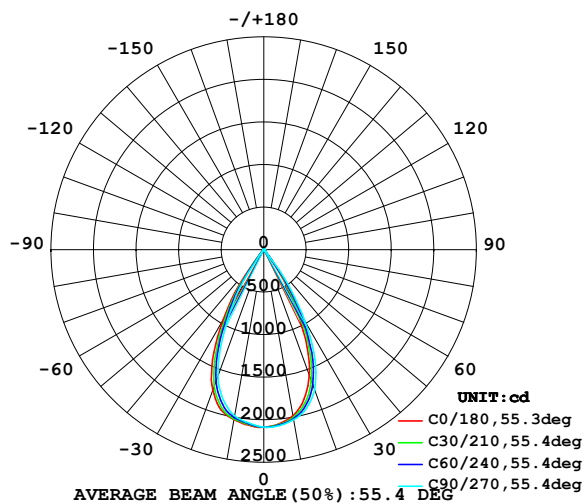


LUMINAIRE PHOTOMETRIC TEST REPORT

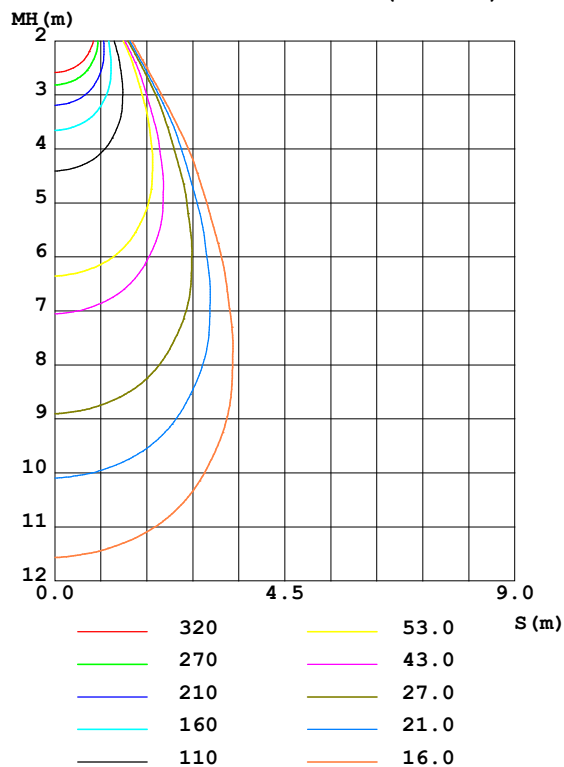
NAME: MCR-3 (19W, 60°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 84.96 lm/W			
MCR-3 (19W, 60°)		Imax(cd)	2091	S/MH(C0/180)	0.86
NOMINAL POWER(W)	19	LOR(%)	100.0	S/MH(C90/270)	0.79
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1598.1	η UP,DN(C0-180)	0.7,51.8
NOMINAL FLUX(lm)	1598.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.6,46.9
LAMPS INSIDE	1	η up(%)	1.3	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	120	η down(%)	98.7	CIBSE SHR MAX	0.85

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



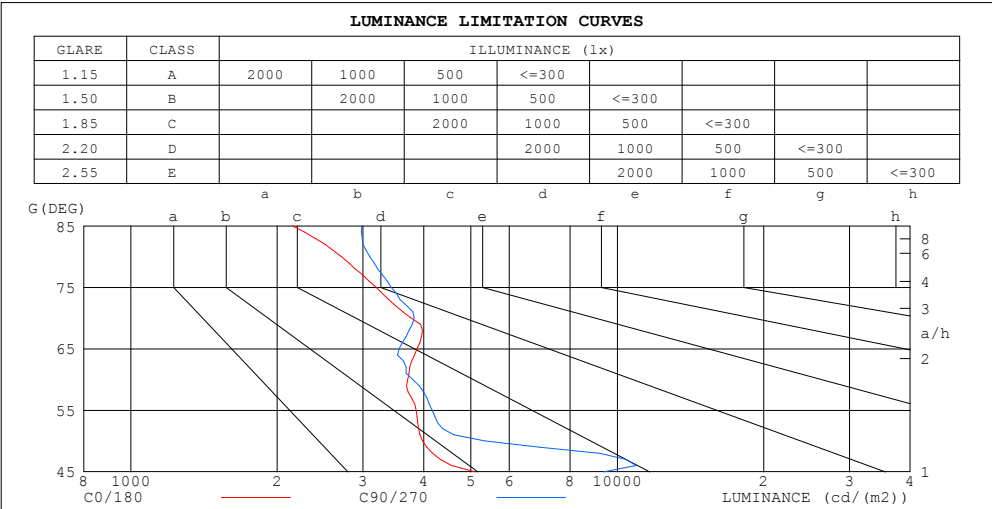
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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	1981	2010	2031	2033	2028	2010	1983	1971	0- 10	195.1	195.1	12.2,12.2
20	1569	1655	1750	1777	1755	1676	1581	1546	10- 20	524.6	719.7	45,45
30	676.7	822.6	968.2	1025	964.1	830.9	705.3	650.2	20- 30	578.2	1298	81.2,81.2
40	47.54	58.94	87.19	109.3	92.50	64.73	48.08	43.42	30- 40	237.5	1535	96.1,96.1
50	11.22	11.74	15.50	12.83	13.19	11.95	11.66	11.30	40- 50	20.93	1556	97.4,97.4
60	8.138	8.476	8.580	8.190	8.236	7.805	8.382	8.391	50- 60	9.068	1565	98,98
70	5.653	5.922	5.909	5.660	5.643	5.634	5.548	5.550	60- 70	6.850	1572	98.4,98.4
80	2.061	2.255	2.430	2.366	2.310	2.191	2.059	1.950	70- 80	4.033	1576	98.6,98.6
90	0.0660	0.0366	0.1216	0.2049	0.1615	0.0455	0.0501	0.0432	80- 90	1.121	1577	98.7,98.7
100	0.1269	0.0922	0.1678	0.0908	0.0661	0.0517	0.0815	0.0637	90-100	0.0612	1577	98.7,98.7
110	0.9131	0.7661	0.7257	0.5728	0.2291	0.2563	0.3530	0.3569	100-110	0.2506	1578	98.7,98.7
120	2.535	2.285	2.135	1.907	1.039	1.200	1.403	1.487	110-120	1.035	1579	98.8,98.8
130	4.857	4.582	4.184	4.071	2.760	3.048	3.341	3.483	120-130	2.401	1581	98.9,98.9
140	7.482	7.196	6.907	6.621	5.135	5.464	5.846	5.942	130-140	3.876	1585	99.2,99.2
150	9.748	9.476	9.285	9.017	7.562	7.775	8.112	8.163	140-150	4.693	1590	99.5,99.5
160	10.83	10.72	10.71	10.48	9.347	9.429	9.630	9.565	150-160	4.350	1594	99.7,99.7
170	11.26	11.26	11.29	11.13	10.65	10.73	10.81	10.78	160-170	2.973	1597	99.9,99.9
180	11.61	11.72	11.65	11.65	11.67	11.71	11.61	11.65	170-180	1.073	1598	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2146	2984
80	2705	3096
75	3195	3429
70	3766	3822
65	3879	3561
60	3709	3796
55	3861	4161
50	3977	5334
45	5106	9375

