

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: P295447

Luminaire Tested: **BMK-12-MFL-UNV-L740-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: P295447  
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-L740-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH MEDIUM FROSTED LENS  
Light Source: (528) 70 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12834.0 lumens  
Efficiency: N/A  
Efficacy: 172.7 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

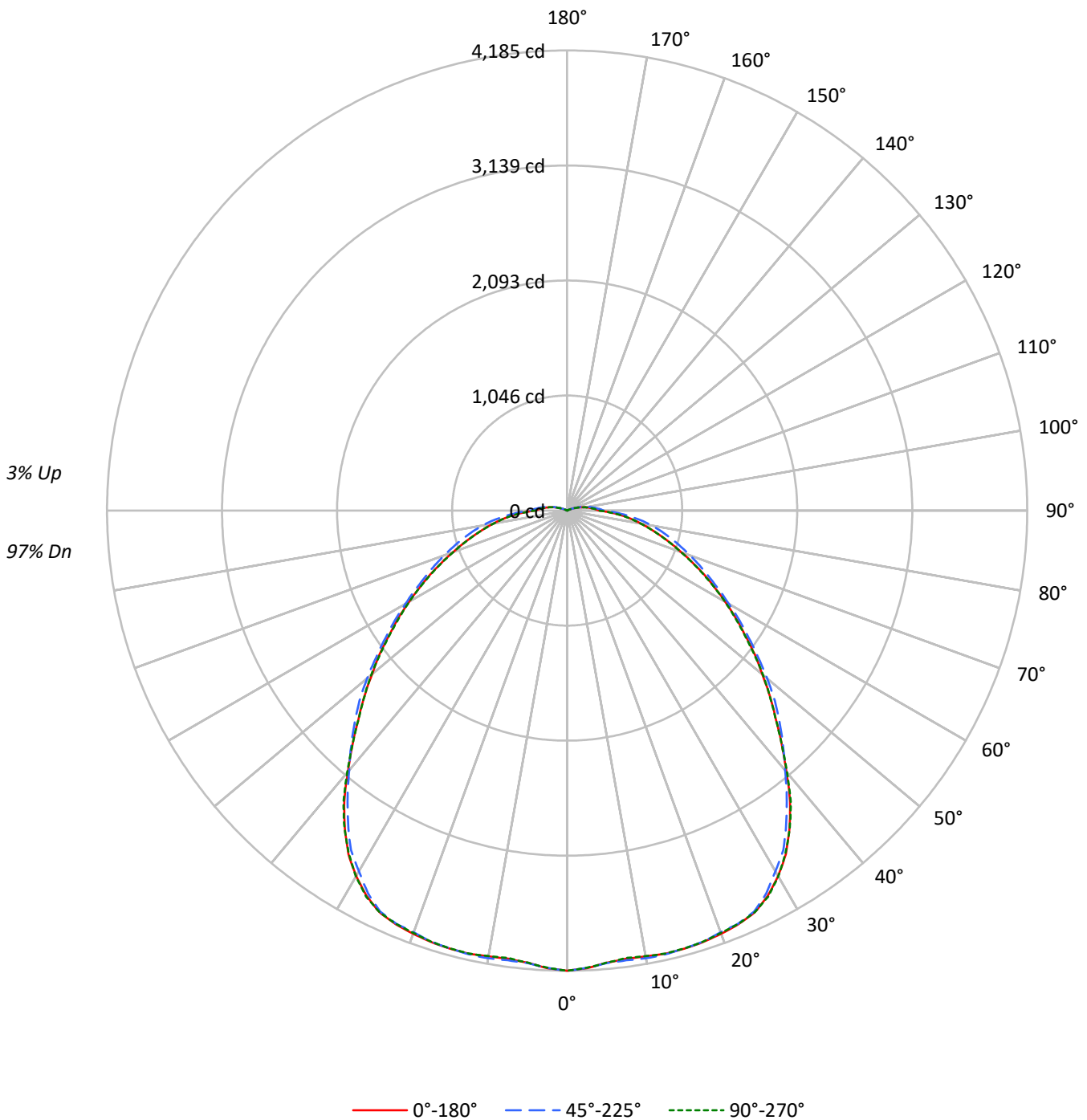
Input Watts (W): 74.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	32266	32266	32266
5°	31608	31629	31605
10°	31561	31695	31545
15°	31898	31874	31878
20°	32200	32092	32146
25°	32498	32425	32489
30°	31959	31536	31989
35°	30617	30172	30663
40°	28374	28219	28476
45°	26161	26644	26130
50°	24312	24933	24428
55°	22667	23147	22606
60°	21210	21690	21190
65°	19926	20641	19812
70°	18694	20149	18677
75°	18090	20149	18067
80°	18079	20623	18036
85°	18645	21036	18586



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	394.1	3.1
10°-20°	1167.0	9.1
20°-30°	1845.7	14.4
30°-40°	2182.9	17.0
40°-50°	2098.3	16.3
50°-60°	1793.1	14.0
60°-70°	1391.2	10.8
70°-80°	981.4	7.6
80°-90°	568.2	4.4
90°-100°	266.8	2.1
100°-110°	122.8	1.0
110°-120°	22.1	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°	3406.7	26.5
0°-40°	5589.7	43.6
0°-60°	9481.1	73.9
0°-90°	12421.9	96.8
90°-120°	411.8	3.2
90°-150°	412.1	3.2
90°-180°	412.0	3.2
0°-180°	12834.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4185	4185	4185	4185	4185	
5°	4127	4128	4130	4124	4127	394
15°	4125	4129	4121	4124	4122	1167
25°	4033	4023	4024	4023	4032	1851
35°	3525	3502	3474	3506	3530	2194
45°	2686	2722	2736	2716	2683	2080
55°	1974	2002	2016	2004	1969	1774
65°	1372	1402	1421	1400	1364	1361
75°	878	921	978	924	877	934
85°	498	517	562	517	497	442
90°	292	320	335	319	291	169
95°	228	240	262	240	229	175
105°	112	113	122	114	111	118
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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4185.4	4185.4	4185.4	4185.4	4185.4
2.5°	4165.3	4161.1	4162.6	4157.9	4161.1
5°	4127.2	4128.3	4129.9	4124.1	4126.7
7.5°	4110.9	4116.1	4125.6	4113.5	4104.0
10°	4116.7	4125.6	4134.1	4120.9	4114.6
12.5°	4127.8	4130.4	4133.6	4127.2	4126.7
15°	4124.6	4128.8	4121.4	4124.1	4122.0
17.5°	4114.6	4116.1	4110.9	4113.5	4110.3
20°	4095.5	4092.9	4081.8	4090.2	4088.7
22.5°	4072.8	4069.1	4065.9	4070.7	4068.0
25°	4033.2	4023.1	4024.2	4022.6	4032.1
27.5°	3950.7	3934.3	3923.2	3931.2	3958.6
30°	3837.6	3815.4	3786.9	3813.8	3841.3
32.5°	3703.4	3686.4	3660.5	3684.9	3696.5
35°	3525.2	3502.0	3474.0	3506.2	3530.5
37.5°	3331.3	3317.0	3280.5	3315.4	3341.3
40°	3101.9	3105.1	3085.0	3112.5	3113.0
42.5°	2888.4	2910.0	2908.5	2908.5	2888.4
45°	2686.0	2722.4	2735.6	2716.1	2682.8
47.5°	2502.0	2538.5	2561.2	2535.3	2500.4
50°	2315.5	2354.0	2374.7	2349.3	2326.6
52.5°	2150.6	2168.0	2188.1	2165.9	2141.6
55°	1974.0	2001.5	2015.8	2003.6	1968.7
57.5°	1820.2	1839.8	1856.7	1844.5	1809.7
60°	1660.1	1681.8	1697.6	1688.1	1658.5
62.5°	1511.0	1542.8	1554.4	1539.1	1507.3
65°	1372.0	1402.2	1421.2	1399.5	1364.1
67.5°	1233.6	1273.2	1303.3	1277.4	1229.3
70°	1101.4	1153.8	1187.1	1147.4	1100.4
72.5°	989.4	1036.4	1079.2	1034.8	985.2
75°	877.9	921.2	977.8	924.4	876.8
77.5°	776.9	818.2	880.0	816.6	772.2
80°	682.9	715.6	779.0	713.5	681.3
82.5°	590.9	615.2	677.0	614.1	588.8
85°	498.4	516.9	562.3	516.9	496.8
87.5°	390.0	420.2	446.1	419.1	384.2
90°	291.7	319.8	334.6	318.7	290.7
92.5°	260.0	274.3	298.1	274.3	260.0
95°	228.3	240.5	262.1	239.9	229.4
97.5°	198.2	207.7	228.3	206.7	199.3
100°	170.7	175.5	194.5	176.5	169.7
102.5°	141.1	144.3	158.0	143.2	141.1
105°	111.5	113.1	121.6	113.6	111.0
107.5°	81.4	83.0	87.2	82.4	80.9
110°	53.9	55.0	60.3	55.0	54.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	31.2	33.8	39.1	33.8	31.2
115°	13.2	16.9	22.2	16.9	13.2
117.5°	4.2	6.9	8.5	6.9	3.7
120°	2.6	3.2	2.6	3.2	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)