.7
4H					9.1	9.7	9.3	9.9	10.1	9.7	10.3	10.0	10.5	10.8
6H					9.1	9.6	9.4	9.9	10.1	9.7	10.3	10.0	10.5	10.8
8H					9.1	9.6	9.4	9.9	10.2	9.7	10.2	10.0	10.5	10.8
12H					9.1	9.6	9.4	9.9	10.1	9.7	10.2	10.0	10.5	10.8
4H 2H					8.8	9.4	9.1	9.6	9.8	9.5	10.1	9.8	10.3	10.5
3H					9.0	9.5	9.3	9.8	10.1	9.6	10.1	10.0	10.4	10.7
4H					9.1	9.6	9.5	9.9	10.2	9.7	10.2	10.1	10.5	10.8
6H					9.2	9.6	9.6	9.9	10.3	9.8	10.2	10.1	10.5	10.9
8H					9.2	9.6	9.6	9.9	10.3	9.8	10.1	10.2	10.5	10.9
12H					9.2	9.5	9.6	9.9	10.3	9.7	10.1	10.2	10.5	10.9
8H 4H					9.1	9.4	9.5	9.8	10.2	9.6	10.0	10.1	10.4	10.8
6H					9.2	9.5	9.6	9.9	10.3	9.7	10.1	10.2	10.5	10.9
8H					9.2	9.5	9.7	9.9	10.4	9.8	10.1	10.2	10.5	11.0
12H					9.2	9.5	9.7	9.9	10.4	9.8	10.0	10.3	10.5	11.0
12H 4H					9.0	9.4	9.4	9.8	10.2	9.6	10.0	10.0	10.4	10.8
6H					9.1	9.4	9.6	9.9	10.3	9.7	10.0	10.2	10.4	10.9
8H					9.2	9.4	9.7	9.9	10.4	9.7	10.0	10.2	10.5	10.9
Variations with the observer position at spacings:														
S = 1.0H					+ 1.6 / - 0.7					+ 2.9 / - 1.2				
1.5H					+ 3.0 / - 0.8					+ 4.9 / - 1.2				
2.0H					+ 0.1 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 1417 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.2)

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2025-11-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.050m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

