

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: P295459

Luminaire Tested: **BMK-18-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: P295459
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-18-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: 19422.0 lumens
Efficiency: N/A
Efficacy: 170.7 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

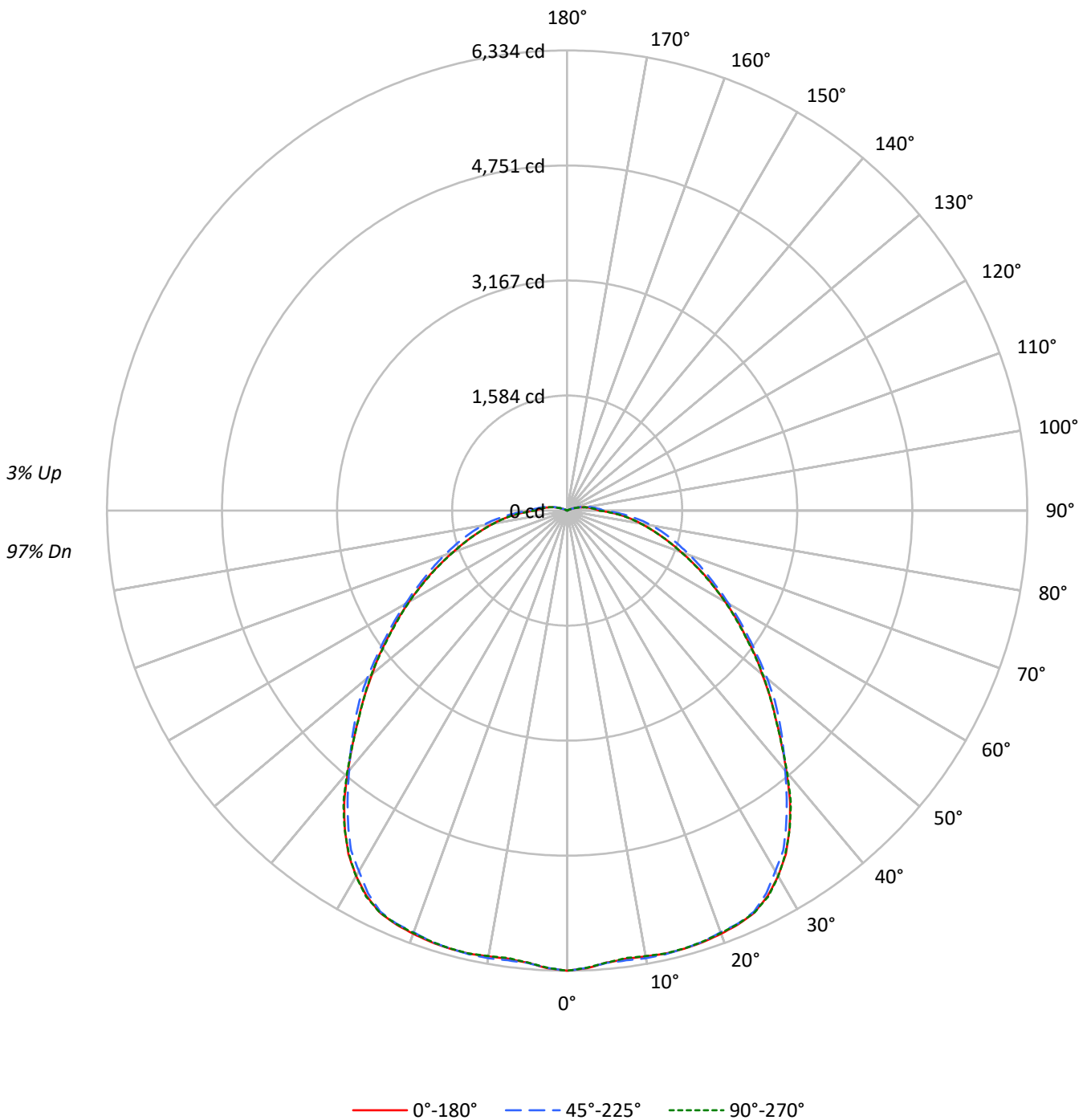
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	48828	48828	48828
5°	47834	47864	47828
10°	47762	47964	47737
15°	48272	48235	48241
20°	48730	48566	48648
25°	49179	49070	49166
30°	48364	47725	48410
35°	46334	45660	46403
40°	42939	42705	43093
45°	39589	40321	39542
50°	36791	37731	36967
55°	34304	35029	34212
60°	32099	32823	32068
65°	30155	31236	29982
70°	28291	30491	28264
75°	27375	30491	27342
80°	27358	31210	27294
85°	28215	31836	28125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	596.4	3.1
10°-20°	1766.0	9.1
20°-30°	2793.2	14.4
30°-40°	3303.5	17.0
40°-50°	3175.5	16.3
50°-60°	2713.5	14.0
60°-70°	2105.4	10.8
70°-80°	1485.2	7.6
80°-90°	859.8	4.4
90°-100°	403.7	2.1
100°-110°	185.9	1.0
110°-120°	33.5	0.2
120°-130°	0.5	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°	5155.5	26.5
0°-40°	8459.0	43.6
0°-60°	14347.9	73.9
0°-90°	18798.3	96.8
90°-120°	623.2	3.2
90°-150°	623.7	3.2
90°-180°	624.0	3.2
0°-180°	19422.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6334	6334	6334	6334	6334	
5°	6246	6247	6250	6241	6245	596
15°	6242	6248	6237	6241	6238	1766
25°	6104	6088	6090	6088	6102	2801
35°	5335	5300	5257	5306	5343	3321
45°	4065	4120	4140	4110	4060	3147
55°	2987	3029	3050	3032	2979	2684
65°	2076	2122	2151	2118	2064	2059
75°	1328	1394	1480	1399	1327	1413
85°	754	782	851	782	752	670
90°	442	484	506	482	440	256
95°	346	364	397	363	347	265
105°	169	171	184	172	168	179
115°	20	26	34	26	20	29
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°	6333.8	6333.8	6333.8	6333.8	6333.8
2.5°	6303.4	6297.0	6299.4	6292.2	6297.0
5°	6245.8	6247.4	6249.8	6241.0	6245.0
7.5°	6221.0	6229.0	6243.4	6225.0	6210.7
10°	6229.8	6243.4	6256.2	6236.2	6226.6
12.5°	6246.6	6250.6	6255.4	6245.8	6245.0
15°	6241.8	6248.2	6237.0	6241.0	6237.8
17.5°	6226.6	6229.0	6221.0	6225.0	6220.3
20°	6197.9	6193.9	6177.1	6189.9	6187.5
22.5°	6163.5	6157.9	6153.1	6160.3	6156.3
25°	6103.5	6088.3	6089.9	6087.5	6101.9
27.5°	5978.7	5953.9	5937.1	5949.1	5990.7
30°	5807.5	5773.9	5730.8	5771.5	5813.1
32.5°	5604.4	5578.8	5539.6	5576.4	5594.0
35°	5334.8	5299.6	5257.3	5306.0	5342.8
37.5°	5041.3	5019.7	4964.5	5017.3	5056.5
40°	4694.2	4699.0	4668.6	4710.2	4711.0
42.5°	4371.1	4403.8	4401.4	4401.4	4371.1
45°	4064.7	4119.9	4139.9	4110.3	4059.9
47.5°	3786.4	3841.6	3876.0	3836.8	3784.0
50°	3504.0	3562.4	3593.6	3555.2	3520.8
52.5°	3254.5	3280.9	3311.3	3277.7	3240.9
55°	2987.4	3028.9	3050.5	3032.1	2979.4
57.5°	2754.6	2784.2	2809.8	2791.4	2738.6
60°	2512.3	2545.0	2569.0	2554.6	2509.9
62.5°	2286.7	2334.7	2352.3	2329.1	2281.1
65°	2076.3	2121.9	2150.7	2117.9	2064.4
67.5°	1866.8	1926.8	1972.4	1933.2	1860.4
70°	1666.8	1746.0	1796.4	1736.4	1665.2
72.5°	1497.3	1568.5	1633.2	1566.1	1490.9
75°	1328.5	1394.1	1479.7	1398.9	1326.9
77.5°	1175.7	1238.1	1331.7	1235.7	1168.5
80°	1033.4	1083.0	1178.9	1079.8	1031.0
82.5°	894.2	931.0	1024.6	929.4	891.0
85°	754.2	782.2	851.0	782.2	751.8
87.5°	590.3	635.9	675.1	634.3	581.5
90°	441.5	483.9	506.3	482.3	439.9
92.5°	393.5	415.1	451.1	415.1	393.5
95°	345.5	363.9	396.7	363.1	347.1
97.5°	299.9	314.3	345.5	312.7	301.5
100°	258.3	265.5	294.3	267.1	256.7
102.5°	213.6	218.4	239.1	216.8	213.6
105°	168.8	171.2	184.0	172.0	168.0
107.5°	123.2	125.6	132.0	124.8	122.4
110°	81.6	83.2	91.2	83.2	82.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	47.2	51.2	59.2	51.2	47.2
115°	20.0	25.6	33.6	25.6	20.0
117.5°	6.4	10.4	12.8	10.4	5.6
120°	4.0	4.8	4.0	4.8	4.0
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)