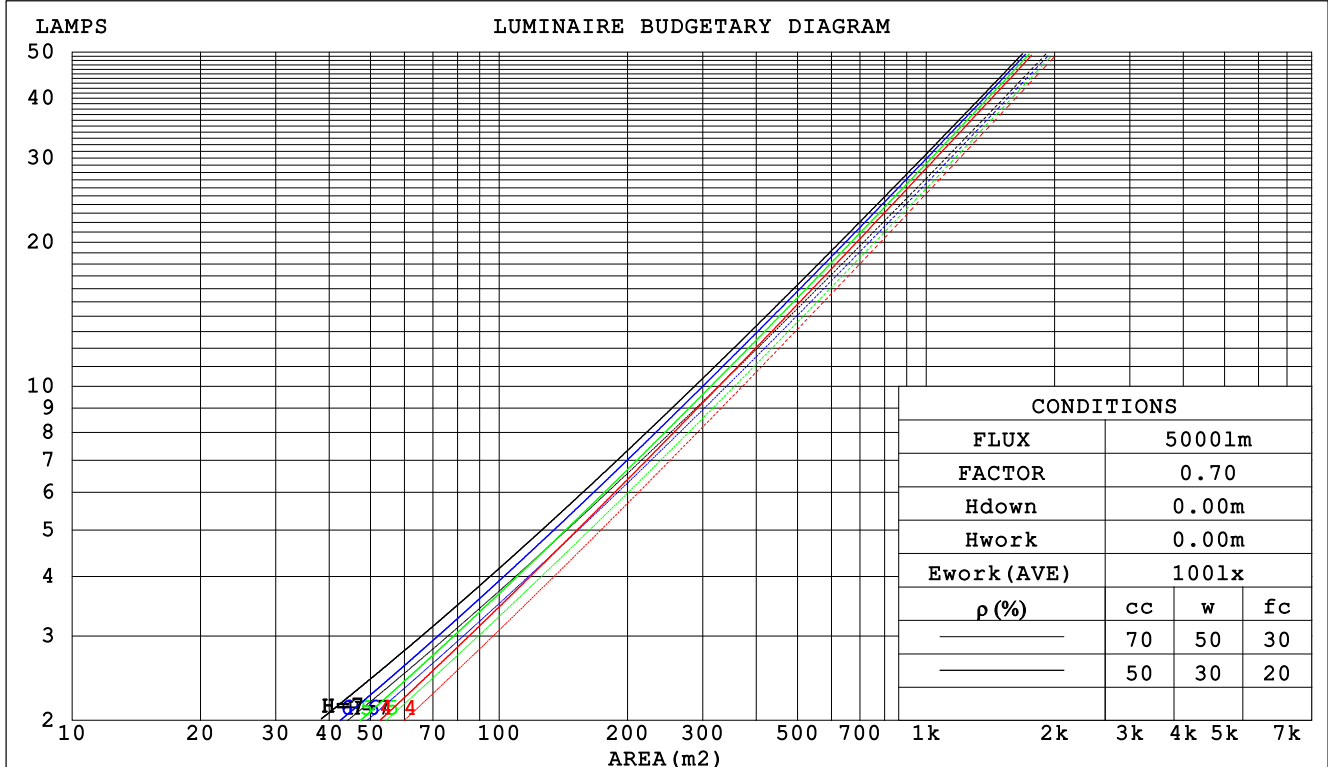
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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, 60°)	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	Coefficients of Utilization(CU)															
	RCR:Room Cavity Ratio															
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	1.11	1.08	1.06	1.09	1.06	1.05	1.04	1.03	1.01	1.00	.99	.98	.97	.96	.95	.93
2.0	1.04	.90	.97	1.02	.98	.96	.98	.96	.93	.95	.93	.91	.92	.91	.89	.87
3.0	.97	.93	.89	.96	.92	.88	.93	.90	.87	.91	.88	.85	.88	.86	.84	.82
4.0	.92	.86	.82	.90	.86	.82	.88	.84	.81	.86	.83	.80	.84	.81	.79	.77
5.0	.86	.81	.77	.85	.80	.76	.83	.79	.76	.82	.78	.75	.80	.77	.74	.73
6.0	.82	.76	.72	.81	.75	.72	.79	.75	.71	.78	.74	.71	.76	.73	.70	.69
7.0	.77	.72	.68	.76	.71	.67	.75	.70	.67	.74	.70	.67	.73	.69	.66	.65
8.0	.73	.68	.64	.73	.67	.64	.71	.67	.63	.70	.66	.63	.69	.65	.63	.61
9.0	.69	.64	.60	.69	.64	.60	.68	.63	.60	.67	.63	.60	.66	.62	.59	.58
10.0	.66	.61	.57	.66	.60	.57	.65	.60	.57	.64	.60	.57	.63	.59	.56	.55