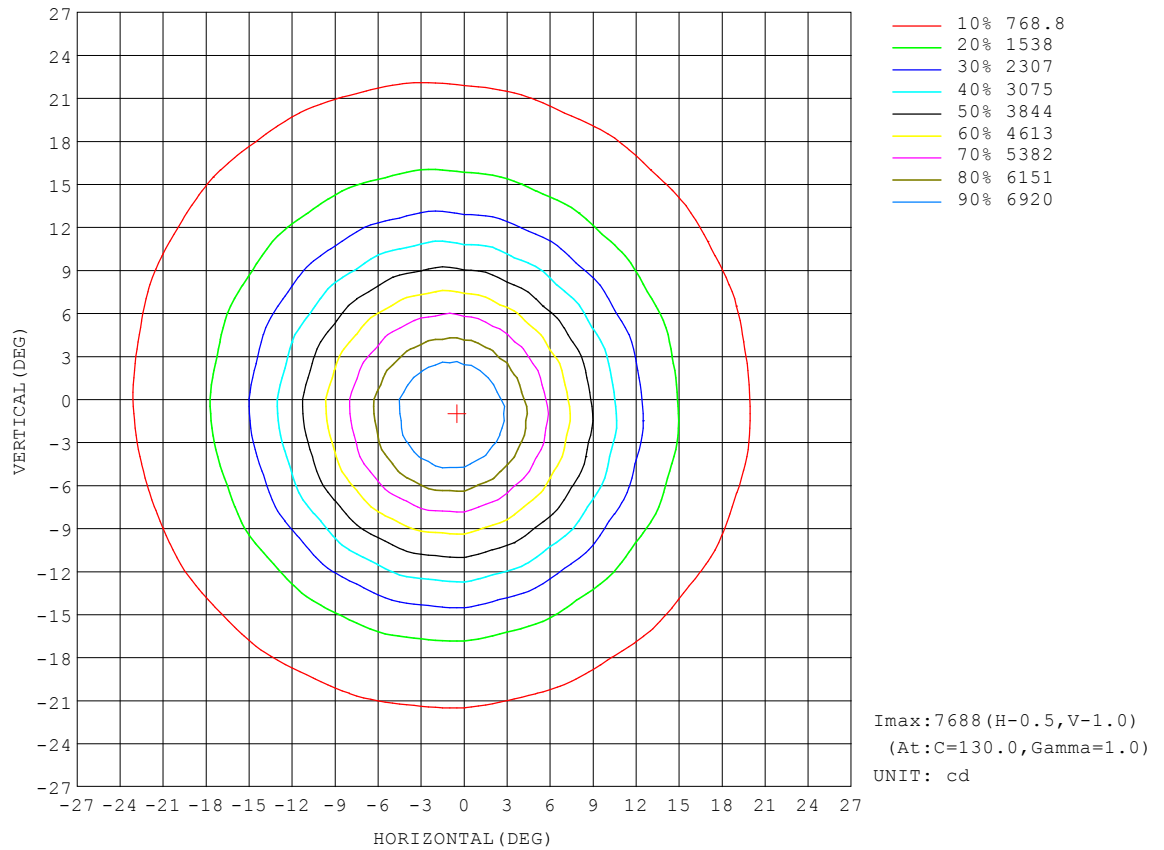
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	89	96	91	88	95	91	88	84
1.00	101	96	93	100	95	92	98	95	92	88
1.25	104	100	97	103	99	96	101	98	95	91
1.50	107	103	100	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	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	106	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: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2025-11-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.050m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

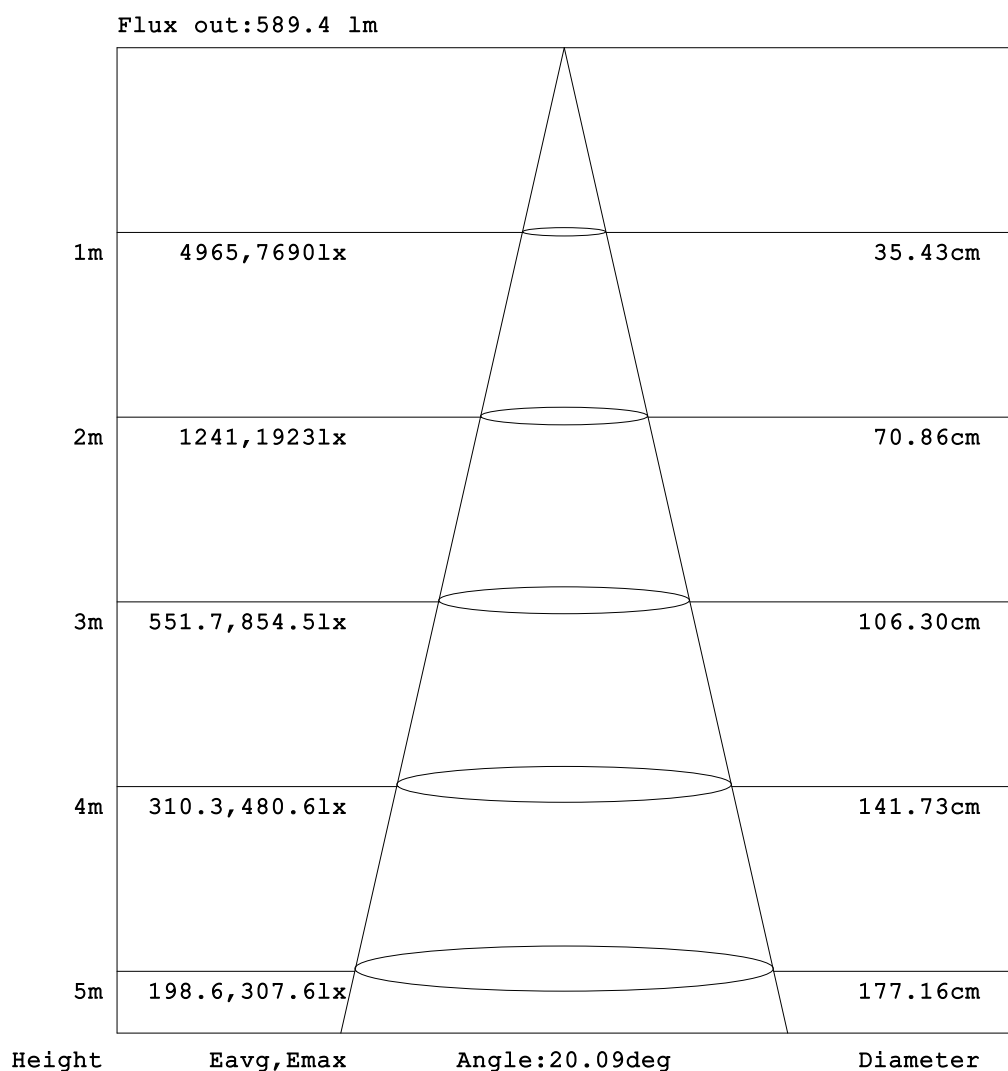


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks:

AAI Figure

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:



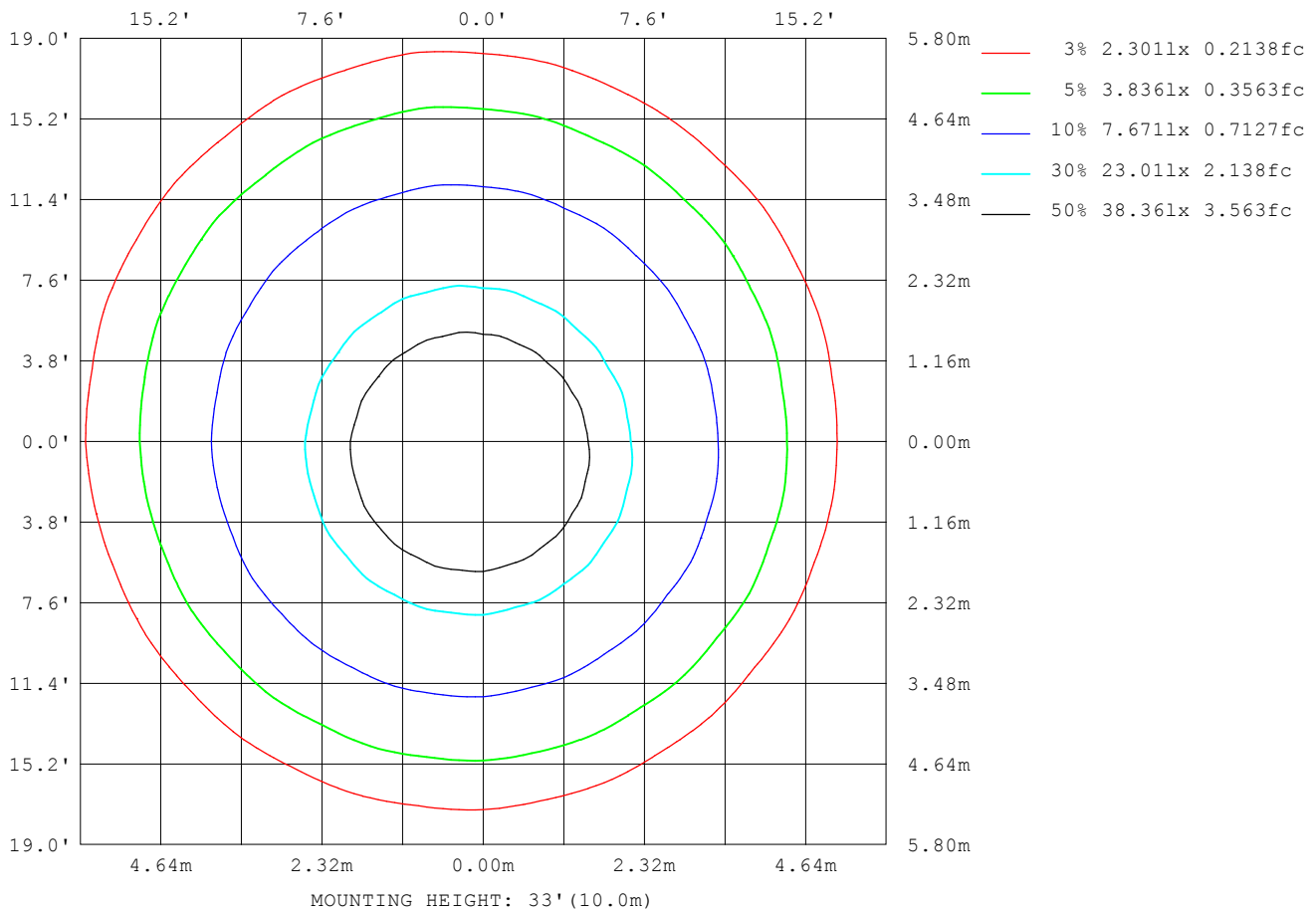
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2025-11-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.050m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2025-11-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.050m [K=1.0000]
 Remarks:

LED Avg.L Report

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

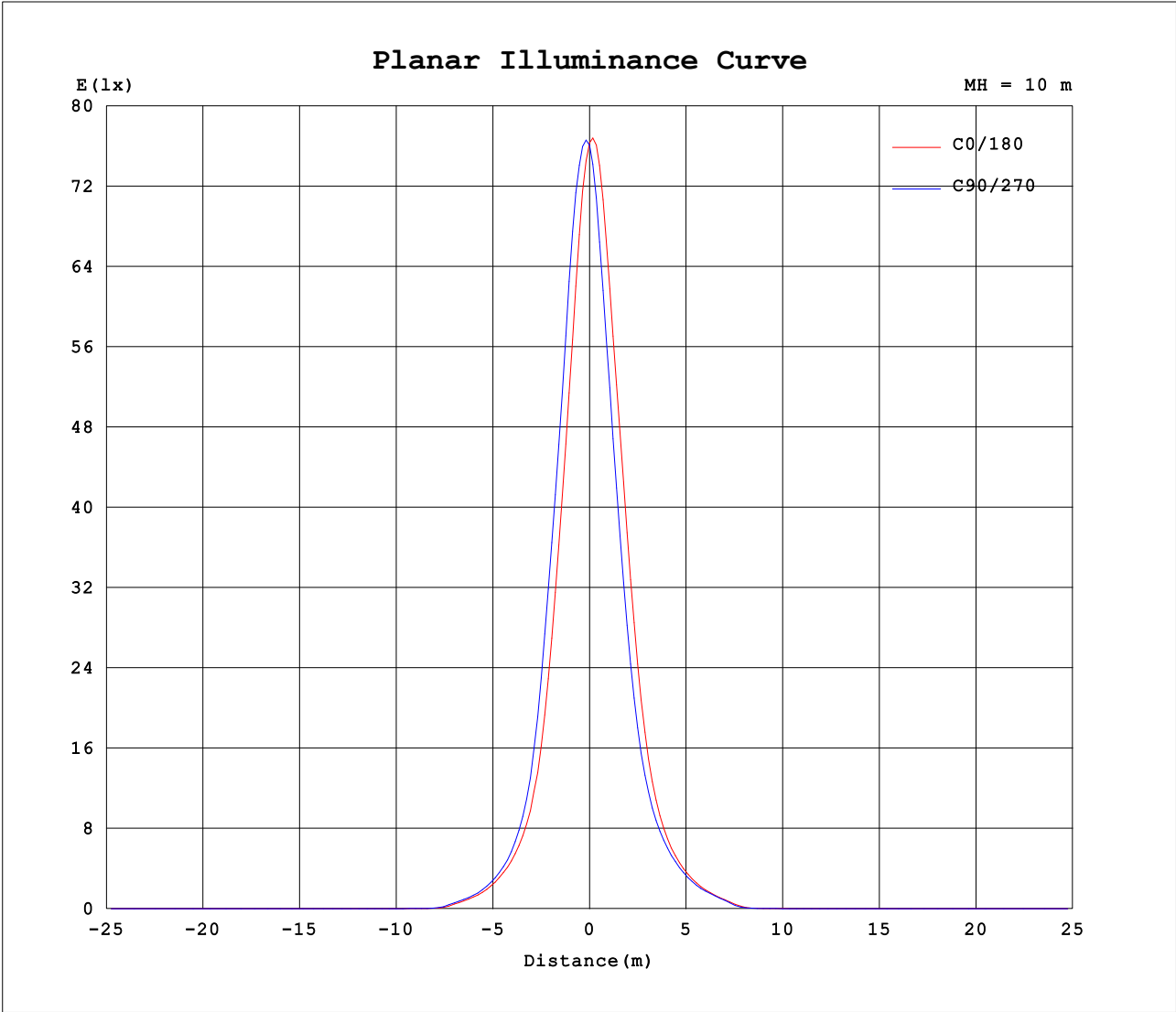
AvgL	cd/m2
L_0~180 (65) av	1428
L_0~180 (75) av	1284
L_0~180 (85) av	912
L_90~270 (65) av	1456
L_90~270 (75) av	1320
L_90~270 (85) av	949
L_45 (65) av	1437
L_45 (75) av	1299
L_45 (85) av	925

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613
