

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P295446

Luminaire Tested: **BMK-12-MFL-UNV-L735-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P295446
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-12-MFL-UNV-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED LENS
Light Source: (528) 70 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12667.0 lumens
Efficiency: N/A
Efficacy: 170.5 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.36
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

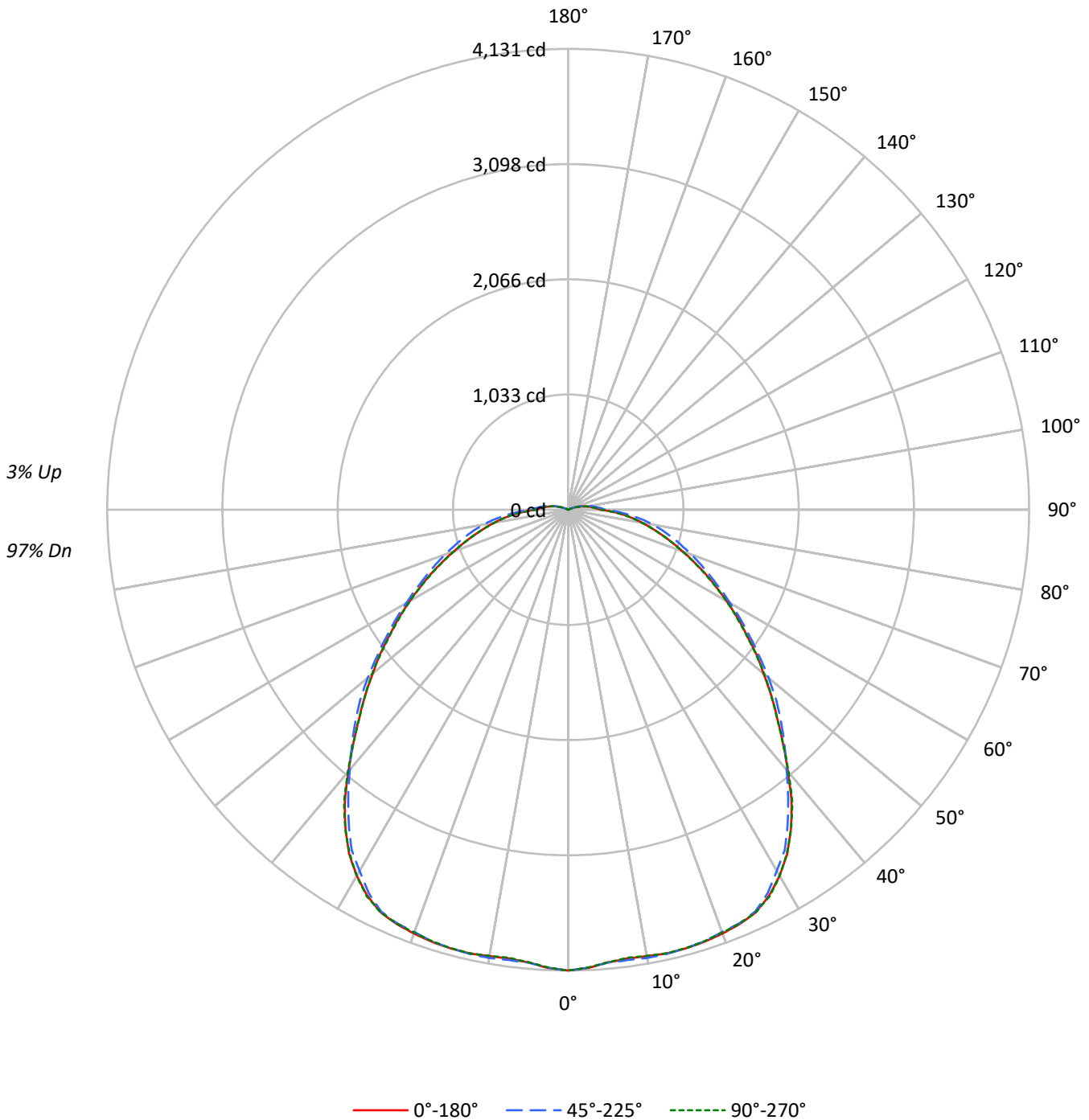
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P295446

CATALOG NUMBER: BMK-12-MFL-UNV-L735-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P295446

CATALOG NUMBER: BMK-12-MFL-UNV-L735-CD-U

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	99	99	99	99	99	99	97		
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	86	83	81	86	83	81	79		
2	97	89	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	75	71	68	75	71	68	65		
3	89	78	69	63	86	76	68	62	72	66	60	69	64	59	66	62	58	66	62	58	66	62	58	55		
4	81	69	60	53	79	67	59	53	64	57	52	62	56	51	59	54	49	59	54	49	59	54	49	47		
5	75	62	53	46	72	60	52	45	58	50	45	56	49	44	53	48	43	53	48	43	53	48	43	41		
6	69	56	47	40	67	54	46	40	52	45	39	50	44	39	48	43	38	48	43	38	48	43	38	36		
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	44	38	34	44	38	34	32		
8	60	46	38	32	58	45	37	31	44	36	31	42	36	31	41	35	30	41	35	30	41	35	30	28		
9	56	42	34	28	54	42	34	28	40	33	28	39	32	28	38	32	27	38	32	27	38	32	27	26		
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	35	29	25	35	29	25	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	31845	31845	31845
5°	31197	31217	31193
10°	31150	31282	31134
15°	31483	31459	31463
20°	31781	31675	31728
25°	32075	32003	32066
30°	31543	31126	31573
35°	30219	29780	30264
40°	28004	27852	28105
45°	25820	26297	25790
50°	23995	24609	24110
55°	22372	22846	22312
60°	20935	21407	20914
65°	19668	20372	19554
70°	18452	19886	18435
75°	17855	19885	17832
80°	17843	20355	17801
85°	18402	20763	18342



TEST NUMBER: P295446

CATALOG NUMBER: BMK-12-MFL-UNV-L735-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	388.9	3.1
10°-20°	1151.8	9.1
20°-30°	1821.7	14.4
30°-40°	2154.5	17.0
40°-50°	2071.0	16.3
50°-60°	1769.7	14.0
60°-70°	1373.1	10.8
70°-80°	968.6	7.6
80°-90°	560.8	4.4
90°-100°	263.3	2.1
100°-110°	121.2	1.0
110°-120°	21.9	0.2
120°-130°	0.3	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3362.4	26.5
0°-40°	5516.9	43.6
0°-60°	9357.7	73.9
0°-90°	12260.2	96.8
90°-120°	406.4	3.2
90°-150°	406.8	3.2
90°-180°	407.0	3.2
0°-180°	12667.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4131	4131	4131	4131	4131	
5°	4074	4075	4076	4070	4073	389
15°	4071	4075	4068	4070	4068	1152
25°	3981	3971	3972	3970	3980	1827
35°	3479	3456	3429	3461	3485	2166
45°	2651	2687	2700	2681	2648	2053
55°	1948	1976	1990	1978	1943	1750
65°	1354	1384	1403	1381	1346	1343
75°	866	909	965	912	865	922
85°	492	510	555	510	490	437
90°	288	316	330	315	287	167
95°	225	237	259	237	226	173
105°	110	112	120	112	110	117
115°	13	17	22	17	13	19
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P295446

CATALOG NUMBER: BMK-12-MFL-UNV-L735-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4130.9	4130.9	4130.9	4130.9	4130.9
2.5°	4111.1	4106.9	4108.5	4103.8	4106.9
5°	4073.5	4074.6	4076.1	4070.4	4073.0
7.5°	4057.4	4062.6	4072.0	4060.0	4050.6
10°	4063.1	4072.0	4080.3	4067.3	4061.0
12.5°	4074.1	4076.7	4079.8	4073.5	4073.0
15°	4070.9	4075.1	4067.8	4070.4	4068.3
17.5°	4061.0	4062.6	4057.4	4060.0	4056.8
20°	4042.2	4039.6	4028.7	4037.0	4035.5
22.5°	4019.8	4016.1	4013.0	4017.7	4015.1
25°	3980.7	3970.8	3971.8	3970.2	3979.6
27.5°	3899.3	3883.1	3872.2	3880.0	3907.1
30°	3787.7	3765.8	3737.6	3764.2	3791.3
32.5°	3655.2	3638.5	3612.9	3636.9	3648.4
35°	3479.4	3456.4	3428.8	3460.6	3484.6
37.5°	3287.9	3273.8	3237.9	3272.3	3297.8
40°	3061.5	3064.7	3044.8	3072.0	3072.5
42.5°	2850.8	2872.2	2870.6	2870.6	2850.8
45°	2651.0	2687.0	2700.0	2680.7	2647.9
47.5°	2469.5	2505.5	2527.9	2502.3	2467.9
50°	2285.3	2323.4	2343.8	2318.7	2296.3
52.5°	2122.6	2139.8	2159.6	2137.7	2113.7
55°	1948.3	1975.5	1989.6	1977.6	1943.1
57.5°	1796.5	1815.8	1832.5	1820.5	1786.1
60°	1638.5	1659.9	1675.5	1666.1	1636.9
62.5°	1491.4	1522.7	1534.2	1519.0	1487.7
65°	1354.2	1383.9	1402.7	1381.3	1346.4
67.5°	1217.5	1256.6	1286.4	1260.8	1213.3
70°	1087.1	1138.8	1171.6	1132.5	1086.1
72.5°	976.5	1022.9	1065.2	1021.4	972.3
75°	866.5	909.2	965.0	912.4	865.4
77.5°	766.8	807.5	868.5	805.9	762.1
80°	674.0	706.3	768.9	704.2	672.4
82.5°	583.2	607.2	668.2	606.2	581.1
85°	491.9	510.2	555.0	510.2	490.3
87.5°	385.0	414.7	440.3	413.7	379.2
90°	287.9	315.6	330.2	314.6	286.9
92.5°	256.6	270.7	294.2	270.7	256.6
95°	225.4	237.3	258.7	236.8	226.4
97.5°	195.6	205.0	225.4	204.0	196.7
100°	168.5	173.2	192.0	174.2	167.4
102.5°	139.3	142.4	156.0	141.4	139.3
105°	110.1	111.6	120.0	112.2	109.5
107.5°	80.3	81.9	86.1	81.4	79.8
110°	53.2	54.3	59.5	54.3	53.7



TEST NUMBER: P295446

CATALOG NUMBER: BMK-12-MFL-UNV-L735-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	30.8	33.4	38.6	33.4	30.8
115°	13.0	16.7	21.9	16.7	13.0
117.5°	4.2	6.8	8.3	6.8	3.7
120°	2.6	3.1	2.6	3.1	2.6
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)