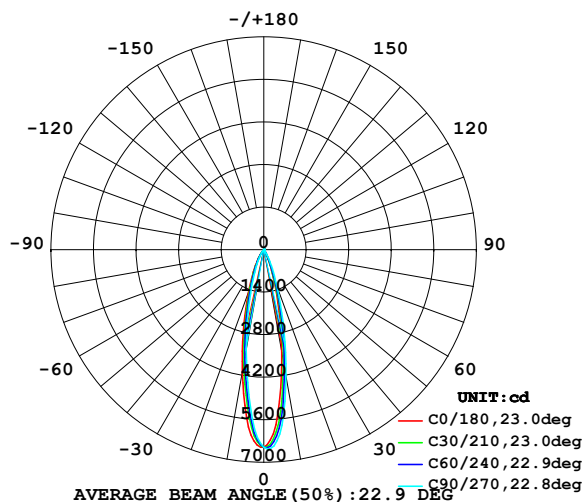


LUMINAIRE PHOTOMETRIC TEST REPORT

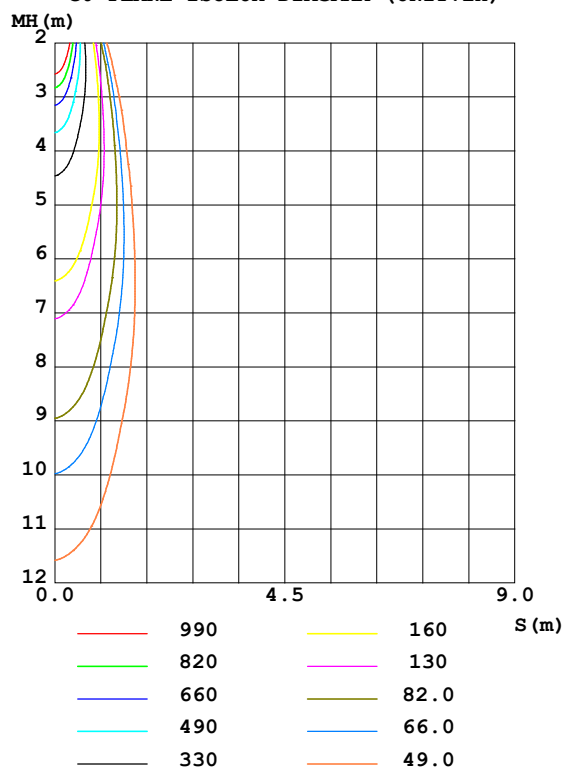
NAME: MCR-3 (13W, 24°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 117.47 lm/W			
MCR-3 (13W, 24°)		Imax(cd)	6561	S/MH(C0/180)	0.42
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.35
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1467.1	η UP,DN(C0-180)	0.7,51.2
NOMINAL FLUX(lm)	1467.06	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.6,47.5
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)



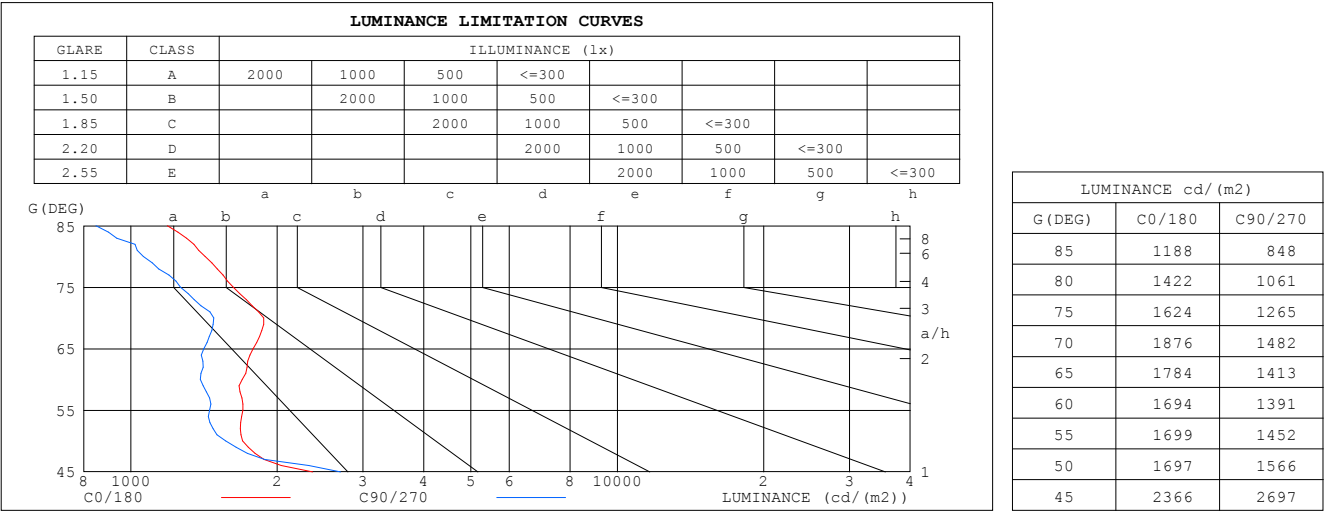
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