5	5720	5876	5916	6091	6153	6338	6405	6608	6660	6833	6848	6970	6924	6995	6916	6943	6800	6783	6709
10	3291	3422	3462	3636	3695	3874	3930	4108	4154	4324	4343	4483	4468	4584	4523	4575	4473	4483	4437
15	1504	1567	1574	1668	1676	1801	1820	1966	1988	2128	2141	2261	2252	2352	2291	2363	2283	2315	2300
20	759	776	773	799	795	830	835	883	896	947	960	1004	1013	1058	1059	1100	1084	1109	1119
25	421	424	420	430	426	441	444	463	470	490	496	520	524	554	561	588	592	609	616
30	214	214	208	210	209	216	219	229	235	247	252	272	275	295	300	313	317	330	340
35	85.0	87.8	84.3	89.4	85.5	92.4	92.5	101	102	111	112	121	122	134	134	147	147	159	168
40	11.5	11.7	11.6	11.9	11.8	12.0	12.1	12.4	12.5	12.9	13.1	13.8	13.9	14.7	14.6	15.5	15.5	16.5	17.8
45	6.61	6.67	6.61	6.79	6.85	6.95	6.90	7.00	6.87	6.89	6.83	6.95	6.81	6.89	6.90	7.19	7.59	7.93	8.40
50	4.67	4.73	4.80	4.85	4.91	4.89	4.87	4.80	4.73	4.67	4.60	4.51	4.42	4.33	4.21	4.09	4.07	3.94	3.90
55	4.19	4.24	4.28	4.26	4.35	4.30	4.29	4.19	4.15	4.04	3.99	3.85	3.79	3.69	3.57	3.45	3.39	3.27	3.24
60	3.71	3.74	3.76	3.73	3.85	3.87	3.89	3.88	3.71	3.53	3.48	3.41	3.35	3.19	3.08	2.90	2.87	2.79	2.75
65	3.13	3.16	3.28	3.30	3.36	3.32	3.36	3.30	3.26	3.16	3.09	2.95	2.89	2.74	2.66	2.53	2.47	2.35	2.31
70	2.63	2.67	2.76	2.78	2.86	2.87	2.87	2.80	2.78	2.68	2.64	2.54	2.45	2.31	2.25	2.12	2.07	1.97	1.93