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, 60°)	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	.170	.097	.031	.163	.093	.030	.150	.086	.027	.138	.079	.025	.126	.073	.024		
2.0	.161	.088	.027	.155	.086	.026	.144	.080	.025	.134	.075	.024	.124	.070	.022		
3.0	.153	.081	.024	.148	.079	.024	.138	.075	.023	.129	.071	.022	.121	.067	.021		
4.0	.145	.075	.022	.141	.074	.022	.133	.070	.021	.125	.067	.020	.118	.064	.019		
5.0	.138	.070	.020	.134	.069	.020	.127	.066	.020	.121	.064	.019	.114	.061	.018		
6.0	.132	.066	.019	.129	.065	.019	.122	.063	.018	.116	.060	.018	.111	.058	.017		
7.0	.126	.062	.018	.123	.061	.017	.118	.059	.017	.112	.058	.017	.107	.056	.016		
8.0	.121	.059	.017	.118	.058	.016	.113	.057	.016	.108	.055	.016	.104	.053	.016		
9.0	.116	.056	.016	.114	.055	.016	.109	.054	.015	.105	.053	.015	.101	.051	.015		
10.0	.111	.053	.015	.109	.053	.015	.105	.052	.015	.101	.050	.014	.098	.049	.014		

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	.181	.167	.155	.155	.144	.134	.106	.099	.092	.061	.057	.054	.019	.018	.017	
2.0	.165	.143	.124	.141	.123	.107	.097	.085	.075	.056	.049	.044	.018	.016	.014	
3.0	.152	.124	.101	.130	.107	.088	.089	.074	.061	.052	.043	.036	.017	.014	.012	
4.0	.141	.109	.084	.121	.094	.073	.083	.066	.051	.048	.038	.030	.016	.012	.010	
5.0	.132	.097	.071	.114	.084	.062	.078	.059	.044	.045	.034	.026	.015	.011	.009	
6.0	.125	.088	.061	.107	.076	.053	.074	.053	.038	.043	.031	.022	.014	.010	.007	
7.0	.118	.080	.053	.102	.069	.046	.070	.049	.033	.041	.029	.020	.013	.009	.006	
8.0	.112	.074	.047	.097	.064	.041	.067	.045	.029	.039	.027	.017	.013	.009	.006	
9.0	.107	.069	.042	.093	.059	.037	.064	.042	.026	.037	.025	.016	.012	.008	.005	
10.0	.103	.064	.038	.089	.056	.033	.062	.039	.024	.036	.023	.014	.012	.008	.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, 60°)						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	2H	17.1	18.0	17.3	18.2	18.3	18.8	19.7	19.1	19.9	20.1	
	3H	17.0	17.8	17.3	18.1	18.3	18.7	19.5	19.0	19.7	20.0	
	4H	17.0	17.8	17.3	18.0	18.2	18.7	19.4	18.9	19.7	19.9	
	6H	17.0	17.7	17.3	17.9	18.2	18.6	19.3	18.9	19.6	19.8	
	8H	16.9	17.6	17.2	17.9	18.2	18.6	19.2	18.9	19.5	19.8	
	12H	16.9	17.5	17.2	17.8	18.1	18.5	19.2	18.9	19.5	19.8	
	4H	2H	16.9	17.6	17.2	17.9	18.1	18.6	19.3	18.9	19.6	19.8
		3H	16.9	17.5	17.2	17.8	18.1	18.5	19.2	18.8	19.4	19.7
		4H	16.8	17.4	17.2	17.8	18.1	18.5	19.0	18.8	19.4	19.7
		6H	16.8	17.3	17.2	17.7	18.1	18.4	18.9	18.8	19.3	19.7
		8H	16.8	17.3	17.2	17.7	18.0	18.4	18.9	18.8	19.2	19.6
		12H	16.8	17.2	17.2	17.6	18.0	18.3	18.8	18.8	19.2	19.6
8H	4H	16.7	17.2	17.2	17.6	18.0	18.3	18.8	18.7	19.2	19.6	
	6H	16.7	17.1	17.2	17.6	18.0	18.3	18.7	18.7	19.1	19.6	
	8H	16.7	17.1	17.2	17.5	18.0	18.3	18.6	18.7	19.1	19.5	
	12H	16.7	17.0	17.2	17.5	18.0	18.3	18.6	18.7	19.0	19.5	
12H	4H	16.7	17.1	17.1	17.5	18.0	18.3	18.7	18.7	19.1	19.5	
	6H	16.7	17.0	17.2	17.5	18.0	18.3	18.6	18.7	19.0	19.5	
	8H	16.7	17.0	17.2	17.5	17.9	18.2	18.5	18.7	19.0	19.5	
Variations with the observer position at spacings:												
S = 1.0H	+ 3.0 / - 2.2					+ 5.2 / - 5.2						
1.5H	+ 5.3 / - 2.2					+ 7.8 / - 5.0						
2.0H	+ 0.3 / - 0.3					+ 2.2 / - 0.6						

CIE Pub.117 Corrected 1598 lm Total Lamp Luminous Flux. (8log(F/F0) = 1.6)

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:

UTILIZATION FACTORS TABLE

NAME: MCR-3 (19W, 60°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

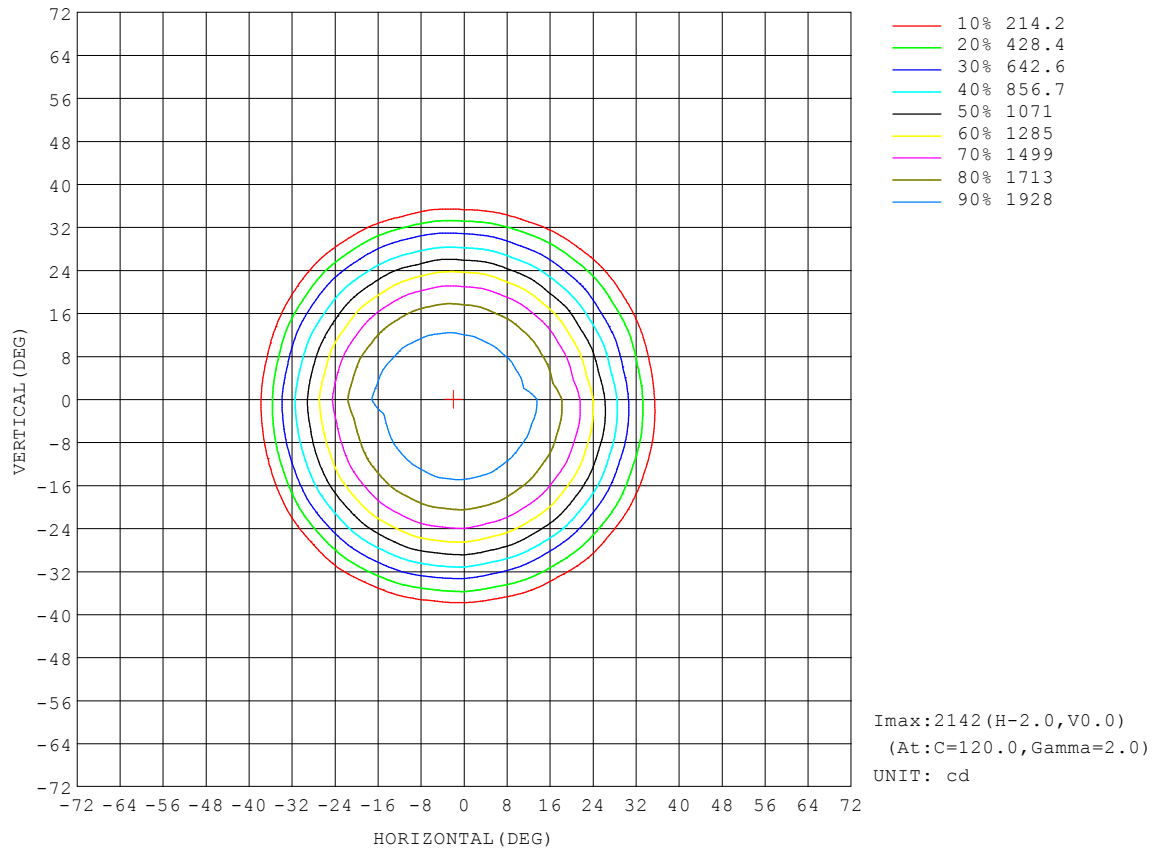
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	79	76
0.80	96	91	87	96	90	87	94	90	87	83
1.00	100	95	92	99	94	91	98	94	91	87
1.25	104	99	96	103	98	95	101	97	94	90
1.50	106	102	99	105	101	98	103	100	97	93
2.00	109	105	102	107	104	101	104	102	99	94
2.50	110	107	104	109	105	103	105	103	101	95
3.00	112	109	106	110	107	105	106	104	102	96
4.00	114	111	109	112	109	108	108	106	105	97
5.00	115	113	111	113	111	109	109	107	106	98
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, 60°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

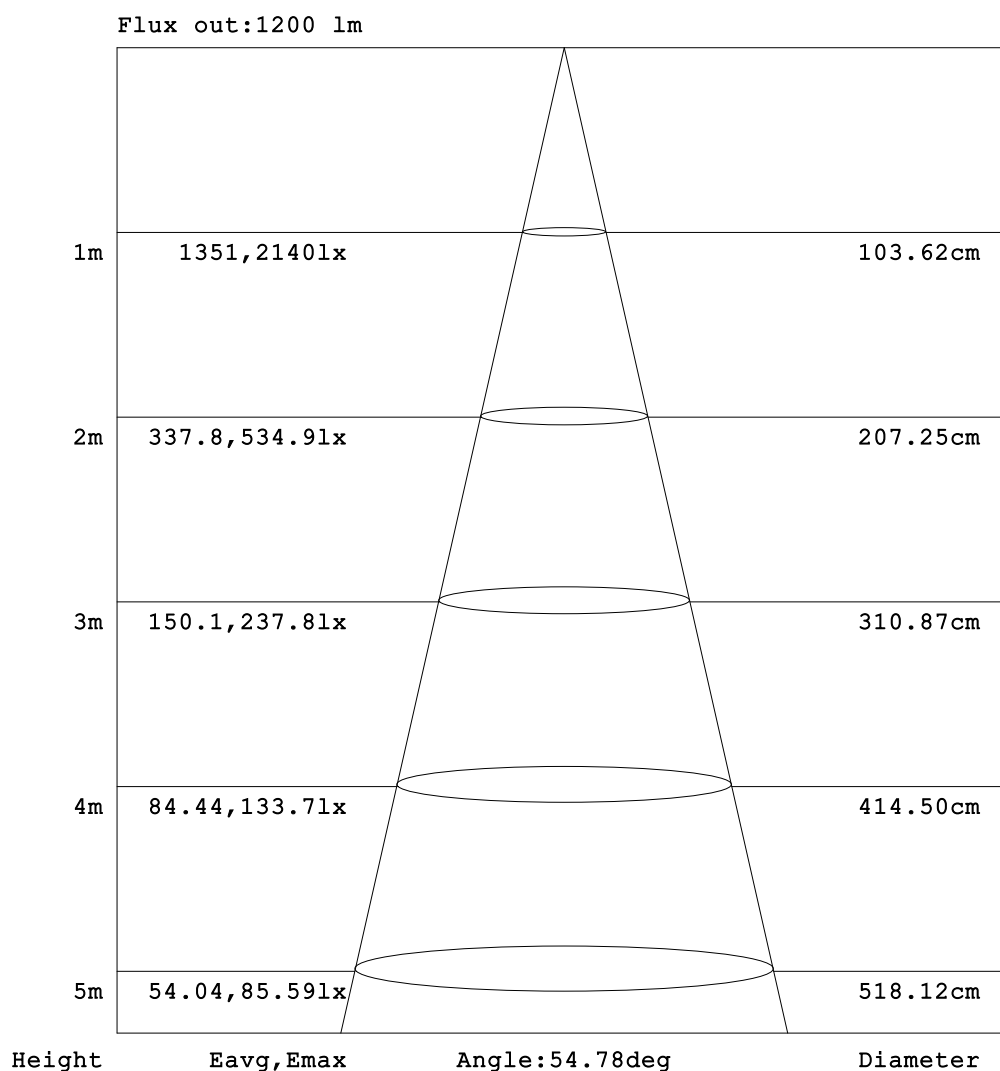


C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2025-08-19

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, 60°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:



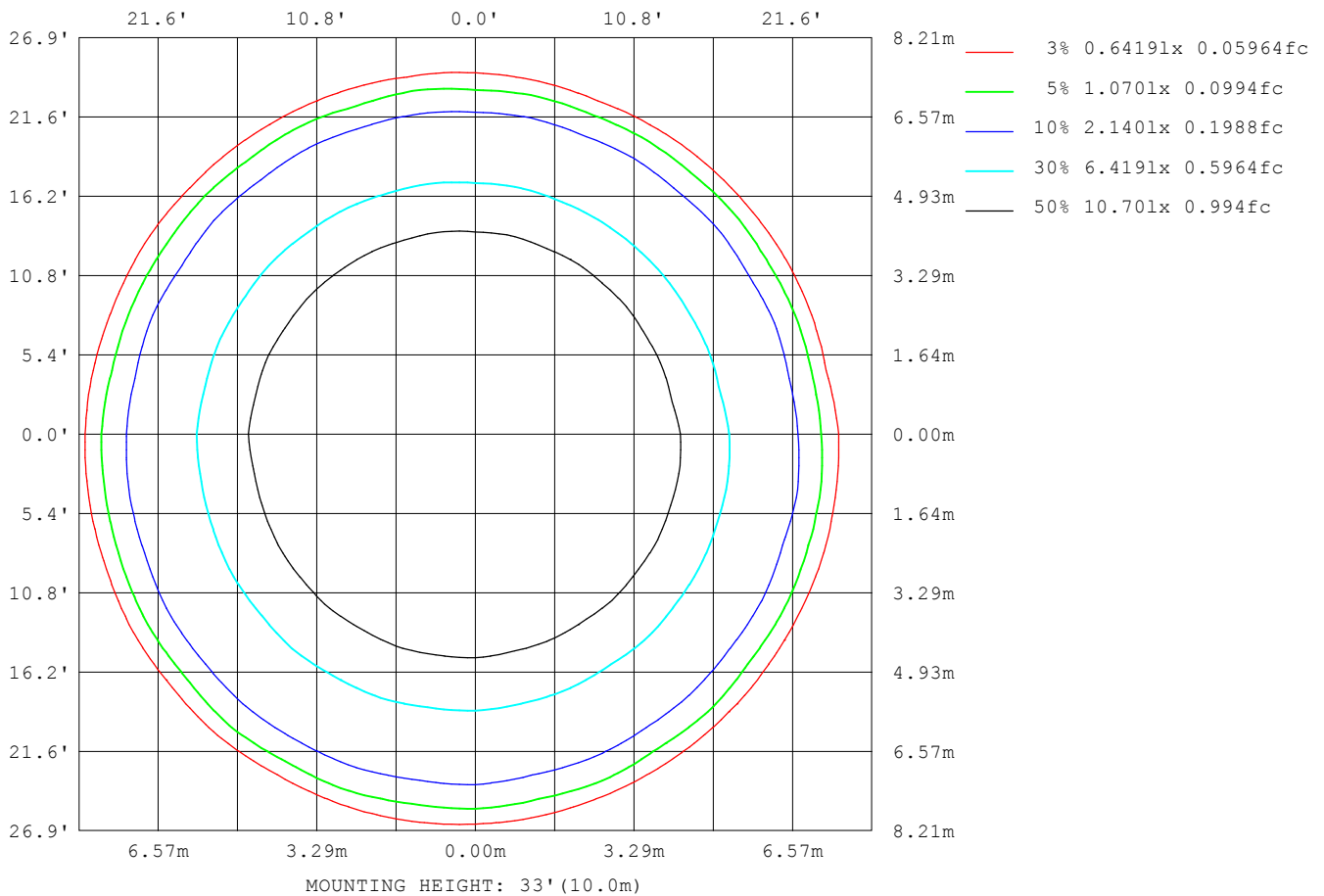
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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, 60°)	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, 60°)	TYPE:LED	WEIGHT:
SPEC.:	DIM.: 3inch	SERIAL No.:1
MFR.: Utopia Lighting	SUR.:	PROTECTION ANGLE:

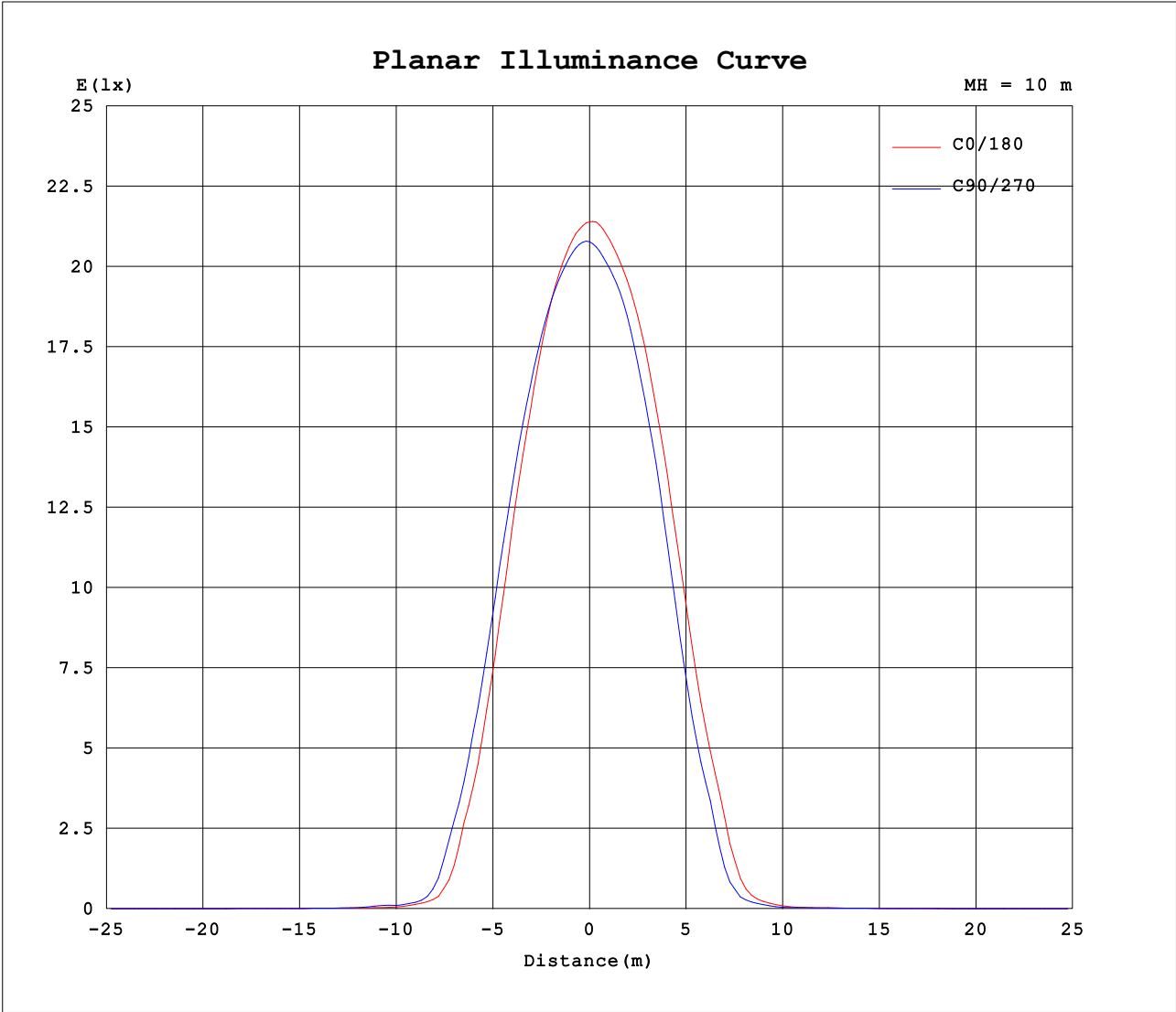
AvgL	cd/m2
L_0~180 (65) av	3603
L_0~180 (75) av	3182
L_0~180 (85) av	2473
L_90~270 (65) av	3608
L_90~270 (75) av	3274
L_90~270 (85) av	2559
L_45 (65) av	3591
L_45 (75) av	3218
L_45 (85) av	2478

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, 60°)	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	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086
5	2055	2060	2062	2064	2065	2068	2068	2073	2074	2077	2078	2079	2078	2079	2078	2077	2075	2074	2072
10	1981	1990	1993	2000	2005	2015	2017	2024	2030	2031	2029	2031	2033	2034	2032	2034	2029	2030	2028
15	1825	1845	1850	1867	1872	1891	1902	1918	1923	1934	1939	1947	1947	1952	1952	1955	1950	1949	1948
20	1569	1594	1602	1629	1640	1670	1687	1718	1730	1750	1758	1775	1771	1781	1774	1781	1766	1767	1755
25	1167	1201	1214	1254	1272	1318	1335	1373	1392	1430	1436	1463	1455	1473	1462	1464	1449	1445	1425
30	677	712	728	784	796	849	870	910	932	968	978	1014	1014	1035	1015	1020	1001	991	964
35	243	287	286	326	339	383	407	451	462	504	517	549	554	571	561	570	542	527	505
40	47.5	49.0	50.2	54.1	55.5	62.4	66.1	74.4	79.2	87.2	88.4	100	98.1	106	112	105	98.6	97.6	92.5
45	15.8	17.6	18.0	20.0	20.4	22.7	23.5	26.0	31.1	30.0	28.7	30.2	30.3	31.3	29.8	29.8	27.2	27.3	25.7
50	11.2	11.4	11.2	11.5	11.6	11.9	12.2	12.7	14.3	15.5	13.0	12.7	12.8	12.8	12.9	13.1	13.3	13.3	13.2
55	9.72	9.81	9.93	9.84	9.85	9.92	10.1	10.2	10.9	10.8	10.3	10.3	10.3	10.4	10.4	10.8	10.8	11.1	11.2
60	8.14	8.20	8.35	8.45	8.60	8.35	8.31	8.34	8.43	8.58	8.44	8.19	8.08	8.20	8.18	8.19	8.07	8.20	8.24
65	7.19	7.19	7.18	7.15	7.11	7.03	7.03	6.94	6.91	6.80	6.74	6.65	6.59	6.53	6.51	6.47	6.48	6.47	6.51
70	5.65	5.84	5.82	5.89	5.90	5.95	5.95	5.96	5.93	5.91	5.85	5.79	5.73	5.67	5.64	5.62	5.64	5.61	5.64
75	3.63	3.71	3.74	3.81	3.83	3.89	3.92	3.98	4.00	4.01	3.98	3.97	3.93	3.91	3.85	3.84	3.79	3.78	3.78
80	2.06	2.12	2.15	2.20	2.23	2.28	2.30	2.36	2.41	2.43	2.42	2.42	2.38	2.37	2.36	2.35	2.33	2.32	2.31
85	0.82	0.87	0.92	0.94	0.99	1.02	1.06	1.08	1.12	1.18	1.19	1.15	1.17	1.17	1.17	1.15	1.15	1.14	1.12
90	0.07	0.06	0.10	0.06	0.04	0.03	0.05	0.06	0.11	0.12	0.17	0.16	0.18	0.20	0.21	0.22	0.23	0.19	0.16
95	0.05	0.04	0.05	0.04	0.04	0.05	0.03	0.05	0.03	0.07	0.04	0.04	0.03	0.03	0.04	0.04	0.05	0.04	0.05
100	0.13	0.14	0.09	0.13	0.08	0.11	0.08	0.10	0.07	0.17	0.14	0.10	0.07	0.10	0.09	0.09	0.06	0.08	0.07
105	0.40	0.40	0.36	0.37	0.37	0.32	0.29	0.30	0.29	0.35	0.29	0.29	0.23	0.24	0.23	0.25	0.22	0.26	0.11
110	0.91	0.89	0.84	0.81	0.78	0.75	0.70	0.71	0.71	0.73	0.67	0.69	0.59	0.58	0.57	0.58	0.56	0.60	0.23
115	1.60	1.58	1.54	1.50	1.43	1.41	1.36	1.36	1.35	1.33	1.27	1.26	1.21	1.17	1.12	1.14	1.13	1.18	0.52
120	2.54	2.50	2.43	2.39	2.31	2.26	2.19	2.13	2.17	2.14	2.08	1.96	1.92	1.91	1.90	1.91	1.93	1.95	1.04
125	3.63	3.58	3.53	3.47	3.38	3.35	3.23	3.15	3.09	3.04	2.98	2.94	2.90	2.89	2.93	2.92	2.91	2.94	1.79
130	4.86	4.80	4.75	4.69	4.59	4.57	4.50	4.33	4.26	4.18	4.13	4.07	4.13	4.08	4.06	4.04	4.04	4.07	2.76
135	6.17	6.11	6.05	6.00	5.90	5.86	5.79	5.71	5.67	5.58	5.50	5.43	5.38	5.34	5.30	5.29	5.30	5.33	3.90
140	7.48	7.44	7.36	7.31	7.22	7.17	7.10	7.03	6.99	6.91	6.82	6.74	6.70	6.64	6.60	6.59	6.61	6.64	5.14
145	8.71	8.68	8.59	8.54	8.44	8.37	8.35	8.30	8.25	8.19	8.10	8.03	7.98	7.92	7.87	7.87	7.90	7.92	6.38
150	9.75	9.73	9.63	9.58	9.51	9.45	9.37	9.32	9.33	9.28	9.22	9.15	9.07	9.02	9.02	9.02	9.03	9.05	7.56
155	10.5	10.5	10.4	10.4	10.3	10.3	10.2	10.2	10.1	10.1	10.0	10.0	9.94	9.92	9.90	9.92	9.93	9.99	8.59
160	10.8	10.9	10.8	10.8	10.7	10.7	10.7	10.7	10.7	10.7	10.6	10.6	10.5	10.5	10.5	10.5	10.5	10.5	9.35
165	11.1	11.1	11.0	11.0	11.0	11.1	11.0	11.0	11.0	11.0	10.9	10.9	10.8	10.9	10.8	10.8	10.8	10.9	10.0
170	11.3	11.3	11.2	11.3	11.2	11.3	11.3	11.3	11.3	11.3	11.2	11.2	11.1	11.1	11.1	11.2	11.1	11.1	10.6
175	11.4	11.5	11.4	11.5	11.5	11.6	11.5	11.6	11.5	11.5	11.4	11.5	11.4	11.5	11.4	11.4	11.4	11.3	11.2
180	11.6	11.7	11.6	11.7	11.7	11.7	11.7	11.7	11.7	11.6	11.6	11.6	11.6	11.7	11.6	11.6	11.5	11.5	11.7

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, 60°)	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	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086	2086		
5	2067	2066	2062	2059	2056	2054	2050	2049	2045	2045	2044	2044	2044	2046	2047	2050	2051		
10	2025	2025	2020	2014	2006	2004	1997	1992	1983	1985	1977	1974	1970	1973	1973	1978	1978		
15	1939	1936	1919	1913	1889	1880	1859	1848	1832	1823	1807	1808	1799	1803	1800	1809	1813		
20	1737	1732	1705	1693	1660	1648	1620	1607	1581	1574	1555	1553	1543	1550	1540	1555	1553		
25	1386	1382	1328	1316	1268	1249	1205	1192	1156	1151	1116	1125	1089	1113	1092	1129	1129		
30	921	910	866	852	810	790	751	740	705	698	664	668	648	652	634	655	653		
35	456	444	386	381	332	325	274	276	235	229	206	206	197	205	199	215	222		
40	83.1	80.4	71.5	67.9	61.6	58.9	53.7	52.1	48.1	48.0	45.2	43.9	43.0	43.9	43.5	44.9	44.6		
45	23.5	22.4	19.8	19.1	16.6	16.3	15.1	15.0	14.5	14.6	14.3	14.3	14.2	14.2	14.3	14.7	14.7		
50	13.3	12.9	12.6	12.1	11.8	11.6	11.6	11.5	11.7	11.4	11.6	11.6	11.4	11.2	11.2	11.1	11.0		
55	10.8	10.5	10.4	10.1	9.98	9.97	9.90	9.86	9.75	9.75	9.81	9.91	9.73	9.63	9.64	9.82	9.70		
60	8.14	8.21	8.16	7.90	7.71	7.80	7.96	8.31	8.38	8.48	8.21	8.18	8.29	8.49	8.52	8.42	8.21		
65	6.56	6.57	6.61	6.63	6.70	6.74	6.82	6.85	6.92	6.94	6.99	6.99	7.06	7.08	7.14	7.17	7.21		
70	5.60	5.61	5.59	5.63	5.64	5.66	5.61	5.65	5.55	5.62	5.56	5.58	5.52	5.58	5.54	5.62	5.58		
75	3.74	3.75	3.71	3.72	3.69	3.69	3.64	3.66	3.61	3.62	3.58	3.58	3.53	3.55	3.53	3.57	3.58		
80	2.29	2.27	2.24	2.21	2.17	2.14	2.10	2.09	2.06	2.03	2.01	1.98	1.95	1.95	1.97	2.00	2.02		
85	1.11	1.08	1.04	0.99	0.97	0.92	0.88	0.84	0.83	0.80	0.76	0.74	0.74	0.73	0.74	0.77	0.79		
90	0.17	0.12	0.10	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.05	0.11	0.08	0.06		
95	0.05	0.05	0.05	0.04	0.04	0.05	0.04	0.05	0.07	0.05	0.04	0.05	0.04	0.05	0.05	0.05	0.05		
100	0.05	0.06	0.05	0.06	0.04	0.08	0.06	0.08	0.08	0.08	0.09	0.07	0.05	0.08	0.05	0.07	0.06		
105	0.07	0.11	0.07	0.11	0.07	0.12	0.09	0.15	0.15	0.18	0.16	0.15	0.11	0.14	0.10	0.14	0.10		
110	0.20	0.25	0.21	0.26	0.25	0.29	0.28	0.35	0.35	0.40	0.36	0.38	0.34	0.37	0.35	0.36	0.31		
115	0.50	0.56	0.55	0.61	0.61	0.67	0.70	0.76	0.79	0.83	0.82	0.84	0.79	0.81	0.79	0.78	0.75		
120	1.05	1.10	1.13	1.19	1.21	1.28	1.31	1.37	1.40	1.45	1.46	1.49	1.48	1.49	1.47	1.46	1.42		
125	1.82	1.87	1.91	1.99	2.09	2.11	2.16	2.23	2.27	2.32	2.36	2.37	2.40	2.40	2.39	2.35	2.31		
130	2.81	2.87	2.92	3.00	3.09	3.18	3.25	3.28	3.34	3.39	3.47	3.49	3.49	3.47	3.48	3.42	3.39		
135	3.95	4.02	4.08	4.16	4.27	4.35	4.42	4.52	4.60	4.64	4.70	4.69	4.70	4.69	4.67	4.63	4.59		
140	5.18	5.26	5.33	5.42	5.51	5.60	5.69	5.77	5.85	5.90	5.93	5.95	5.95	5.94	5.93	5.88	5.84		
145	6.41	6.48	6.54	6.63	6.71	6.80	6.88	6.96	7.02	7.08	7.11	7.12	7.13	7.12	7.10	7.06	7.02		
150	7.56	7.62	7.66	7.75	7.80	7.89	7.95	8.05	8.11	8.15	8.18	8.16	8.15	8.17	8.13	8.13	8.10		
155	8.56	8.62	8.63	8.69	8.71	8.79	8.87	8.93	8.97	9.02	8.99	9.00	8.96	8.97	8.95	8.95	8.94		
160	9.32	9.39	9.36	9.44	9.42	9.49	9.53	9.59	9.63	9.65	9.64	9.62	9.57	9.56	9.53	9.52	9.53		
165	9.97	10.1	10.0	10.1	10.1	10.1	10.1	10.2	10.2	10.3	10.2	10.2	10.2	10.2	10.1	10.1	10.1		
170	10.6	10.7	10.7	10.8	10.7	10.7	10.7	10.8	10.8	10.9	10.8	10.8	10.8	10.8	10.7	10.7	10.7		
175	11.2	11.3	11.3	11.4	11.3	11.4	11.3	11.4	11.3	11.4	11.3	11.4	11.3	11.3	11.2	11.2	11.2		
180	11.6	11.7	11.6	11.7	11.7	11.7	11.6	11.7	11.6	11.6	11.6	11.6	11.6	11.7	11.6	11.6	11.5		

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: