

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: P295453

Luminaire Tested: **BMK-15-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: P295453
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-15-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: 16235.0 lumens
Efficiency: N/A
Efficacy: 173.1 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

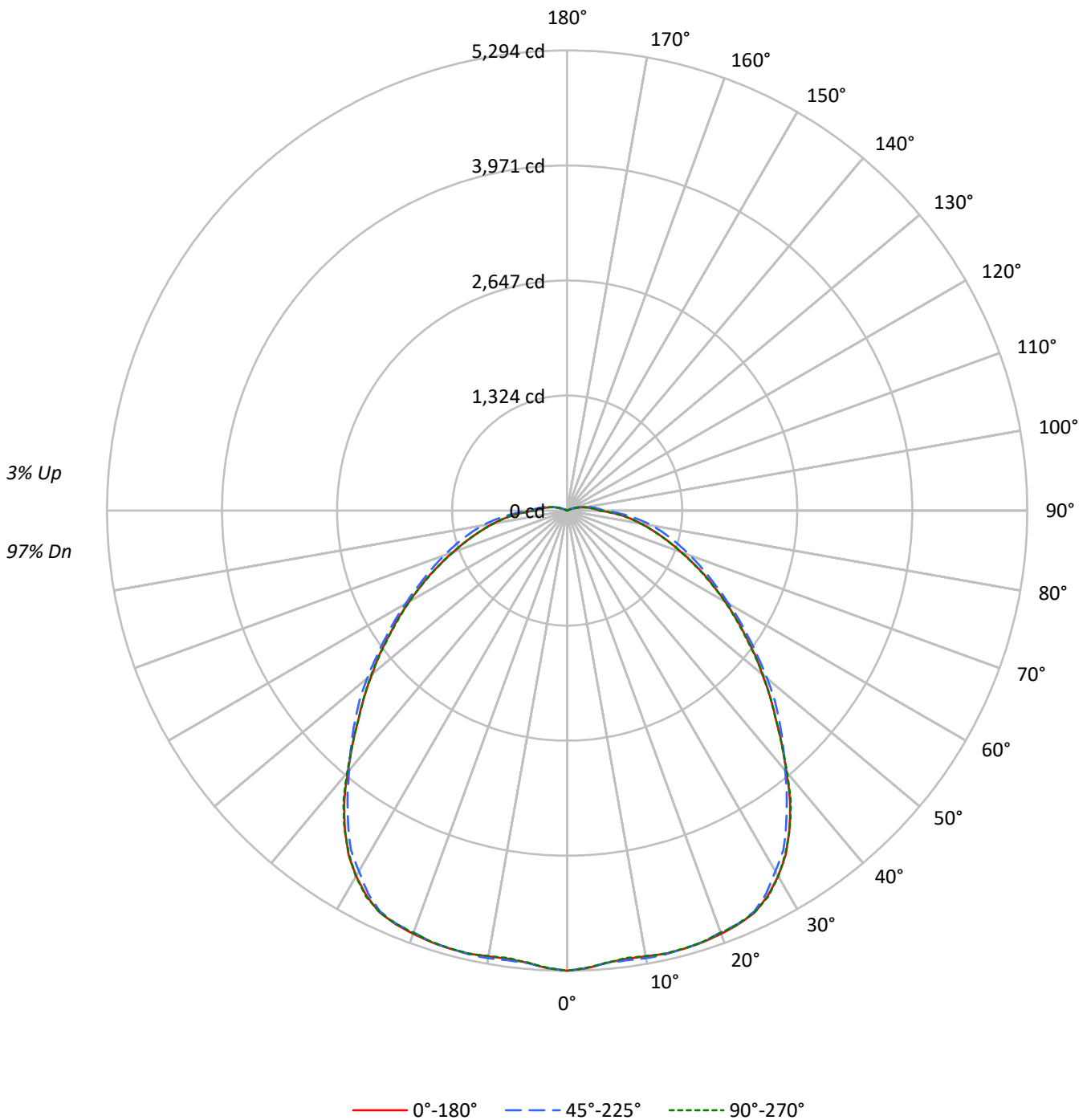
Input Watts (W): 93.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	40816	40816	40816
5°	39985	40011	39980
10°	39925	40094	39904
15°	40351	40320	40326
20°	40733	40597	40664
25°	41109	41018	41098
30°	40428	39893	40466
35°	38731	38168	38789
40°	35893	35697	36021
45°	33093	33705	33054
50°	30754	31540	30901
55°	28675	29281	28598
60°	26831	27438	26805
65°	25207	26110	25062
70°	23649	25487	23627
75°	22883	25488	22856
80°	22868	26090	22815
85°	23587	26614	23512



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	498.5	3.1
10°-20°	1476.2	9.1
20°-30°	2334.8	14.4
30°-40°	2761.4	17.0
40°-50°	2654.4	16.3
50°-60°	2268.2	14.0
60°-70°	1759.9	10.8
70°-80°	1241.5	7.6
80°-90°	718.7	4.4
90°-100°	337.5	2.1
100°-110°	155.4	1.0
110°-120°	28.0	0.2
120°-130°	0.4	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°	4309.5	26.5
0°-40°	7070.9	43.6
0°-60°	11993.6	73.9
0°-90°	15713.7	96.8
90°-120°	520.9	3.2
90°-150°	521.3	3.2
90°-180°	521.0	3.2
0°-180°	16235.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5294	5294	5294	5294	5294	
5°	5221	5222	5224	5217	5220	498
15°	5218	5223	5214	5217	5214	1476
25°	5102	5089	5091	5089	5101	2341
35°	4459	4430	4395	4435	4466	2776
45°	3398	3444	3461	3436	3394	2631
55°	2497	2532	2550	2535	2490	2244
65°	1736	1774	1798	1770	1726	1721
75°	1110	1165	1237	1169	1109	1181
85°	630	654	711	654	628	560
90°	369	404	423	403	368	214
95°	289	304	332	304	290	221
105°	141	143	154	144	140	150
115°	17	21	28	21	17	25
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°	5294.5	5294.5	5294.5	5294.5	5294.5
2.5°	5269.1	5263.7	5265.7	5259.7	5263.7
5°	5220.9	5222.3	5224.3	5216.9	5220.3
7.5°	5200.2	5206.9	5218.9	5203.6	5191.5
10°	5207.6	5218.9	5229.6	5212.9	5204.9
12.5°	5221.6	5225.0	5229.0	5220.9	5220.3
15°	5217.6	5223.0	5213.6	5216.9	5214.3
17.5°	5204.9	5206.9	5200.2	5203.6	5199.6
20°	5180.8	5177.5	5163.5	5174.1	5172.1
22.5°	5152.1	5147.4	5143.4	5149.4	5146.1
25°	5101.9	5089.2	5090.6	5088.6	5100.6
27.5°	4997.6	4976.9	4962.9	4972.9	5007.7
30°	4854.6	4826.5	4790.4	4824.5	4859.2
32.5°	4684.7	4663.4	4630.6	4661.3	4676.1
35°	4459.4	4430.0	4394.6	4435.4	4466.1
37.5°	4214.1	4196.0	4149.9	4194.0	4226.8
40°	3923.9	3927.9	3902.5	3937.3	3937.9
42.5°	3653.8	3681.2	3679.2	3679.2	3653.8
45°	3397.7	3443.9	3460.6	3435.8	3393.7
47.5°	3165.1	3211.2	3239.9	3207.2	3163.1
50°	2929.1	2977.9	3003.9	2971.8	2943.1
52.5°	2720.5	2742.5	2767.9	2739.8	2709.1
55°	2497.2	2531.9	2550.0	2534.6	2490.5
57.5°	2302.6	2327.3	2348.7	2333.3	2289.2
60°	2100.0	2127.4	2147.5	2135.4	2098.0
62.5°	1911.5	1951.6	1966.3	1946.9	1906.8
65°	1735.6	1773.7	1797.8	1770.4	1725.6
67.5°	1560.5	1610.6	1648.7	1616.0	1555.1
70°	1393.3	1459.5	1501.6	1451.5	1392.0
72.5°	1251.6	1311.1	1365.2	1309.1	1246.2
75°	1110.5	1165.3	1236.9	1169.3	1109.2
77.5°	982.8	1035.0	1113.2	1033.0	976.8
80°	863.8	905.3	985.5	902.6	861.8
82.5°	747.5	778.2	856.5	776.9	744.8
85°	630.5	653.9	711.4	653.9	628.5
87.5°	493.4	531.5	564.3	530.2	486.1
90°	369.1	404.5	423.2	403.2	367.7
92.5°	328.9	347.0	377.1	347.0	328.9
95°	288.8	304.2	331.6	303.5	290.2
97.5°	250.7	262.8	288.8	261.4	252.1
100°	216.0	222.0	246.0	223.3	214.6
102.5°	178.5	182.5	199.9	181.2	178.5
105°	141.1	143.1	153.8	143.7	140.4
107.5°	103.0	105.0	110.3	104.3	102.3
110°	68.2	69.5	76.2	69.5	68.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	39.4	42.8	49.5	42.8	39.4
115°	16.7	21.4	28.1	21.4	16.7
117.5°	5.3	8.7	10.7	8.7	4.7
120°	3.3	4.0	3.3	4.0	3.3
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)