75	1.71	1.73	1.80	1.80	1.85	1.86	1.86	1.83	1.83	1.77	1.75	1.66	1.62	1.53	1.50	1.42	1.39	1.29	1.28
80	0.99	1.01	1.04	1.03	1.07	1.06	1.09	1.06	1.07	1.02	1.02	0.95	0.94	0.87	0.87	0.80	0.80	0.73	0.72
85	0.42	0.40	0.43	0.41	0.45	0.42	0.46	0.42	0.46	0.42	0.44	0.39	0.41	0.35	0.38	0.33	0.34	0.29	0.30
90	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
95	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.02
100	0.00	0.04	0.01	0.05	0.01	0.04	0.01	0.04	0.00	0.04	0.01	0.04	0.01	0.03	0.00	0.03	0.01	0.03	0.03
105	0.10	0.14	0.12	0.13	0.14	0.14	0.11	0.13	0.09	0.13	0.08	0.10	0.07	0.10	0.06	0.10	0.07	0.09	0.04
110	0.28	0.32	0.28	0.32	0.29	0.32	0.29	0.32	0.27	0.28	0.24	0.26	0.21	0.24	0.21	0.22	0.22	0.20	0.09
115	0.62	0.64	0.65	0.64	0.62	0.64	0.60	0.61	0.56	0.57	0.54	0.52	0.49	0.48	0.43	0.46	0.42	0.43	0.18
120	1.20	1.22	1.21	1.21	1.19	1.19	1.15	1.13	1.08	1.06	1.01	0.99	0.93	0.92	0.87	0.87	0.83	0.83	0.36
125	2.27	2.25	2.24	2.20	2.18	2.12	2.08	2.02	1.98	1.91	1.85	1.79	1.74	1.69	1.65	1.62	1.59	1.59	0.70
130	3.94	3.87	3.88	3.78	3.76	3.65	3.60	3.49	3.44	3.31	3.27	3.15	3.11	3.02	3.00	2.93	2.95	2.91	1.33
135	6.04	5.95	5.95	5.83	5.81	5.67	5.62	5.47	5.41	5.27	5.22	5.08	5.04	4.93	4.92	4.85	4.88	4.82	2.46
140	8.00	7.95	7.94	7.85	7.83	7.70	7.68	7.54	7.47	7.35	7.29	7.18	7.13	7.05	7.01	6.95	6.95	6.92	4.23
145	9.48	9.45	9.44	9.39	9.36	9.30	9.26	9.19	9.14	9.06	9.00	8.94	8.87	8.82	8.78	8.74	8.72	8.70	6.37