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	3440	3824	4199	4222	4093	3700	3362	3300	0- 10	474.0	474.0	32.3,32.3
20	846.0	980.5	1236	1403	1454	1279	1034	873.6	10- 20	604.1	1078	73.5,73.5
30	160.8	184.3	283.3	386.6	459.3	393.2	277.2	194.6	20- 30	279.9	1358	92.6,92.6
40	12.86	13.89	16.41	21.03	30.58	25.13	16.59	12.65	30- 40	75.15	1433	97.7,97.7
50	4.857	4.888	4.541	3.906	3.727	3.744	4.034	4.507	40- 50	7.150	1440	98.2,98.2
60	3.770	3.746	3.136	2.515	2.212	2.287	2.781	3.366	50- 60	3.215	1443	98.4,98.4
70	2.857	2.766	2.286	1.793	1.560	1.605	1.949	2.429	60- 70	2.557	1446	98.6,98.6
80	1.099	1.042	0.8309	0.6657	0.5703	0.5941	0.7241	0.9166	70- 80	1.509	1447	98.7,98.7
90	0.0182	0.0047	0	0.0047	0.0090	0.0114	0.0228	0.0092	80- 90	0.3835	1448	98.7,98.7
100	0.0133	0.0225	0.0317	0.0136	0.0313	0.0248	0.0181	0.0181	90-100	0.0144	1448	98.7,98.7
110	0.3651	0.3376	0.2535	0.1675	0.0804	0.0743	0.0633	0.1043	100-110	0.0800	1448	98.7,98.7
120	1.501	1.364	1.091	0.8736	0.3218	0.3512	0.4516	0.5978	110-120	0.4180	1448	98.7,98.7
130	4.314	3.941	3.430	3.090	1.385	1.572	1.905	2.187	120-130	1.422	1450	98.8,98.8
140	8.271	7.894	7.341	6.967	4.368	4.793	5.362	5.710	130-140	3.385	1453	99.1,99.1
150	10.83	10.68	10.41	10.11	8.324	8.645	9.147	9.434	140-150	5.076	1458	99.4,99.4
160	11.35	11.29	11.36	11.30	10.57	10.53	10.69	10.77	150-160	4.868	1463	99.7,99.7
170	9.888	10.08	10.36	10.35	9.947	9.659	9.712	9.632	160-170	3.033	1466	99.9,99.9
180	8.918	9.083	9.000	9.030	8.976	9.079	8.978	9.010	170-180	0.9012	1467	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



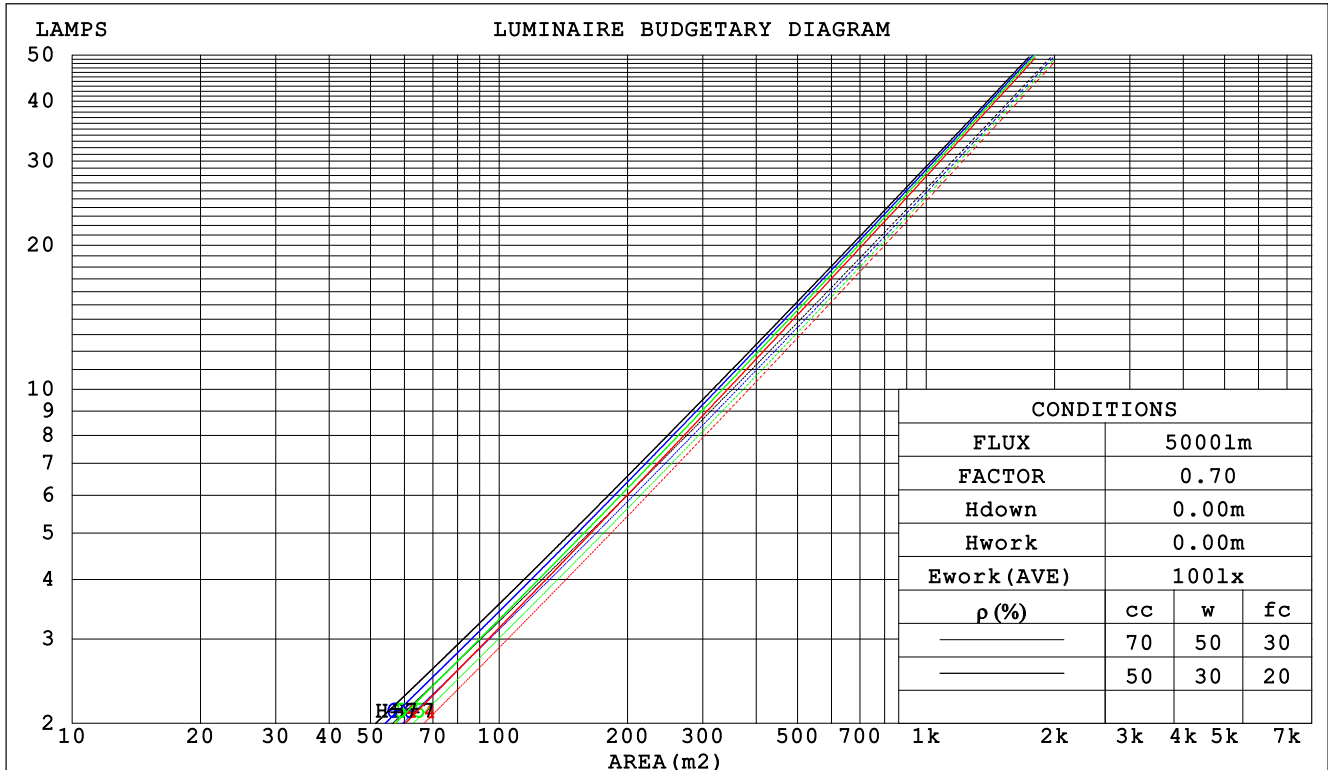
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

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, 24°)	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	RCR:Room Cavity Ratio			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	1.04	1.03	1.02	1.01	.00	.98	.98	.97	.95
2.0	1.07	1.04	1.01	1.05	1.02	.00	1.02	.99	.97	.99	.97	.95	.96	.94	.93	.92
3.0	1.02	.98	.95	1.00	.97	.94	.98	.95	.93	.95	.93	.91	.93	.91	.90	.88
4.0	.98	.93	.90	.96	.93	.90	.94	.91	.89	.92	.90	.87	.90	.88	.86	.85
5.0	.94	.89	.86	.93	.89	.86	.91	.88	.85	.89	.86	.84	.88	.85	.83	.82
6.0	.90	.86	.83	.89	.85	.82	.88	.84	.82	.87	.84	.81	.85	.83	.81	.79
7.0	.87	.83	.80	.86	.82	.79	.85	.82	.79	.84	.81	.78	.83	.80	.78	.77
8.0	.84	.80	.77	.84	.80	.77	.83	.79	.76	.82	.78	.76	.81	.78	.76	.75
9.0	.81	.77	.74	.81	.77	.74	.80	.76	.74	.79	.76	.74	.78	.76	.73	.72
10.0	.79	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.71	.76	.73	.71	.70



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, 24°)	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	.142	.081	.026	.135	.077	.025	.122	.070	.022	.110	.064	.020	.099	.057	.019		
2.0	.132	.073	.022	.127	.070	.021	.116	.064	.020	.105	.059	.019	.096	.054	.017		
3.0	.124	.066	.020	.119	.064	.019	.110	.059	.018	.101	.055	.017	.093	.052	.016		
4.0	.116	.060	.018	.112	.059	.017	.104	.055	.016	.097	.052	.016	.090	.049	.015		
5.0	.110	.056	.016	.106	.054	.016	.099	.052	.015	.093	.049	.015	.087	.046	.014		
6.0	.104	.052	.015	.101	.051	.015	.095	.049	.014	.089	.046	.014	.084	.044	.013		
7.0	.099	.049	.014	.096	.048	.014	.091	.046	.013	.086	.044	.013	.081	.042	.012		
8.0	.094	.046	.013	.092	.045	.013	.087	.044	.012	.083	.042	.012	.079	.040	.012		
9.0	.090	.044	.012	.088	.043	.012	.084	.041	.012	.080	.040	.011	.076	.039	.011		
10.0	.086	.041	.011	.084	.041	.011	.081	.040	.011	.077	.038	.011	.074	.037	.011		

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	.127	.138	.123	.110	.095	.085	.077	.055	.049	.045	.017	.016	.015		
3.0	.146	.123	.105	.126	.107	.091	.086	.074	.064	.050	.043	.038	.016	.014	.012		
4.0	.134	.108	.088	.115	.094	.077	.079	.065	.054	.046	.038	.032	.015	.012	.011		
5.0	.124	.096	.075	.107	.083	.066	.073	.058	.046	.042	.034	.027	.014	.011	.009		
6.0	.115	.086	.065	.099	.075	.057	.068	.052	.040	.040	.031	.024	.013	.010	.008		
7.0	.108	.078	.057	.093	.068	.050	.064	.047	.035	.037	.028	.021	.012	.009	.007		
8.0	.102	.071	.051	.087	.062	.044	.060	.043	.031	.035	.026	.019	.011	.008	.006		
9.0	.096	.066	.045	.083	.057	.040	.057	.040	.028	.033	.024	.017	.011	.008	.006		
10.0	.091	.061	.041	.079	.053	.036	.055	.037	.026	.032	.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, 24°)					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	6.8	7.5	7.1	7.7	7.9	9.0	9.7	9.2	9.9	10.0				
3H	7.2	7.8	7.4	8.0	8.2	9.1	9.7	9.3	9.9	10.1				
4H	7.4	8.0	7.6	8.2	8.4	9.1	9.7	9.4	9.9	10.1				
6H	7.5	8.0	7.8	8.3	8.5	9.1	9.6	9.4	9.9	10.1				
8H	7.5	8.0	7.8	8.3	8.6	9.0	9.6	9.4	9.9	10.1				
12H	7.5	8.0	7.8	8.3	8.6	9.0	9.5	9.4	9.8	10.1				
4H 2H	6.8	7.4	7.1	7.6	7.9	8.9	9.5	9.2	9.7	9.9				
3H	7.3	7.8	7.6	8.1	8.4	9.0	9.5	9.3	9.8	10.1				
4H	7.6	8.0	7.9	8.4	8.7	9.1	9.5	9.4	9.9	10.2				
6H	7.8	8.2	8.2	8.5	8.9	9.1	9.5	9.5	9.9	10.2				
8H	7.8	8.2	8.2	8.6	9.0	9.1	9.5	9.5	9.9	10.2				
12H	7.8	8.2	8.3	8.6	9.0	9.1	9.4	9.5	9.8	10.2				
8H 4H	7.6	8.0	8.0	8.4	8.7	9.0	9.4	9.4	9.8	10.2				
6H	7.9	8.2	8.3	8.6	9.0	9.1	9.4	9.5	9.8	10.3				
8H	8.0	8.2	8.4	8.7	9.1	9.1	9.4	9.6	9.8	10.3				
12H	8.0	8.3	8.5	8.7	9.2	9.1	9.4	9.6	9.8	10.3				
12H 4H	7.5	7.9	8.0	8.3	8.7	9.0	9.3	9.4	9.7	10.1				
6H	7.8	8.1	8.3	8.6	9.0	9.1	9.4	9.5	9.8	10.3				
8H	8.0	8.2	8.4	8.7	9.2	9.1	9.3	9.6	9.8	10.3				
Variations with the observer position at spacings:														
S = 1.0H	+ 0.7 / - 0.5					+ 3.0 / - 1.5								
1.5H	+ 1.6 / - 0.6					+ 5.1 / - 1.6								
2.0H	+ 0.3 / - 0.2					+ 0.9 / - 0.5								

CIE Pub.117 Corrected 1467 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.3)

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, 24°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

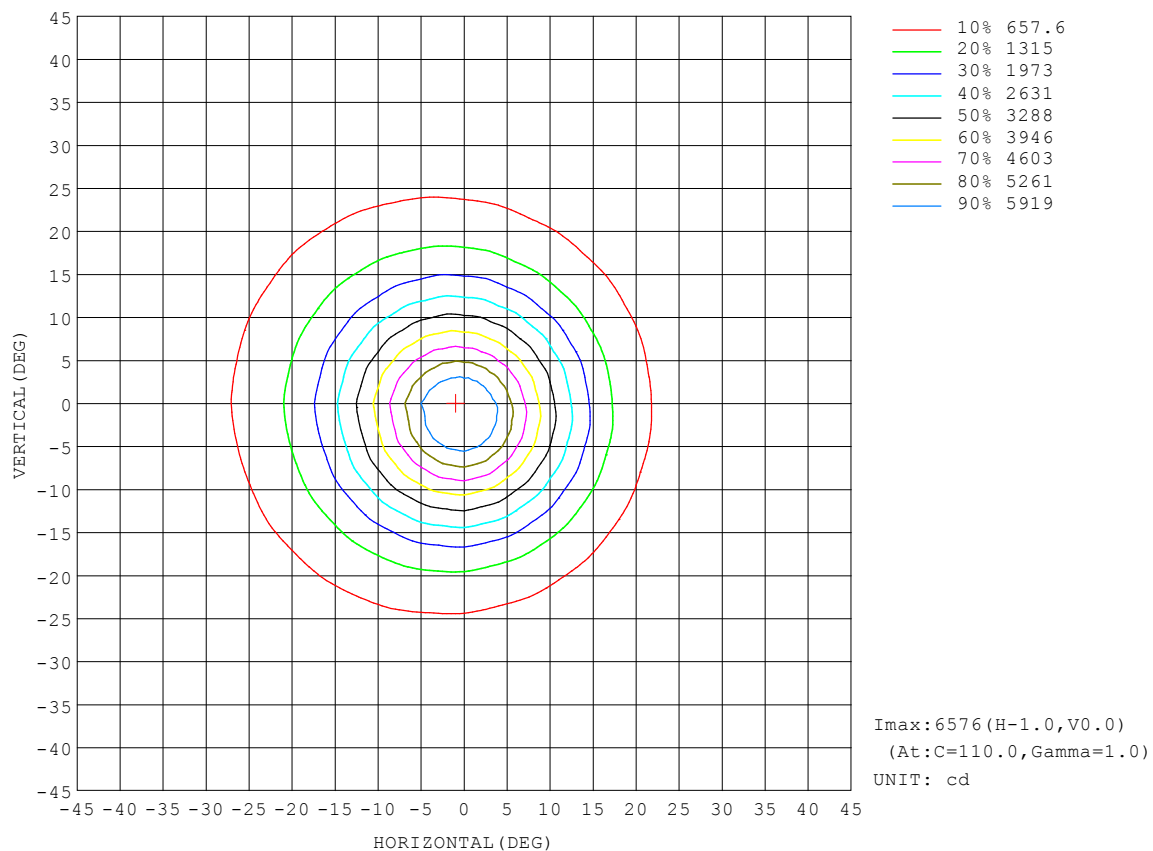
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	89	96	91	88	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, 24°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

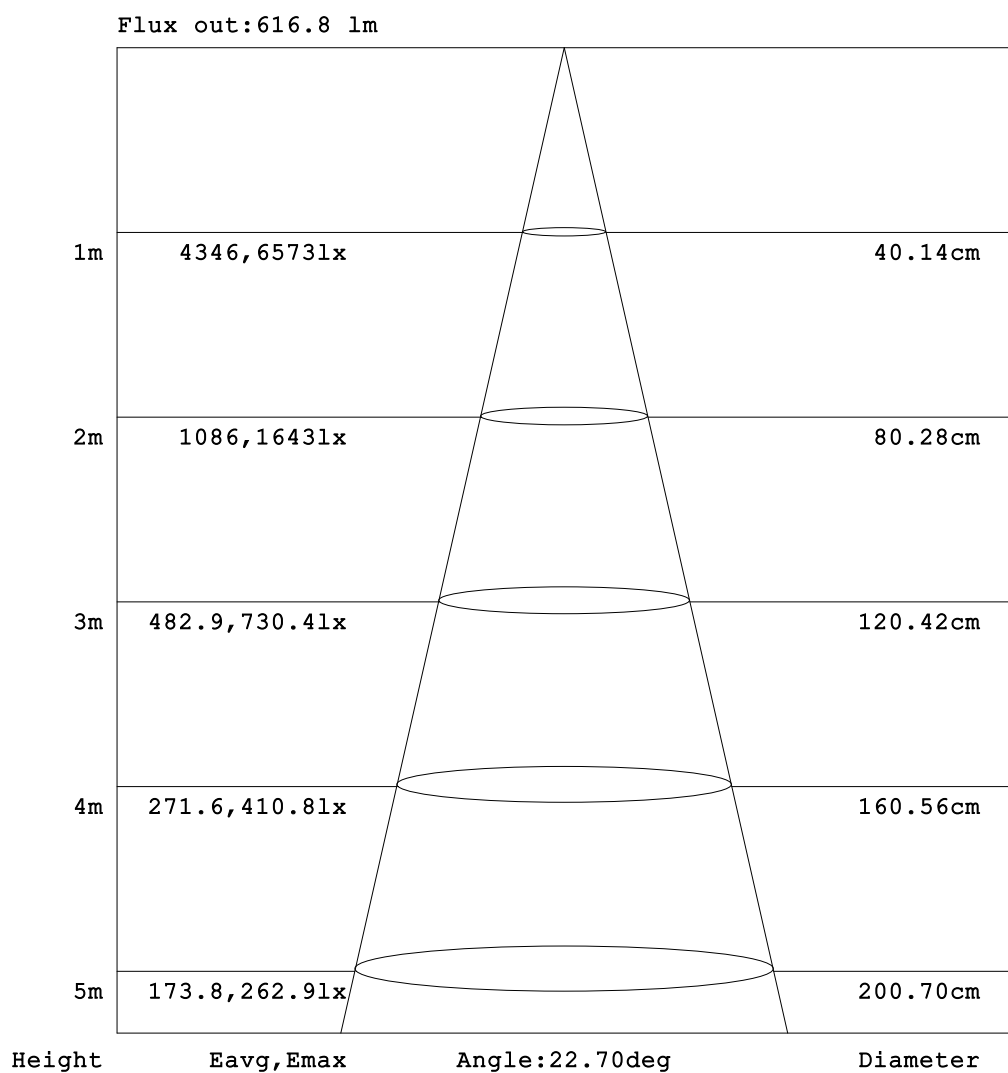


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-11-25

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, 24°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:



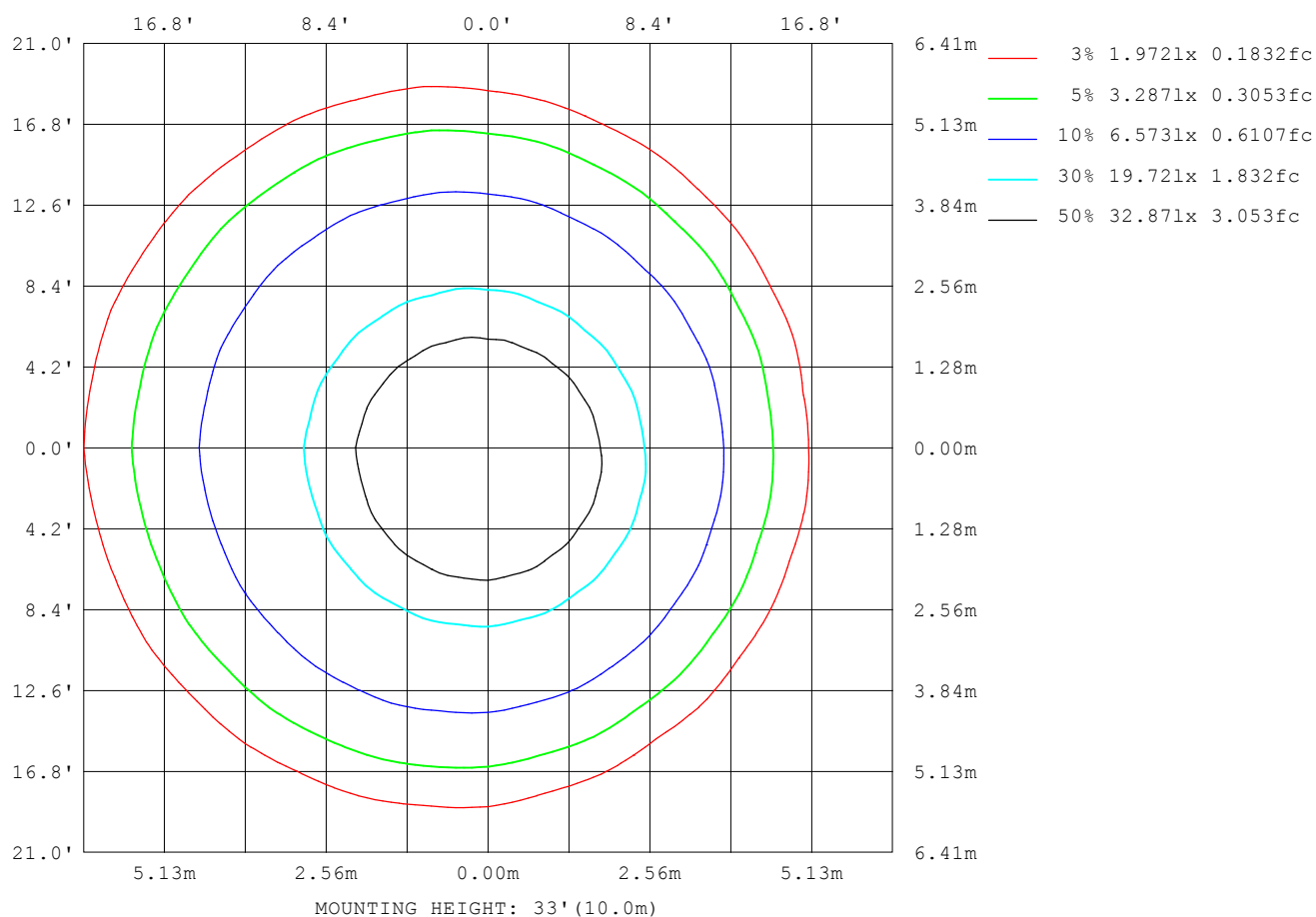
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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, 24°)	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, 24°)	TYPE:LED	WEIGHT:
SPEC.:12.6W	DIM.:	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

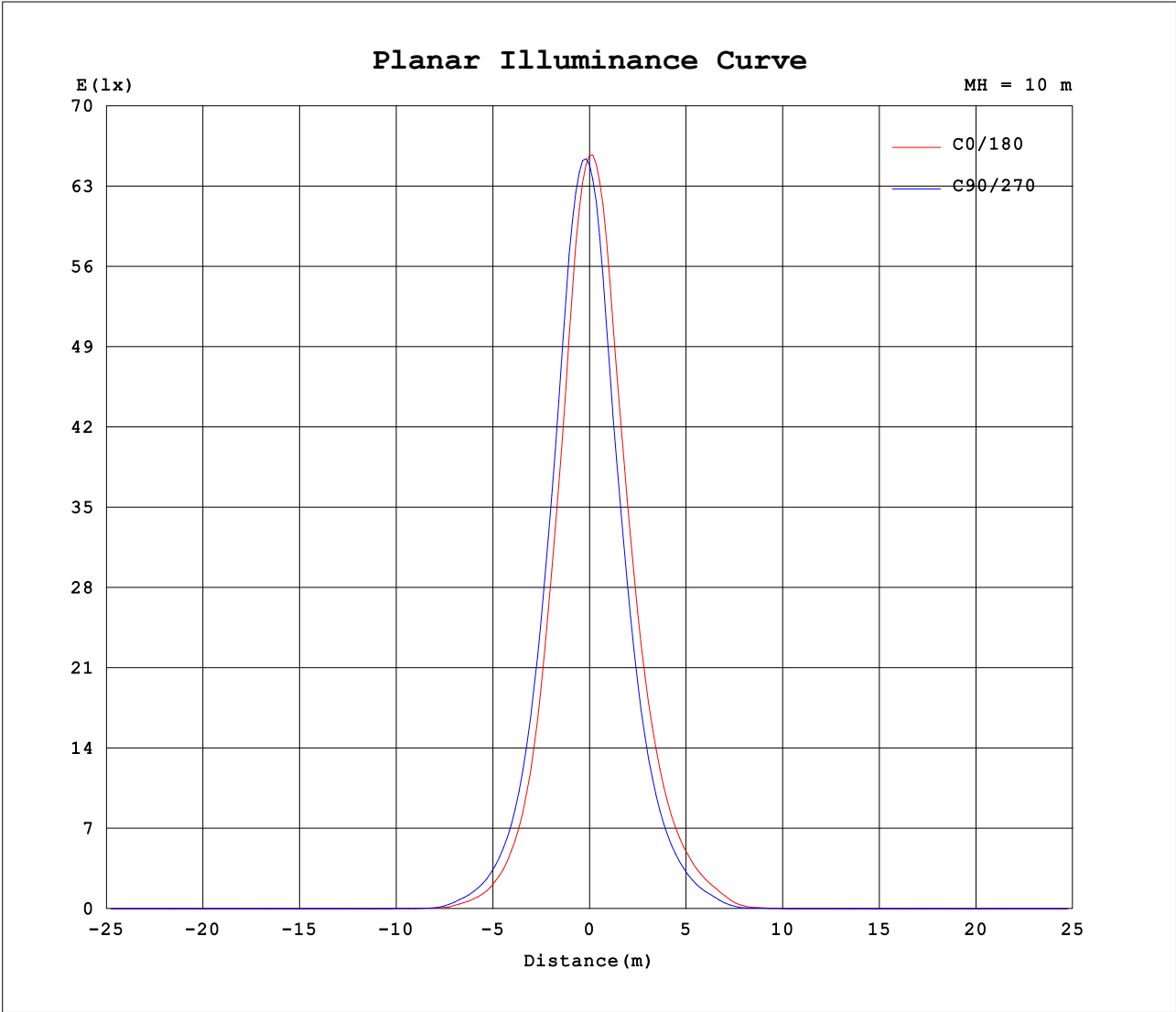
AvgL	cd/m2
L_0~180 (65) av	1377
L_0~180 (75) av	1234
L_0~180 (85) av	871
L_90~270 (65) av	1332
L_90~270 (75) av	1176
L_90~270 (85) av	812
L_45 (65) av	1353
L_45 (75) av	1204
L_45 (85) av	850

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, 24°)	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	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499
5	5414	5543	5584	5709	5757	5876	5905	6011	6021	6095	6066	6109	6060	6082	6006	5999	5899	5879	5855
10	3440	3561	3600	3725	3757	3891	3929	4074	4098	4199	4186	4255	4204	4257	4188	4214	4119	4105	4093
15	1820	1911	1922	2036	2063	2183	2211	2344	2353	2458	2454	2547	2529	2597	2542	2587	2516	2531	2524
20	846	870	873	919	946	1015	1049	1129	1159	1236	1272	1334	1361	1408	1398	1447	1419	1448	1454
25	385	391	390	413	424	457	477	528	549	602	626	678	703	741	753	788	789	812	824
30	161	163	164	170	177	192	203	227	248	283	299	330	347	381	393	419	428	444	459
35	52.3	55.8	56.0	62.4	61.7	71.1	72.0	83.9	90.8	105	112	129	135	156	159	180	187	195	207
40	12.9	13.0	12.9	13.4	13.6	14.2	14.3	15.2	15.5	16.4	16.8	18.0	18.4	20.4	21.7	24.6	25.7	28.1	30.6
45	7.45	7.55	7.53	7.77	7.77	8.00	8.00	8.19	8.27	8.60	8.72	9.45	9.49	10.0	10.3	11.1	11.0	11.4	11.8
50	4.86	4.87	4.92	4.91	4.90	4.87	4.84	4.76	4.63	4.54	4.39	4.32	4.13	3.97	3.84	3.76	3.74	3.74	3.73
55	4.34	4.32	4.38	4.37	4.38	4.27	4.18	4.03	3.91	3.76	3.65	3.49	3.40	3.25	3.15	3.05	3.05	2.98	2.98
60	3.77	3.71	3.80	3.81	3.82	3.67	3.56	3.38	3.29	3.14	3.02	2.88	2.73	2.55	2.48	2.37	2.35	2.24	2.21
65	3.36	3.38	3.40	3.30	3.29	3.18	3.12	2.96	2.87	2.69	2.60	2.43	2.35	2.19	2.14	2.01	1.99	1.89	1.88
70	2.86	2.87	2.89	2.86	2.82	2.72	2.64	2.51	2.43	2.29	2.19	2.03	1.95	1.82	1.77	1.66	1.64	1.56	1.56
75	1.87	1.88	1.90	1.86	1.85	1.78	1.73	1.63	1.58	1.48	1.42	1.31	1.28	1.18	1.16	1.07	1.08	1.01	1.00
80	1.10	1.08	1.11	1.06	1.07	1.01	1.01	0.93	0.92	0.83	0.82	0.74	0.74	0.66	0.67	0.60	0.62	0.57	0.57
85	0.46	0.44	0.47	0.43	0.45	0.41	0.42	0.36	0.38	0.33	0.35	0.30	0.32	0.28	0.29	0.23	0.27	0.21	0.22
90	0.02	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	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02
100	0.01	0.05	0.01	0.05	0.01	0.04	0.01	0.03	0.01	0.03	0.01	0.03	0.00	0.02	0.00	0.03	0.01	0.02	0.03
105	0.13	0.17	0.14	0.16	0.12	0.14	0.09	0.12	0.07	0.10	0.06	0.09	0.06	0.07	0.07	0.07	0.04	0.07	0.05
110	0.37	0.40	0.36	0.38	0.34	0.34	0.29	0.29	0.25	0.25	0.20	0.21	0.16	0.19	0.14	0.17	0.14	0.16	0.08
115	0.79	0.81	0.77	0.77	0.72	0.71	0.64	0.63	0.57	0.55	0.50	0.48	0.42	0.42	0.38	0.39	0.35	0.37	0.16
120	1.50	1.50	1.47	1.44	1.38	1.34	1.27	1.22	1.14	1.09	1.02	0.98	0.92	0.90	0.85	0.84	0.81	0.83	0.32
125	2.66	2.61	2.58	2.51	2.45	2.35	2.27	2.17	2.09	2.00	1.94	1.84	1.78	1.73	1.69	1.66	1.66	1.65	0.67
130	4.31	4.22	4.19	4.07	4.01	3.87	3.79	3.64	3.55	3.43	3.36	3.23	3.17	3.08	3.10	3.01	3.04	3.02	1.39
135	6.31	6.21	6.18	6.04	5.97	5.81	5.73	5.56	5.47	5.32	5.25	5.10	5.05	4.94	4.94	4.88	4.91	4.89	2.60
140	8.27	8.20	8.16	8.04	7.97	7.82	7.74	7.58	7.49	7.34	7.27	7.13	7.07	6.98	6.95	6.89	6.92	6.89	4.37
145	9.83	9.79	9.75	9.67	9.62	9.50	9.42	9.31	9.22	9.12	9.03	8.93	8.87	8.78	8.74	8.68	8.68	8.67	6.41
150	10.8	10.8	10.8	10.8	10.7	10.7	10.6	10.5	10.5	10.4	10.3	10.3	10.2	10.1	10.1	10.0	10.0	10.0	8.32
155	11.3	11.4	11.3	11.3	11.2	11.3	11.2	11.2	11.2	11.2	11.1	11.1	11.0	11.0	10.9	10.9	10.9	10.9	9.78
160	11.4	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.4	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	10.6
165	10.8	10.8	10.8	10.8	10.9	10.9	11.0	11.0	11.0	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	10.6
170	9.89	9.92	9.95	10.0	10.1	10.1	10.2	10.3	10.3	10.4	10.4	10.4	10.3	10.3	10.4	10.4	10.3	10.3	9.95
175	8.97	9.01	9.11	9.16	9.29	9.39	9.45	9.48	9.51	9.50	9.50	9.49	9.47	9.46	9.45	9.37	9.30	9.22	9.06
180	8.92	8.95	8.97	9.01	9.08	9.09	9.05	9.02	9.01	9.00	8.98	8.99	9.01	9.03	9.03	8.97	8.90	8.88	8.98

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, 24°)	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	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499	6499		
5	5723	5681	5550	5509	5385	5372	5269	5264	5177	5193	5136	5188	5161	5254	5254	5357	5380		
10	3960	3938	3801	3765	3634	3604	3488	3469	3362	3357	3277	3313	3267	3333	3310	3402	3403		
15	2430	2423	2314	2288	2176	2141	2031	2015	1921	1906	1819	1825	1765	1798	1759	1812	1794		
20	1397	1393	1339	1312	1246	1204	1130	1097	1034	1001	941	919	874	873	846	857	841		
25	799	800	760	749	705	679	628	602	554	526	485	464	434	427	402	403	381		
30	444	444	418	409	377	362	329	311	277	257	227	216	198	191	178	174	162		
35	200	202	184	176	154	145	127	117	96.8	89.5	72.2	71.2	61.7	61.0	54.9	54.7	52.1		
40	30.4	30.3	27.5	26.2	24.0	22.5	20.2	18.6	16.6	15.4	14.2	13.4	12.8	12.5	12.4	12.5	12.5		
45	11.1	11.5	10.4	10.4	9.57	9.42	8.54	8.55	7.88	7.86	7.32	7.40	7.07	7.23	7.08	7.23	7.30		
50	3.68	3.71	3.70	3.73	3.76	3.77	3.85	3.89	4.03	4.11	4.26	4.32	4.46	4.55	4.65	4.69	4.78		
55	2.98	2.95	3.00	3.00	3.07	3.09	3.21	3.27	3.44	3.50	3.65	3.71	3.89	3.94	4.10	4.13	4.26		
60	2.24	2.20	2.27	2.24	2.33	2.35	2.48	2.56	2.78	2.89	3.06	3.11	3.31	3.42	3.66	3.69	3.80		
65	1.91	1.87	1.93	1.92	2.01	2.03	2.16	2.23	2.37	2.45	2.62	2.68	2.87	2.98	3.11	3.18	3.29		
70	1.57	1.53	1.58	1.56	1.65	1.65	1.77	1.82	1.95	2.02	2.16	2.24	2.39	2.47	2.62	2.68	2.79		
75	1.03	0.98	1.03	1.00	1.07	1.07	1.14	1.16	1.26	1.29	1.40	1.45	1.57	1.61	1.71	1.75	1.83		
80	0.60	0.56	0.60	0.57	0.62	0.58	0.66	0.64	0.72	0.73	0.82	0.82	0.91	0.92	1.00	1.01	1.08		
85	0.26	0.21	0.26	0.23	0.26	0.22	0.28	0.25	0.30	0.28	0.34	0.32	0.38	0.36	0.43	0.42	0.46		
90	0.01	0.01	0.02	0.00	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.00	0.02	0.00	0.02		
95	0.01	0.02	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.01	0.01	0.02	0.01	0.02	0.01		
100	0.01	0.04	0.01	0.03	0.02	0.04	0.02	0.03	0.02	0.04	0.02	0.03	0.01	0.03	0.01	0.03	0.01		
105	0.01	0.04	0.01	0.04	0.02	0.04	0.02	0.05	0.02	0.05	0.02	0.05	0.01	0.05	0.01	0.05	0.02		
110	0.06	0.08	0.07	0.08	0.07	0.09	0.08	0.10	0.06	0.10	0.07	0.12	0.08	0.13	0.10	0.14	0.11		
115	0.16	0.16	0.14	0.16	0.14	0.19	0.16	0.21	0.20	0.24	0.22	0.27	0.26	0.30	0.28	0.32	0.29		
120	0.29	0.33	0.30	0.35	0.35	0.39	0.40	0.45	0.45	0.51	0.52	0.57	0.57	0.62	0.63	0.67	0.64		
125	0.66	0.70	0.70	0.75	0.77	0.83	0.87	0.93	0.98	1.04	1.08	1.14	1.17	1.21	1.23	1.26	1.25		
130	1.41	1.44	1.49	1.55	1.60	1.66	1.75	1.82	1.91	1.99	2.06	2.10	2.17	2.20	2.25	2.24	2.26		
135	2.65	2.70	2.79	2.86	2.98	3.05	3.19	3.26	3.40	3.46	3.59	3.61	3.72	3.72	3.78	3.75	3.77		
140	4.47	4.51	4.65	4.71	4.87	4.94	5.12	5.18	5.36	5.41	5.57	5.59	5.72	5.70	5.77	5.71	5.73		
145	6.51	6.55	6.69	6.75	6.92	6.99	7.17	7.24	7.42	7.48	7.62	7.64	7.76	7.74	7.82	7.75	7.79		
150	8.37	8.43	8.53	8.58	8.71	8.78	8.92	9.00	9.15	9.20	9.31	9.35	9.43	9.44	9.49	9.46	9.48		
155	9.78	9.82	9.84	9.89	9.96	10.0	10.1	10.2	10.3	10.3	10.4	10.4	10.5	10.5	10.5	10.6	10.6		
160	10.5	10.5	10.5	10.5	10.5	10.6	10.6	10.6	10.7	10.7	10.7	10.7	10.8	10.8	10.8	10.9	10.9		
165	10.6	10.5	10.4	10.4	10.4	10.4	10.4	10.4	10.5	10.4	10.4	10.4	10.5	10.4	10.5	10.5	10.6		
170	9.89	9.83	9.79	9.69	9.63	9.58	9.68	9.67	9.71	9.68	9.66	9.61	9.65	9.62	9.69	9.65	9.72		
175	9.06	9.04	9.08	9.04	9.03	8.94	8.98	8.96	9.01	8.95	9.04	8.97	9.02	8.91	8.89	8.85	8.86		
180	8.94	8.98	9.01	9.08	9.08	9.05	8.97	8.98	8.98	8.96	8.97	8.98	9.02	9.01	8.94	8.90	8.85		

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: