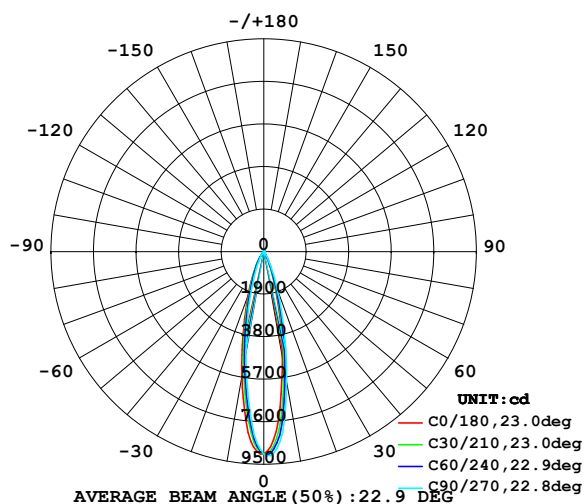


LUMINAIRE PHOTOMETRIC TEST REPORT

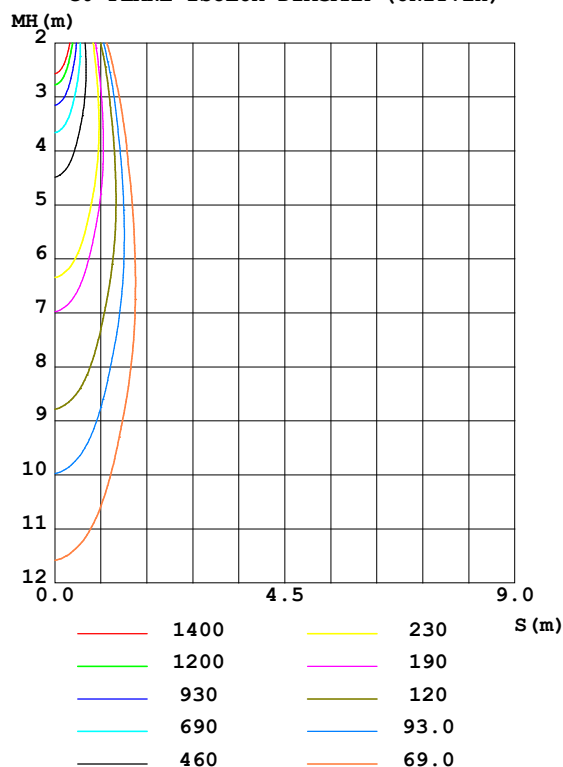
NAME: MCR-3 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 109.19 lm/W			
MCR-3 (19W, 24°)		Imax(cd)	9116	S/MH(C0/180)	0.42
NOMINAL POWER(W)	19	LOR(%)	100.0	S/MH(C90/270)	0.35
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	2037.8	η UP,DN(C0-180)	0.7,51.4
NOMINAL FLUX(lm)	2037.78	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.6,47.3
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)



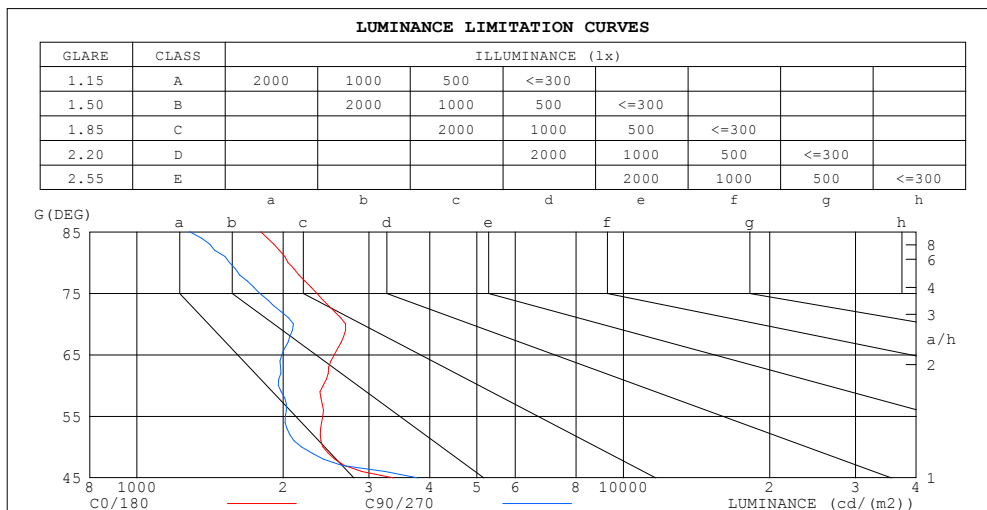
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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	4807	5344	5875	5878	5661	5118	4646	4574	0- 10	658.7	658.7	32.3,32.3
20	1195	1382	1733	1955	2012	1757	1415	1211	10- 20	839.0	1498	73.5,73.5
30	225.6	258.8	392.2	538.5	636.3	542.4	376.8	271.8	20- 30	388.1	1886	92.5,92.5
40	18.06	19.42	22.89	29.28	42.44	34.77	22.86	17.37	30- 40	104.4	1990	97.7,97.7
50	6.808	6.838	6.339	5.468	5.259	5.231	5.615	6.261	40- 50	9.937	2000	98.1,98.1
60	5.304	5.263	4.419	3.542	3.155	3.229	3.886	4.715	50- 60	4.504	2005	98.4,98.4
70	4.033	3.894	3.249	2.546	2.225	2.271	2.735	3.423	60- 70	3.600	2008	98.5,98.5
80	1.560	1.494	1.218	0.9686	0.8398	0.8558	1.035	1.316	70- 80	2.138	2010	98.7,98.7
90	0.0403	0.0363	0.0227	0.0344	0.0441	0.0496	0.0546	0.0457	80- 90	0.5749	2011	98.7,98.7
100	0.0660	0.0854	0.0636	0.0590	0.0792	0.0719	0.0634	0.0681	90-100	0.0531	2011	98.7,98.7
110	0.5537	0.5009	0.3813	0.2660	0.1367	0.1348	0.1512	0.1842	100-110	0.1505	2011	98.7,98.7