150	10.4	10.4	10.4	10.4	10.3	10.3	10.3	10.3	10.2	10.2	10.1	10.1	10.1	10.0	9.99	9.99	9.95	9.95	8.32
155	10.9	11.0	10.9	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.7	10.8	10.7	10.7	10.7	10.7	9.72
160	11.0	11.0	11.0	10.9	10.9	10.9	10.9	11.0	11.0	11.0	10.9	11.0	10.9	11.0	11.0	11.0	11.0	11.0	10.4
165	10.5	10.5	10.5	10.5	10.5	10.5	10.6	10.6	10.7	10.7	10.7	10.7	10.8	10.8	10.8	10.8	10.9	10.9	10.4
170	9.39	9.43	9.47	9.52	9.56	9.60	9.69	9.76	9.87	9.93	9.95	9.95	9.93	9.96	10.0	10.1	10.0	10.0	9.63
175	8.25	8.28	8.39	8.43	8.58	8.67	8.78	8.82	8.87	8.89	8.91	8.93	8.91	8.91	8.90	8.88	8.79	8.69	8.51
180	8.22	8.21	8.21	8.22	8.30	8.30	8.30	8.26	8.27	8.26	8.24	8.25	8.27	8.32	8.31	8.25	8.17	8.17	8.21

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: MCR-3 (13W, 15°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613	7613		
5	6529	6478	6293	6247	6081	6042	5893	5867	5745	5727	5617	5635	5556	5612	5577	5669	5661		
10	4259	4230	4034	3997	3809	3767	3594	3555	3410	3392	3266	3284	3179	3240	3173	3270	3256		
15	2194	2203	2095	2083	1975	1953	1845	1821	1719	1696	1606	1600	1530	1537	1489	1524	1490		
20	1098	1110	1083	1090	1051	1042	1000	983	934	911	865	853	814	805	780	777	759		
25	617	635	627	634	612	613	589	584	552	536	504	493	469	462	442	436	422		
30	340	354	352	356	346	349	335	333	312	302	281	272	254	248	234	229	219		
35	169	182	180	186	181	182	174	167	154	146	127	124	111	108	97.8	96.5	87.6		
40	18.2	20.3	20.2	21.5	20.6	20.6	18.7	17.6	16.1	15.1	13.7	13.3	12.4	12.2	11.6	11.5	11.2		
45	8.65	9.04	9.25	9.55	9.30	9.21	8.74	8.51	7.94	7.81	7.26	7.09	6.70	6.71	6.59	6.63	6.55		
50	3.82	3.77	3.74	3.72	3.75	3.71	3.74	3.73	3.80	3.82	3.89	3.91	4.04	4.09	4.27	4.45	4.57		
55	3.23	3.14	3.13	3.09	3.16	3.16	3.25	3.20	3.33	3.33	3.46	3.47	3.62	3.62	3.79	3.85	4.07		
60	2.70	2.55	2.55	2.51	2.63	2.65	2.71	2.66	2.74	2.81	3.01	3.02	3.13	3.12	3.22	3.32	3.60		
65	2.30	2.22	2.24	2.18	2.24	2.22	2.28	2.28	2.37	2.37	2.50	2.52	2.66	2.71	2.85	2.89	3.04		
70	1.92	1.85	1.86	1.82	1.87	1.84	1.89	1.89	1.97	1.99	2.07	2.10	2.21	2.26	2.38	2.44	2.56		
75	1.27	1.21	1.23	1.21	1.23	1.24	1.26	1.24	1.30	1.30	1.37	1.37	1.46	1.47	1.56	1.57	1.66		
80	0.75	0.70	0.73	0.68	0.73	0.72	0.74	0.71	0.76	0.73	0.81	0.78	0.85	0.85	0.91	0.92	0.97		
85	0.33	0.27	0.32	0.28	0.31	0.28	0.32	0.28	0.33	0.29	0.34	0.31	0.36	0.36	0.38	0.35	0.41		
90	0.01	0.00	0.02	0.00	0.01	0.00	0.02	0.01	0.02	0.00	0.02	0.01	0.02	0.00	0.02	0.00	0.02		
95	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.01		
100	0.01	0.03	0.01	0.03	0.01	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.01	0.03	0.01	0.03	0.01		
105	0.01	0.04	0.01	0.04	0.01	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.01	0.05	0.01	0.05	0.01		
110	0.06	0.09	0.06	0.09	0.05	0.09	0.06	0.09	0.08	0.10	0.08	0.10	0.07	0.11	0.08	0.11	0.08		
115	0.14	0.18	0.15	0.18	0.15	0.19	0.15	0.20	0.17	0.21	0.23	0.22	0.23	0.25	0.21	0.25	0.23		
120	0.34	0.36	0.35	0.37	0.35	0.38	0.36	0.40	0.38	0.43	0.42	0.46	0.44	0.49	0.50	0.52	0.49		
125	0.66	0.70	0.67	0.72	0.72	0.75	0.74	0.79	0.80	0.84	0.87	0.90	0.91	0.95	0.95	0.98	0.99		
130	1.32	1.34	1.35	1.39	1.43	1.47	1.52	1.57	1.61	1.65	1.71	1.74	1.79	1.80	1.86	1.85	1.88		
135	2.51	2.54	2.59	2.62	2.73	2.78	2.88	2.92	3.04	3.07	3.18	3.20	3.30	3.29	3.37	3.33	3.39		
140	4.33	4.34	4.45	4.49	4.63	4.67	4.83	4.88	5.04	5.07	5.22	5.23	5.34	5.32	5.42	5.37	5.42		
145	6.46	6.46	6.57	6.60	6.74	6.78	6.94	6.98	7.14	7.17	7.32	7.32	7.45	7.43	7.53	7.48	7.54		
150	8.36	8.37	8.42	8.47	8.55	8.59	8.69	8.75	8.86	8.90	9.02	9.02	9.11	9.12	9.19	9.18	9.24		
155	9.70	9.71	9.69	9.73	9.75	9.80	9.86	9.91	9.97	10.0	10.0	10.1	10.1	10.1	10.2	10.2	10.3		
160	10.3	10.4	10.3	10.3	10.3	10.3	10.3	10.3	10.4	10.3	10.3	10.4	10.4	10.4	10.5	10.5	10.6		
165	10.3	10.3	10.2	10.1	10.1	10.1	10.1	10.0	10.1	10.0	10.1	10.0	10.1	10.1	10.1	10.2	10.3		
170	9.58	9.50	9.42	9.31	9.23	9.16	9.24	9.21	9.24	9.21	9.16	9.09	9.13	9.10	9.18	9.17	9.23		
175	8.50	8.49	8.48	8.44	8.42	8.33	8.35	8.35	8.35	8.28	8.36	8.29	8.32	8.25	8.19	8.10	8.15		
180	8.20	8.22	8.25	8.29	8.30	8.29	8.23	8.23	8.24	8.23	8.26	8.24	8.31	8.30	8.25	8.17	8.15		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.050m [K=1.0000]
Remarks: