

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: P295448

Luminaire Tested: **BMK-12-MFL-UNV-L750-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: P295448
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-L750-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED LENS
Light Source: (528) 70 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12906.0 lumens
Efficiency: N/A
Efficacy: 173.7 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

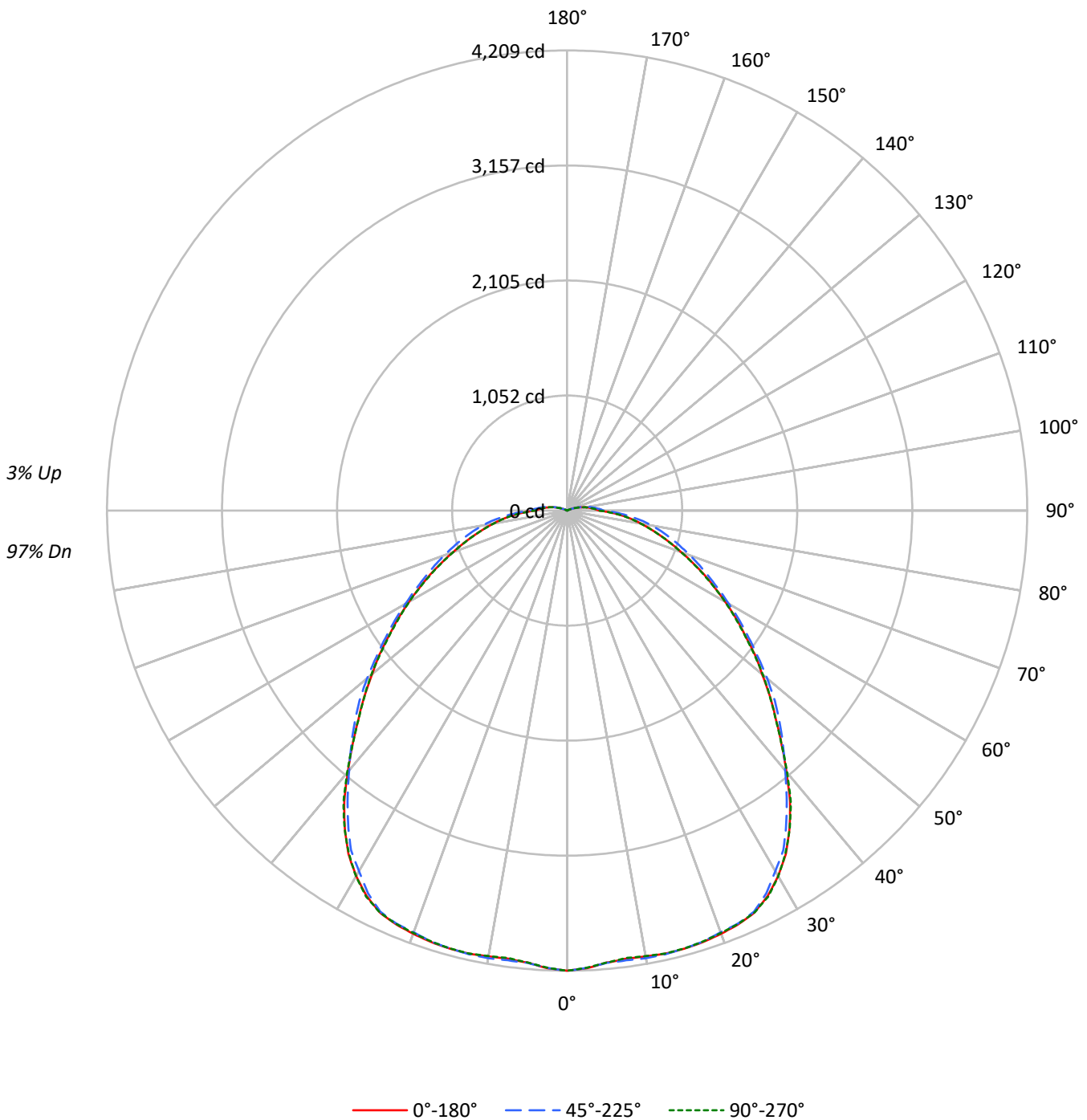
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	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	79	
2	97	89	81	75	94	86	80	74	82	77	72	78	74	70	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	55	
4	81	69	60	53	79	67	59	53	64	57	52	62	56	51	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	41	
6	69	56	47	40	67	54	46	40	52	45	39	50	44	39	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	32	
8	60	46	38	32	58	45	37	31	44	36	31	42	36	31	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	26	
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	35	29	25	23	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	32447	32447	32447
5°	31786	31806	31782
10°	31738	31873	31722
15°	32077	32052	32057
20°	32381	32272	32326
25°	32680	32606	32671
30°	32138	31713	32169
35°	30789	30342	30835
40°	28533	28378	28636
45°	26307	26794	26276
50°	24447	25073	24565
55°	22795	23277	22734
60°	21329	21811	21309
65°	20038	20757	19923
70°	18800	20261	18783
75°	18191	20262	18168
80°	18179	20739	18137
85°	18750	21156	18690



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	396.3	3.1
10°-20°	1173.5	9.1
20°-30°	1856.1	14.4
30°-40°	2195.2	17.0
40°-50°	2110.1	16.3
50°-60°	1803.1	14.0
60°-70°	1399.0	10.8
70°-80°	986.9	7.6
80°-90°	571.4	4.4
90°-100°	268.3	2.1
100°-110°	123.5	1.0
110°-120°	22.3	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°	3425.9	26.5
0°-40°	5621.0	43.6
0°-60°	9534.3	73.9
0°-90°	12491.6	96.8
90°-120°	414.1	3.2
90°-150°	414.4	3.2
90°-180°	414.0	3.2
0°-180°	12906.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4209	4209	4209	4209	4209	
5°	4150	4152	4153	4147	4150	396
15°	4148	4152	4144	4147	4145	1174
25°	4056	4046	4047	4045	4055	1861
35°	3545	3522	3494	3526	3550	2207
45°	2701	2738	2751	2731	2698	2092
55°	1985	2013	2027	2015	1980	1783
65°	1380	1410	1429	1407	1372	1368
75°	883	926	983	930	882	939
85°	501	520	566	520	500	445
90°	293	322	336	320	292	170
95°	230	242	264	241	231	176
105°	112	114	122	114	112	119
115°	13	17	22	17	13	20
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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4208.9	4208.9	4208.9	4208.9	4208.9
2.5°	4188.7	4184.4	4186.0	4181.2	4184.4
5°	4150.4	4151.5	4153.0	4147.2	4149.9
7.5°	4133.9	4139.2	4148.8	4136.6	4127.0
10°	4139.8	4148.8	4157.3	4144.0	4137.6
12.5°	4150.9	4153.6	4156.8	4150.4	4149.9
15°	4147.7	4152.0	4144.5	4147.2	4145.1
17.5°	4137.6	4139.2	4133.9	4136.6	4133.4
20°	4118.5	4115.8	4104.7	4113.2	4111.6
22.5°	4095.6	4091.9	4088.7	4093.5	4090.9
25°	4055.8	4045.7	4046.7	4045.2	4054.7
27.5°	3972.9	3956.4	3945.2	3953.2	3980.8
30°	3859.1	3836.8	3808.1	3835.2	3862.9
32.5°	3724.1	3707.1	3681.1	3705.5	3717.2
35°	3545.0	3521.6	3493.5	3525.9	3550.3
37.5°	3350.0	3335.6	3298.9	3334.0	3360.1
40°	3119.3	3122.5	3102.3	3129.9	3130.5
42.5°	2904.6	2926.4	2924.8	2924.8	2904.6
45°	2701.0	2737.7	2751.0	2731.3	2697.8
47.5°	2516.1	2552.7	2575.6	2549.5	2514.5
50°	2328.4	2367.2	2388.0	2362.5	2339.6
52.5°	2162.6	2180.2	2200.4	2178.0	2153.6
55°	1985.1	2012.7	2027.1	2014.9	1979.8
57.5°	1830.4	1850.1	1867.1	1854.9	1819.8
60°	1669.4	1691.2	1707.1	1697.6	1667.8
62.5°	1519.5	1551.4	1563.1	1547.7	1515.8
65°	1379.7	1410.0	1429.2	1407.4	1371.8
67.5°	1240.5	1280.4	1310.6	1284.6	1236.2
70°	1107.6	1160.2	1193.7	1153.9	1106.6
72.5°	994.9	1042.2	1085.3	1040.7	990.7
75°	882.8	926.4	983.3	929.6	881.7
77.5°	781.3	822.7	884.9	821.1	776.5
80°	686.7	719.6	783.4	717.5	685.1
82.5°	594.2	618.7	680.8	617.6	592.1
85°	501.2	519.8	565.5	519.8	499.6
87.5°	392.2	422.5	448.6	421.5	386.4
90°	293.4	321.6	336.4	320.5	292.3
92.5°	261.5	275.8	299.8	275.8	261.5
95°	229.6	241.8	263.6	241.3	230.7
97.5°	199.3	208.9	229.6	207.8	200.4
100°	171.7	176.5	195.6	177.5	170.6
102.5°	141.9	145.1	158.9	144.0	141.9
105°	112.1	113.7	122.2	114.3	111.6
107.5°	81.8	83.4	87.7	82.9	81.3
110°	54.2	55.3	60.6	55.3	54.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	31.4	34.0	39.3	34.0	31.4
115°	13.3	17.0	22.3	17.0	13.3
117.5°	4.3	6.9	8.5	6.9	3.7
120°	2.7	3.2	2.7	3.2	2.7
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)