120	2.136	1.905	1.534	1.239	0.4761	0.5258	0.6792	0.8776	110-120	0.6150	2012	98.7,98.7
130	6.010	5.482	4.738	4.299	1.957	2.232	2.722	3.088	120-130	2.005	2014	98.8,98.8
140	11.52	10.98	10.20	9.706	6.133	6.714	7.533	7.962	130-140	4.729	2018	99.1,99.1
150	15.09	14.86	14.47	14.06	11.65	12.07	12.76	13.15	140-150	7.075	2026	99.4,99.4
160	15.80	15.74	15.85	15.72	14.76	14.67	14.90	14.95	150-160	6.780	2032	99.7,99.7
170	13.75	14.06	14.46	14.40	13.89	13.44	13.49	13.39	160-170	4.223	2037	99.9,99.9
180	12.47	12.65	12.54	12.58	12.56	12.62	12.49	12.57	170-180	1.255	2038	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1799	1285
80	2046	1551
75	2345	1788
70	2686	2100
65	2548	1987
60	2416	1954
55	2412	2021
50	2412	2180
45	3369	3781

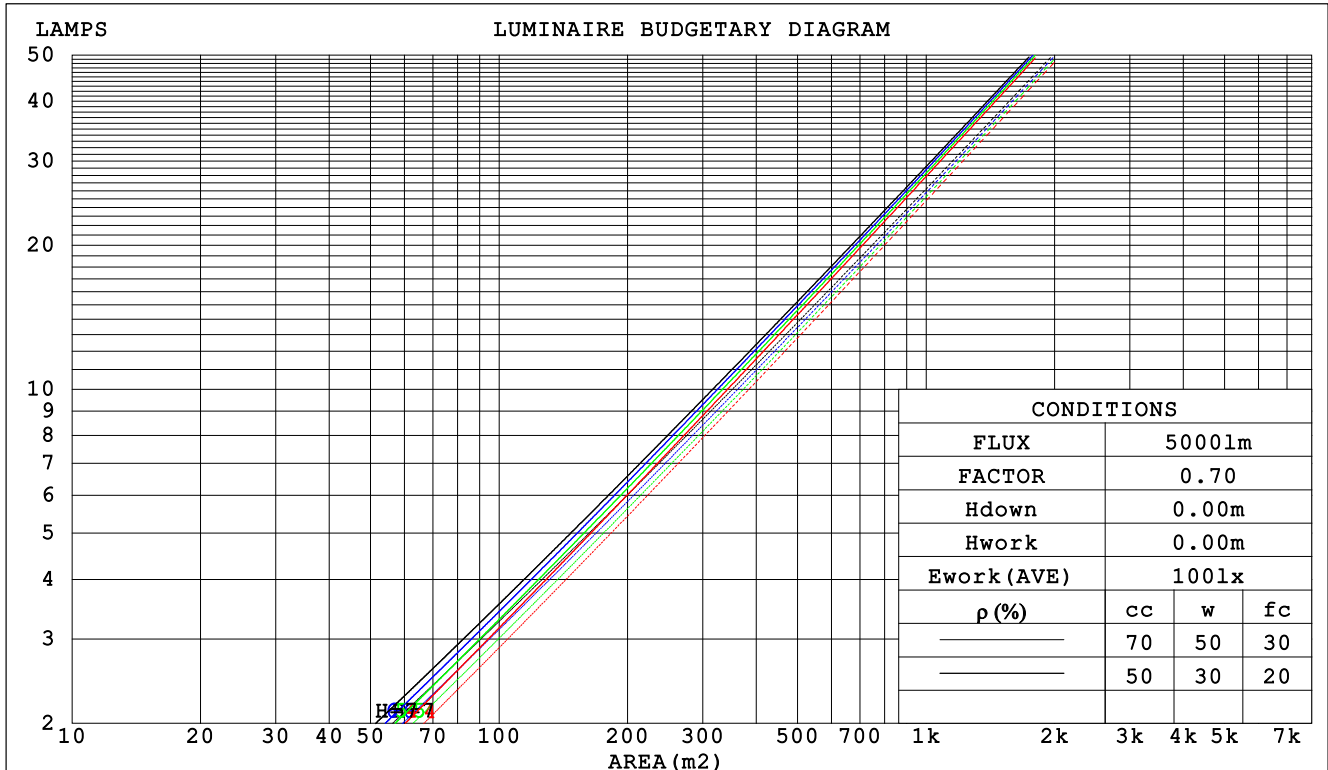
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	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:2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	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	.106	.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	.201	.201	.201	.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	.050	.045	.018	.016	.015		
3.0	.147	.124	.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	.043	.034	.028	.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	.048	.035	.037	.028	.021	.012	.009	.007		
8.0	.102	.071	.051	.087	.062	.044	.061	.044	.031	.035	.026	.019	.011	.008	.006		
9.0	.096	.066	.046	.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:2025-08-19

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 (19W, 24°)					TYPE:LED					WEIGHT:				
SPEC.:					DIM.: 3inch					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					8.1	8.8	8.3	9.0	9.1	10.2	10.9	10.4	11.0	11.2
3H					8.5	9.1	8.7	9.3	9.5	10.2	10.9	10.5	11.1	11.3
4H					8.6	9.2	8.9	9.5	9.7	10.3	10.8	10.5	11.1	11.3
6H					8.8	9.3	9.1	9.6	9.8	10.2	10.8	10.5	11.1	11.3
8H					8.8	9.3	9.1	9.6	9.9	10.2	10.8	10.5	11.0	11.3
12H					8.8	9.3	9.1	9.6	9.9	10.2	10.7	10.5	11.0	11.3
4H 2H					8.1	8.7	8.4	8.9	9.1	10.1	10.7	10.3	10.9	11.1
3H					8.6	9.1	8.9	9.4	9.7	10.2	10.7	10.5	11.0	11.3
4H					8.9	9.3	9.2	9.7	10.0	10.2	10.7	10.6	11.0	11.4
6H					9.1	9.5	9.5	9.8	10.2	10.3	10.7	10.7	11.1	11.4
8H					9.1	9.5	9.5	9.9	10.3	10.3	10.7	10.7	11.0	11.4
12H					9.2	9.5	9.6	9.9	10.3	10.3	10.6	10.7	11.0	11.4
8H 4H					8.9	9.3	9.3	9.6	10.0	10.2	10.6	10.6	11.0	11.4
6H					9.2	9.5	9.6	9.9	10.3	10.3	10.6	10.7	11.0	11.5
8H					9.3	9.6	9.7	10.0	10.5	10.3	10.6	10.8	11.0	11.5
12H					9.3	9.6	9.8	10.0	10.5	10.3	10.6	10.8	11.0	11.5
12H 4H					8.8	9.2	9.3	9.6	10.0	10.2	10.5	10.6	10.9	11.3
6H					9.1	9.4	9.6	9.9	10.3	10.3	10.5	10.7	11.0	11.4
8H					9.3	9.5	9.8	10.0	10.5	10.3	10.5	10.8	11.0	11.5
Variations with the observer position at spacings:														
S = 1.0H					+ 0.7 / - 0.5					+ 3.1 / - 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 2038 lm Total Lamp Luminous Flux. (8log(F/F0) = 2.5)

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

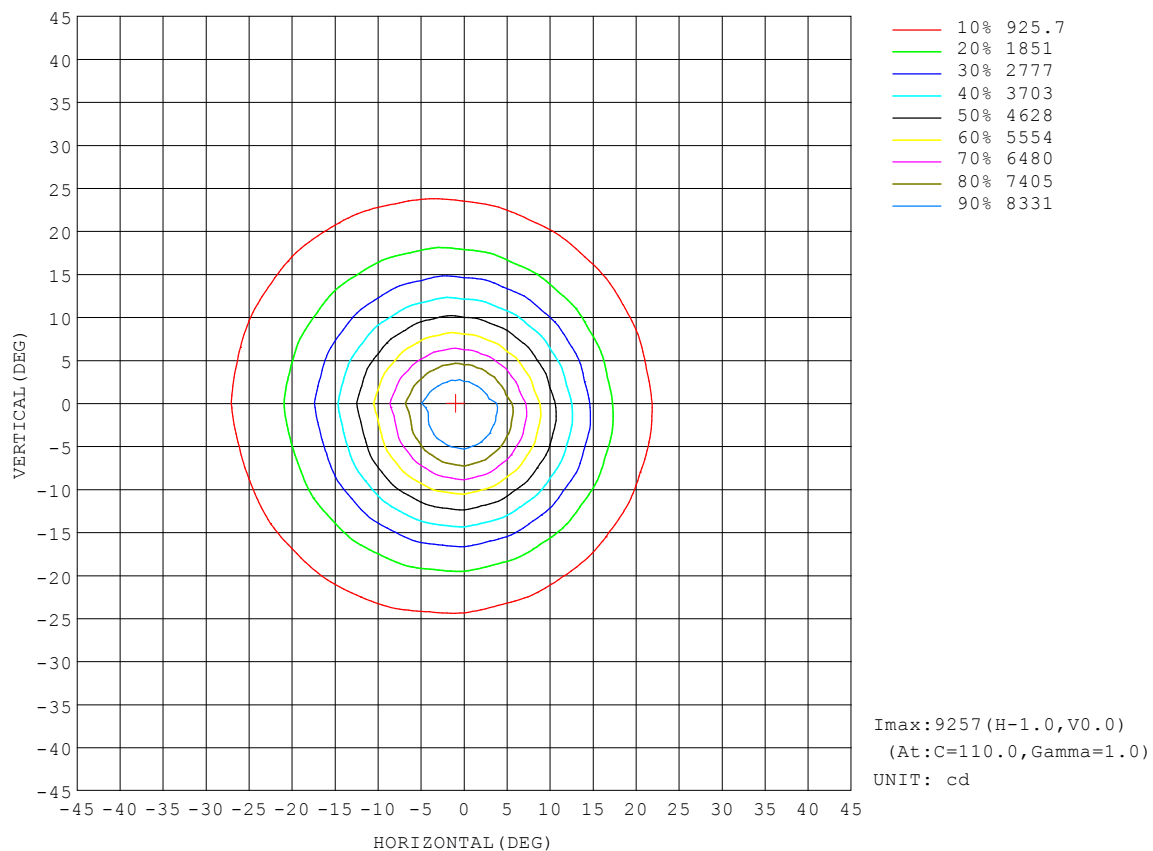
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	88	96	91	88	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: 2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

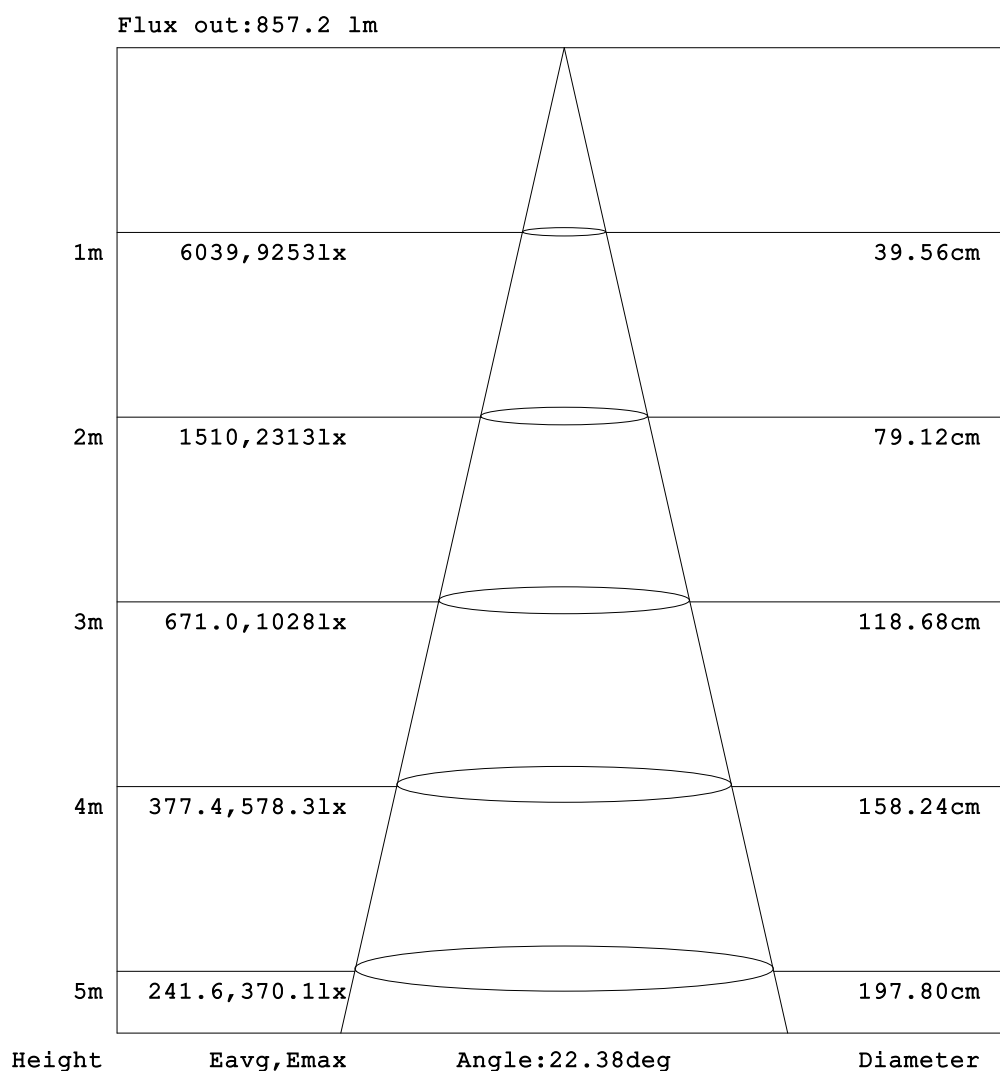


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:



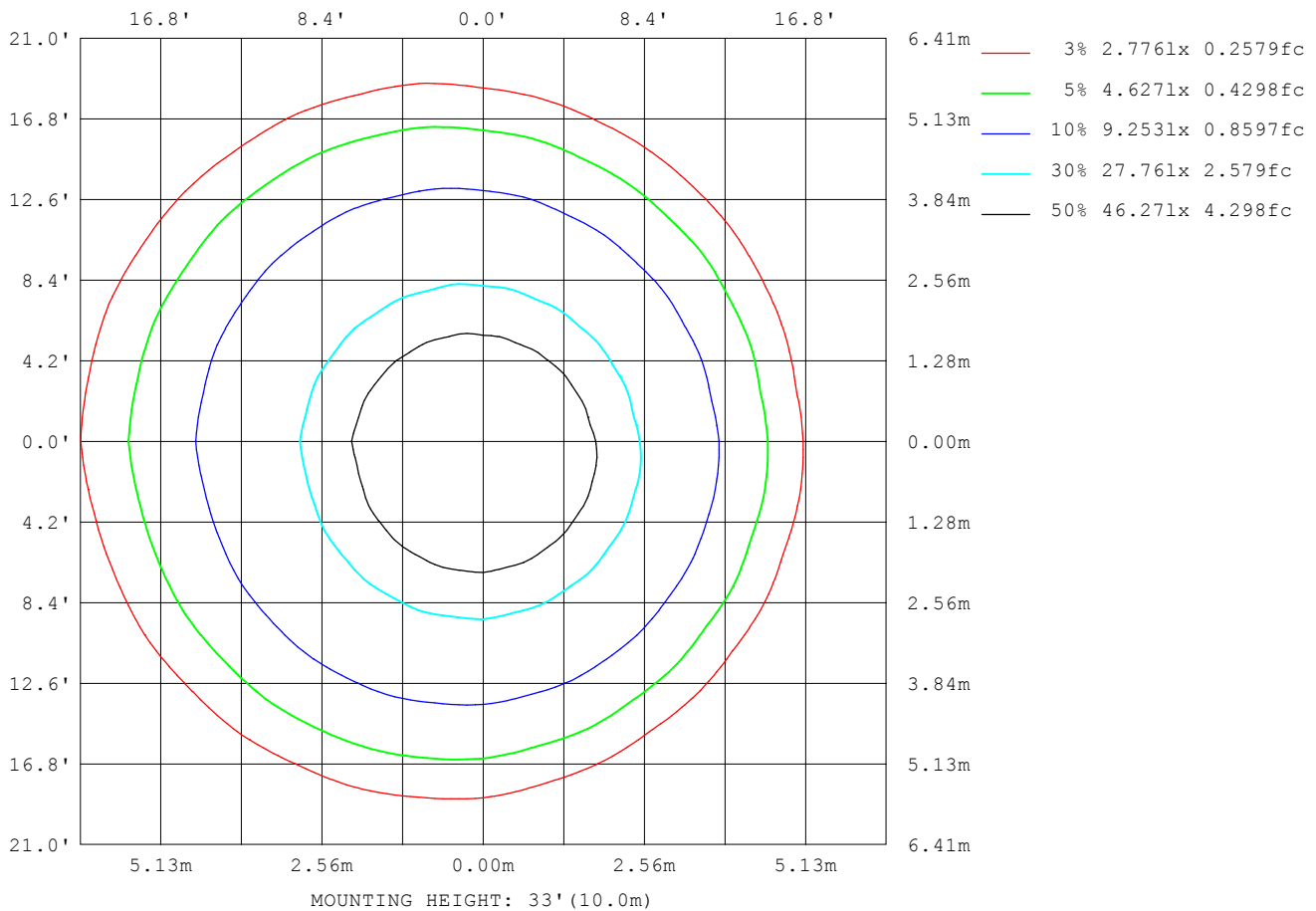
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	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: 2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

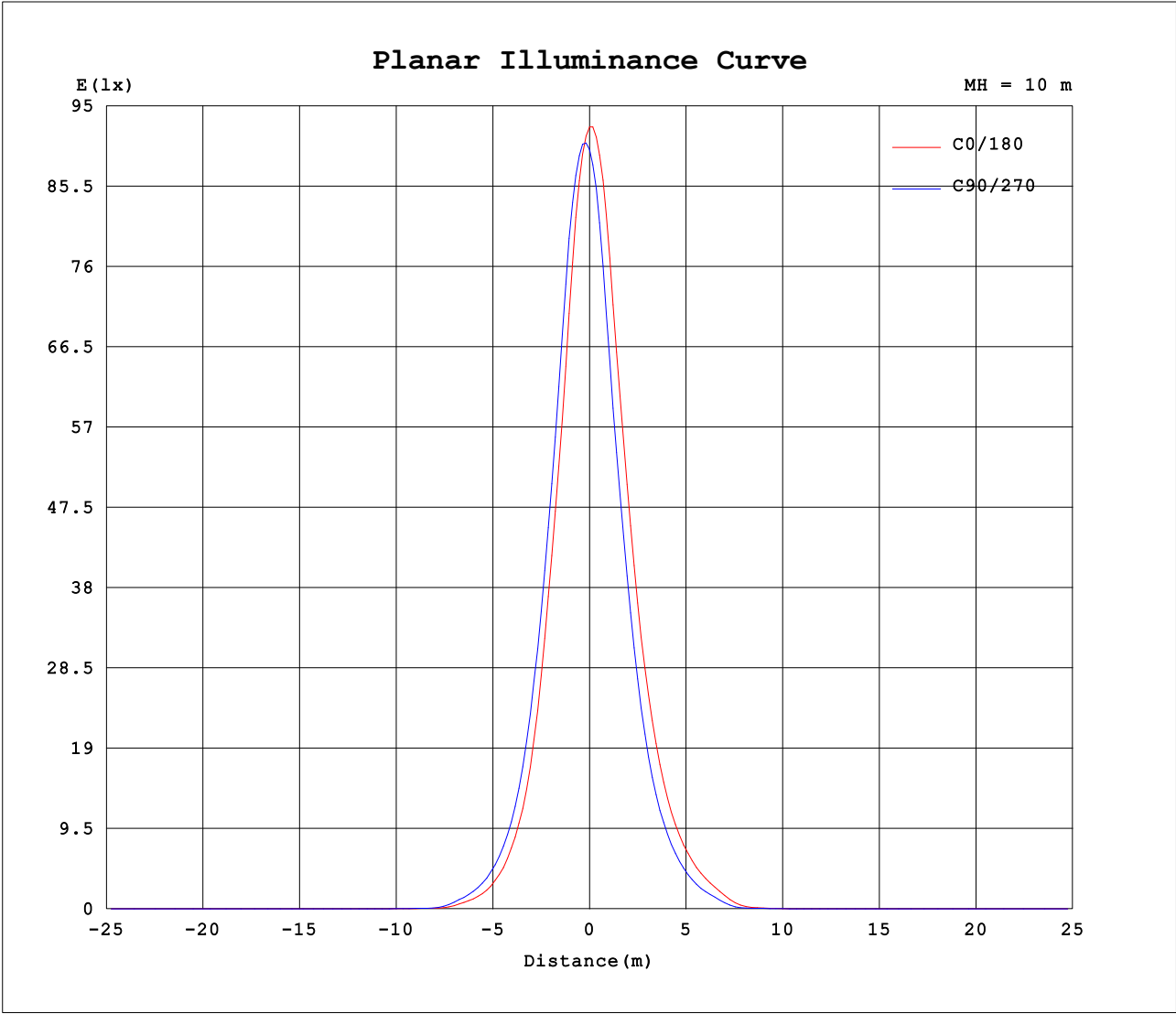
AvgL	cd/m2
L_0~180 (65) av	1950
L_0~180 (75) av	1769
L_0~180 (85) av	1337
L_90~270 (65) av	1871
L_90~270 (75) av	1652
L_90~270 (85) av	1208
L_45 (65) av	1901
L_45 (75) av	1705
L_45 (85) av	1274

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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:2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	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	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029
5	7549	7724	7790	7955	8028	8187	8230	8369	8383	8497	8453	8506	8434	8458	8350	8335	8196	8159	8106
10	4807	4972	5036	5203	5253	5436	5494	5684	5721	5875	5857	5938	5865	5924	5832	5856	5728	5695	5661
15	2546	2678	2695	2872	2882	3070	3094	3263	3290	3435	3432	3546	3525	3603	3537	3581	3496	3502	3476
20	1195	1219	1239	1288	1342	1421	1461	1579	1612	1733	1750	1864	1872	1962	1948	2010	1973	2010	2012
25	539	548	539	578	585	638	667	736	765	843	867	946	979	1033	1048	1094	1096	1126	1141
30	226	228	230	238	248	270	284	319	347	392	419	460	484	530	547	583	595	615	636
35	73.4	78.2	79.0	87.3	87.3	99.6	102	117	127	149	160	181	184	217	223	254	262	279	285
40	18.1	18.3	18.1	18.9	19.0	19.9	19.9	21.1	21.6	22.9	23.5	25.2	25.7	28.3	30.2	34.2	35.8	39.0	42.4
45	10.5	10.6	10.5	10.9	10.9	11.2	11.1	11.5	11.5	12.1	12.2	13.2	13.3	14.0	14.4	15.4	15.4	15.9	16.3
50	6.81	6.84	6.88	6.89	6.85	6.83	6.74	6.64	6.46	6.34	6.13	6.05	5.77	5.57	5.36	5.28	5.21	5.23	5.26
55	6.07	6.08	6.14	6.13	6.13	5.98	5.85	5.63	5.46	5.24	5.10	4.90	4.74	4.55	4.41	4.31	4.26	4.18	4.22
60	5.30	5.24	5.33	5.37	5.36	5.17	4.99	4.76	4.61	4.42	4.22	4.03	3.82	3.61	3.47	3.33	3.29	3.16	3.15
65	4.73	4.76	4.75	4.66	4.61	4.46	4.36	4.17	4.01	3.80	3.65	3.42	3.29	3.10	3.01	2.85	2.80	2.69	2.69
70	4.03	4.06	4.09	4.02	3.96	3.82	3.71	3.55	3.41	3.25	3.08	2.89	2.74	2.59	2.50	2.38	2.32	2.23	2.22
75	2.67	2.69	2.70	2.66	2.62	2.53	2.45	2.33	2.23	2.09	2.01	1.87	1.80	1.68	1.63	1.53	1.52	1.44	1.46
80	1.56	1.56	1.57	1.55	1.53	1.46	1.43	1.35	1.30	1.22	1.18	1.08	1.06	0.98	0.96	0.88	0.90	0.84	0.84
85	0.69	0.66	0.69	0.66	0.67	0.62	0.62	0.57	0.57	0.51	0.52	0.46	0.47	0.42	0.43	0.37	0.40	0.36	0.36
90	0.04	0.03	0.04	0.03	0.04	0.03	0.05	0.03	0.04	0.02	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04
95	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.06
100	0.07	0.10	0.07	0.09	0.08	0.09	0.06	0.07	0.05	0.06	0.04	0.07	0.04	0.06	0.06	0.06	0.06	0.06	0.08
105	0.23	0.25	0.22	0.24	0.21	0.22	0.18	0.19	0.14	0.17	0.15	0.15	0.12	0.13	0.10	0.13	0.08	0.12	0.10
110	0.55	0.58	0.57	0.55	0.51	0.50	0.45	0.43	0.38	0.38	0.32	0.33	0.29	0.29	0.25	0.26	0.23	0.26	0.14
115	1.14	1.14	1.13	1.10	1.04	1.01	0.94	0.90	0.83	0.79	0.71	0.70	0.64	0.62	0.56	0.57	0.56	0.55	0.24
120	2.14	2.11	2.07	2.02	1.94	1.87	1.79	1.70	1.60	1.53	1.44	1.38	1.31	1.27	1.21	1.19	1.16	1.16	0.48
125	3.73	3.65	3.62	3.50	3.43	3.28	3.19	3.04	2.93	2.79	2.70	2.58	2.52	2.42	2.39	2.33	2.34	2.32	0.9787
130	6.01	5.89	5.85	5.67	5.59	5.37	5.27	5.06	4.96	4.74	4.66	4.48	4.43	4.30	4.30	4.21	4.26	4.22	1.96
135	8.80	8.66	8.60	8.41	8.30	8.07	7.96	7.71	7.61	7.36	7.27	7.06	7.03	6.87	6.88	6.78	6.86	6.80	3.66
140	11.5	11.4	11.3	11.2	11.1	10.9	10.8	10.5	10.4	10.2	10.1	9.92	9.86	9.70	9.71	9.59	9.65	9.60	6.13
145	13.7	13.6	13.5	13.4	13.3	13.2	13.1	12.9	12.8	12.7	12.6	12.4	12.3	12.2	12.2	12.1	12.1	12.0	8.99
150	15.1	15.1	15.0	15.0	14.9	14.8	14.7	14.7	14.6	14.5	14.3	14.3	14.2	14.1	14.0	14.0	14.0	13.9	11.6
155	15.8	15.9	15.7	15.7	15.6	15.7	15.6	15.6	15.5	15.5	15.4	15.4	15.3	15.3	15.2	15.2	15.2	15.2	13.7
160	15.8	15.8	15.8	15.8	15.7	15.8	15.8	15.8	15.8	15.9	15.8	15.8	15.7	15.7	15.7	15.7	15.7	15.8	14.8
165	15.1	15.1	15.1	15.1	15.1	15.2	15.3	15.3	15.4	15.4	15.5	15.4	15.5	15.5	15.5	15.5	15.5	15.5	14.8
170	13.8	13.9	13.9	14.0	14.0	14.1	14.2	14.3	14.4	14.5	14.5	14.4	14.4	14.4	14.4	14.5	14.4	14.3	13.9
175	12.5	12.6	12.7	12.8	12.9	13.1	13.2	13.2	13.2	13.3	13.2	13.2	13.2	13.2	13.1	13.0	12.9	12.8	12.7
180	12.5	12.5	12.5	12.6	12.6	12.7	12.6	12.6	12.5	12.5	12.5	12.5	12.6	12.6	12.5	12.4	12.4	12.4	12.6

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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 (19W, 24°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	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	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029	9029		
5	7929	7865	7689	7625	7462	7439	7304	7295	7163	7184	7114	7189	7159	7288	7299	7437	7477		
10	5482	5441	5262	5206	5030	4984	4830	4797	4646	4633	4535	4584	4531	4617	4597	4719	4732		
15	3365	3338	3200	3169	3010	2965	2812	2786	2651	2627	2513	2520	2446	2486	2440	2511	2493		
20	1936	1925	1836	1810	1703	1660	1555	1515	1415	1377	1304	1267	1217	1205	1170	1186	1164		
25	1107	1104	1051	1033	974	936	867	830	761	723	669	638	599	589	556	555	527		
30	614	614	577	565	520	498	454	428	377	353	314	301	276	268	246	240	224		
35	277	280	255	243	212	199	175	161	138	121	97.4	95.6	85.2	83.1	75.7	75.1	71.7		
40	42.1	41.9	38.0	36.2	33.3	31.1	28.0	25.7	22.9	21.1	19.5	18.4	17.5	17.2	17.1	17.2	17.3		
45	15.4	15.8	14.3	14.3	13.3	13.0	11.8	11.8	10.8	10.7	9.96	10.2	9.77	9.96	9.77	10.0	10.1		
50	5.17	5.20	5.19	5.22	5.24	5.28	5.36	5.45	5.62	5.74	5.93	6.03	6.21	6.31	6.47	6.54	6.65		
55	4.19	4.18	4.20	4.19	4.29	4.33	4.48	4.62	4.79	4.90	5.10	5.20	5.44	5.53	5.73	5.82	5.97		
60	3.15	3.11	3.19	3.18	3.28	3.32	3.48	3.61	3.89	4.07	4.28	4.37	4.62	4.81	5.13	5.18	5.33		
65	2.71	2.67	2.73	2.72	2.84	2.90	3.04	3.12	3.32	3.43	3.66	3.79	4.04	4.14	4.36	4.44	4.61		
70	2.22	2.20	2.24	2.23	2.31	2.35	2.48	2.58	2.74	2.85	3.02	3.16	3.35	3.49	3.68	3.79	3.92		
75	1.46	1.42	1.46	1.44	1.50	1.51	1.60	1.64	1.76	1.83	1.96	2.05	2.19	2.30	2.42	2.49	2.59		
80	0.86	0.83	0.86	0.83	0.88	0.87	0.95	0.95	1.03	1.07	1.15	1.22	1.29	1.34	1.43	1.47	1.54		
85	0.40	0.35	0.39	0.34	0.40	0.37	0.41	0.38	0.44	0.42	0.49	0.49	0.55	0.56	0.62	0.62	0.68		
90	0.06	0.04	0.05	0.04	0.06	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05		
95	0.05	0.06	0.05	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		
100	0.07	0.07	0.08	0.08	0.07	0.07	0.06	0.07	0.06	0.08	0.05	0.07	0.07	0.07	0.07	0.07	0.06		
105	0.08	0.10	0.08	0.09	0.07	0.09	0.07	0.10	0.07	0.10	0.06	0.10	0.09	0.10	0.07	0.11	0.08		
110	0.11	0.14	0.12	0.14	0.13	0.14	0.14	0.16	0.15	0.18	0.15	0.19	0.16	0.20	0.20	0.21	0.23		
115	0.20	0.25	0.22	0.26	0.23	0.28	0.28	0.32	0.31	0.36	0.35	0.40	0.39	0.44	0.44	0.47	0.46		
120	0.46	0.49	0.49	0.53	0.52	0.57	0.59	0.66	0.68	0.74	0.77	0.83	0.85	0.90	0.93	0.95	0.94		
125	0.97	1.01	1.03	1.08	1.13	1.20	1.26	1.33	1.41	1.48	1.54	1.60	1.66	1.71	1.75	1.77	1.78		
130	2.00	2.04	2.13	2.18	2.28	2.36	2.50	2.57	2.72	2.79	2.92	2.97	3.08	3.10	3.17	3.15	3.20		
135	3.76	3.81	3.96	4.02	4.21	4.30	4.50	4.58	4.81	4.87	5.04	5.07	5.22	5.20	5.30	5.23	5.29		
140	6.27	6.33	6.52	6.60	6.83	6.92	7.18	7.25	7.53	7.58	7.81	7.81	7.99	7.94	8.06	7.94	8.00		
145	9.13	9.17	9.38	9.45	9.69	9.78	10.0	10.1	10.4	10.4	10.7	10.7	10.8	10.8	10.9	10.8	10.9		
150	11.7	11.8	11.9	12.0	12.2	12.3	12.4	12.5	12.8	12.8	13.0	13.0	13.1	13.1	13.2	13.2	13.2		
155	13.6	13.7	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.5	14.6	14.6	14.7	14.7	14.7		
160	14.6	14.7	14.6	14.7	14.6	14.7	14.8	14.8	14.9	14.9	15.0	15.0	14.9	15.0	15.1	15.1	15.2		
165	14.7	14.6	14.5	14.5	14.5	14.4	14.5	14.5	14.5	14.5	14.5	14.5	14.6	14.5	14.6	14.6	14.7		
170	13.8	13.7	13.6	13.5	13.4	13.3	13.4	13.5	13.5	13.5	13.4	13.3	13.4	13.4	13.5	13.4	13.5		
175	12.6	12.6	12.6	12.6	12.5	12.5	12.5	12.5	12.5	12.5	12.6	12.5	12.5	12.4	12.4	12.3	12.3		
180	12.5	12.5	12.5	12.6	12.6	12.6	12.5	12.5	12.5	12.5	12.5	12.5	12.6	12.6	12.4	12.4	12.3		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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: