

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: P295458

Luminaire Tested: **BMK-18-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: P295458
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-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: 19169.0 lumens
Efficiency: N/A
Efficacy: 168.4 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

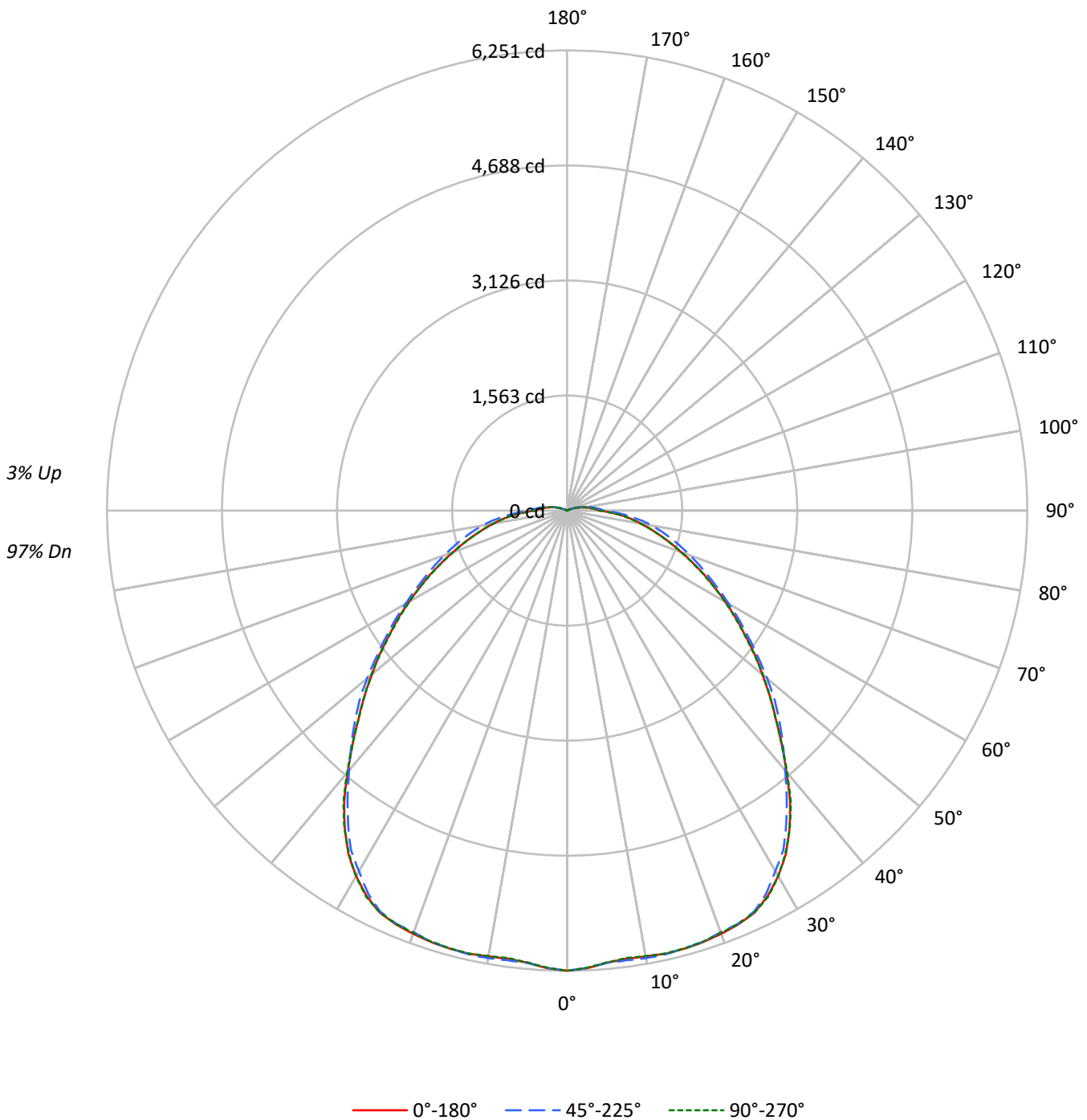
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	48192	48192	48192
5°	47211	47241	47205
10°	47140	47339	47115
15°	47643	47607	47613
20°	48094	47933	48014
25°	48539	48430	48526
30°	47734	47103	47780
35°	45730	45065	45799
40°	42379	42149	42531
45°	39074	39796	39027
50°	36312	37240	36486
55°	33856	34573	33765
60°	31680	32396	31650
65°	29763	30829	29592
70°	27923	30094	27896
75°	27019	30093	26986
80°	27000	30804	26937
85°	27848	31421	27759



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	588.6	3.1
10°-20°	1743.0	9.1
20°-30°	2756.8	14.4
30°-40°	3260.5	17.0
40°-50°	3134.1	16.3
50°-60°	2678.1	14.0
60°-70°	2078.0	10.8
70°-80°	1465.8	7.6
80°-90°	848.6	4.4
90°-100°	398.5	2.1
100°-110°	183.5	1.0
110°-120°	33.1	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°	5088.3	26.5
0°-40°	8348.8	43.6
0°-60°	14161.0	73.9
0°-90°	18553.5	96.8
90°-120°	615.0	3.2
90°-150°	615.5	3.2
90°-180°	616.0	3.2
0°-180°	19169.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6251	6251	6251	6251	6251	
5°	6164	6166	6168	6160	6164	588
15°	6160	6167	6156	6160	6157	1743
25°	6024	6009	6010	6008	6022	2764
35°	5265	5231	5189	5237	5273	3277
45°	4012	4066	4086	4057	4007	3106
55°	2948	2990	3011	2993	2940	2649
65°	2049	2094	2123	2090	2038	2032
75°	1311	1376	1460	1381	1310	1395
85°	744	772	840	772	742	661
90°	436	478	500	476	434	252
95°	341	359	392	358	343	261
105°	167	169	182	170	166	177
115°	20	25	33	25	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°	6251.3	6251.3	6251.3	6251.3	6251.3
2.5°	6221.3	6215.0	6217.4	6210.3	6215.0
5°	6164.5	6166.1	6168.4	6159.7	6163.7
7.5°	6140.0	6147.9	6162.1	6144.0	6129.7
10°	6148.7	6162.1	6174.7	6155.0	6145.5
12.5°	6165.3	6169.2	6174.0	6164.5	6163.7
15°	6160.5	6166.9	6155.8	6159.7	6156.6
17.5°	6145.5	6147.9	6140.0	6144.0	6139.2
20°	6117.1	6113.2	6096.6	6109.2	6106.9
22.5°	6083.2	6077.6	6072.9	6080.0	6076.1
25°	6024.0	6009.0	6010.5	6008.2	6022.4
27.5°	5900.8	5876.3	5859.8	5871.6	5912.7
30°	5731.9	5698.7	5656.1	5696.4	5737.4
32.5°	5531.4	5506.1	5467.4	5503.7	5521.1
35°	5265.3	5230.6	5188.8	5236.9	5273.2
37.5°	4975.6	4954.3	4899.9	4952.0	4990.6
40°	4633.0	4637.8	4607.8	4648.8	4649.6
42.5°	4314.1	4346.5	4344.1	4344.1	4314.1
45°	4011.8	4066.2	4086.0	4056.8	4007.0
47.5°	3737.1	3791.5	3825.5	3786.8	3734.7
50°	3458.4	3516.0	3546.8	3508.9	3475.0
52.5°	3212.1	3238.1	3268.1	3235.0	3198.7
55°	2948.4	2989.5	3010.8	2992.6	2940.5
57.5°	2718.7	2747.9	2773.2	2755.0	2702.9
60°	2479.5	2511.9	2535.6	2521.4	2477.2
62.5°	2256.9	2304.3	2321.6	2298.8	2251.4
65°	2049.3	2094.3	2122.7	2090.4	2037.5
67.5°	1842.5	1901.7	1946.7	1908.0	1836.2
70°	1645.1	1723.3	1773.0	1713.8	1643.5
72.5°	1477.8	1548.0	1612.0	1545.7	1471.5
75°	1311.2	1375.9	1460.4	1380.7	1309.6
77.5°	1160.4	1222.0	1314.4	1219.6	1153.3
80°	1019.9	1068.9	1163.6	1065.7	1017.5
82.5°	882.6	918.9	1011.2	917.3	879.4
85°	744.4	772.0	839.9	772.0	742.0
87.5°	582.6	627.6	666.3	626.0	573.9
90°	435.8	477.6	499.7	476.0	434.2
92.5°	388.4	409.7	445.2	409.7	388.4
95°	341.0	359.2	391.5	358.4	342.6
97.5°	296.0	310.2	341.0	308.7	297.6
100°	255.0	262.1	290.5	263.7	253.4
102.5°	210.8	215.5	236.0	213.9	210.8
105°	166.6	168.9	181.6	169.7	165.8
107.5°	121.6	123.9	130.3	123.1	120.8
110°	80.5	82.1	90.0	82.1	81.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	46.6	50.5	58.4	50.5	46.6
115°	19.7	25.3	33.2	25.3	19.7
117.5°	6.3	10.3	12.6	10.3	5.5
120°	3.9	4.7	3.9	4.7	3.9
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)