

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: P294527

Luminaire Tested: **BMK-15-NFL-UNV-L835-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: P294527
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-7)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-15-NFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 80 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15058.0 lumens
Efficiency: N/A
Efficacy: 160.5 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

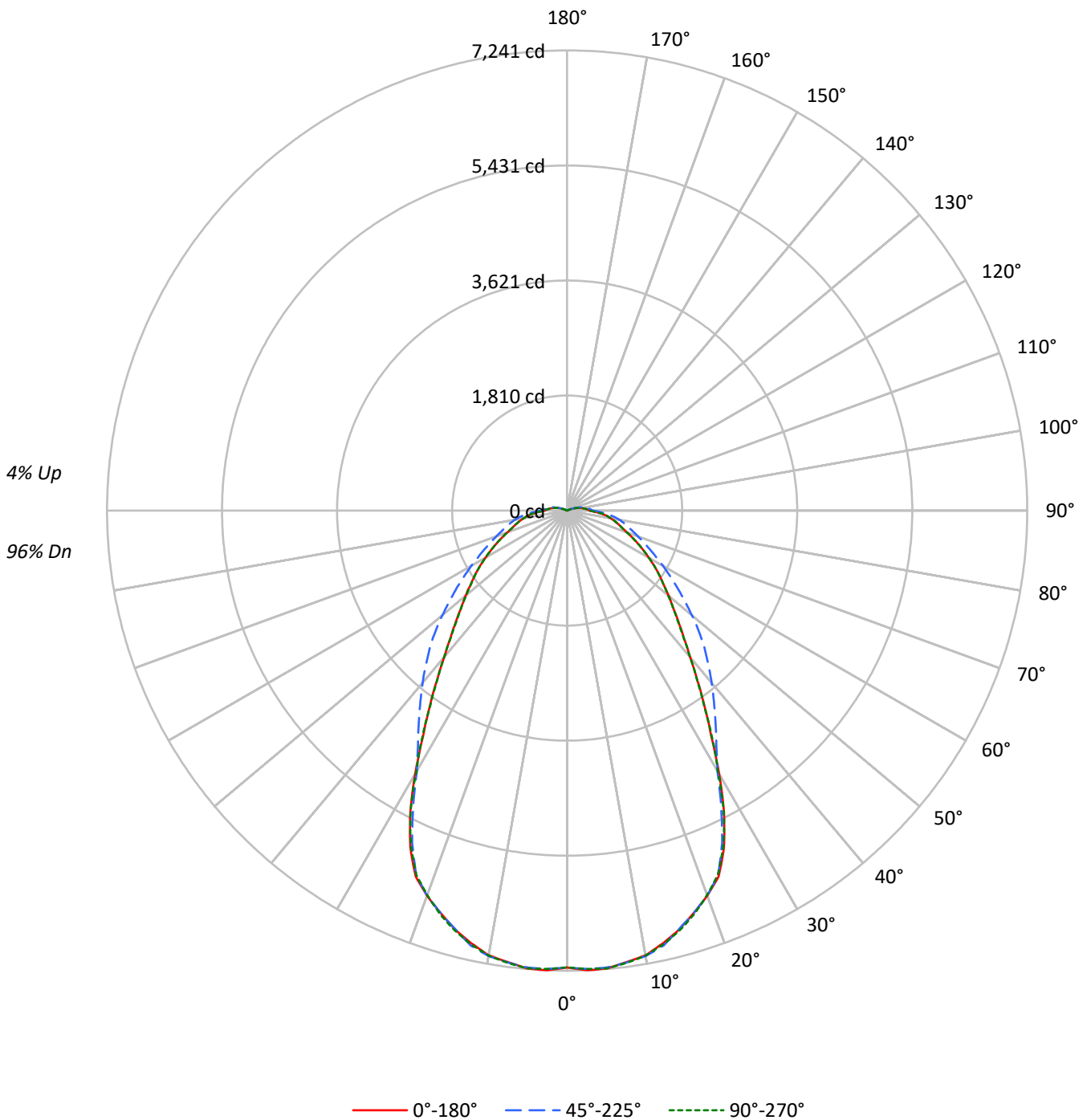
Input Watts (W): 93.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	108	103	98	95	105	100	96	93	95	92	89	91	88	86	87	84	82	80
2	99	91	84	78	96	88	82	77	84	79	75	80	76	72	77	73	70	68
3	91	80	73	66	88	79	71	66	75	69	64	72	67	62	69	65	61	59
4	84	72	64	57	81	71	63	57	68	61	56	65	59	55	62	58	53	51
5	77	65	57	50	75	64	56	50	61	55	49	59	53	48	57	52	47	45
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	41
7	67	54	46	40	65	53	46	40	52	45	40	50	44	39	48	43	38	37
8	63	50	42	37	61	49	42	36	48	41	36	46	40	35	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	32	42	36	32	30
10	56	43	36	31	54	42	35	30	41	35	30	40	34	30	39	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	55416	55416	55416
5°	55372	55276	55372
10°	54475	54575	54503
15°	52757	52697	52905
20°	50708	50667	50602
25°	47069	46492	46878
30°	39832	39349	39573
35°	32780	35355	32685
40°	27505	32381	27534
45°	24137	29760	23954
50°	21916	26892	21766
55°	20334	24312	20325
60°	18943	22265	18990
65°	17874	20754	17774
70°	16968	20098	16899
75°	17187	20499	17196
80°	18433	22158	18444
85°	20175	24014	20419



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	684.6	4.5
10°-20°	1917.9	12.7
20°-30°	2621.8	17.4
30°-40°	2462.6	16.4
40°-50°	2123.2	14.1
50°-60°	1742.1	11.6
60°-70°	1342.3	8.9
70°-80°	983.5	6.5
80°-90°	630.3	4.2
90°-100°	340.8	2.3
100°-110°	176.5	1.2
110°-120°	31.9	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°	5224.2	34.7
0°-40°	7686.8	51.0
0°-60°	11552.2	76.7
0°-90°	14508.3	96.3
90°-120°	549.2	3.6
90°-150°	549.7	3.7
90°-180°	550.0	3.7
0°-180°	15058.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7188	7188	7188	7188	7188	
5°	7230	7225	7218	7214	7230	685
15°	6822	6806	6814	6810	6841	1918
25°	5842	5777	5770	5755	5818	2642
35°	3774	3910	4071	3901	3763	2375
45°	2478	2721	3056	2712	2459	1927
55°	1771	1936	2117	1934	1770	1587
65°	1231	1368	1429	1365	1224	1221
75°	834	938	995	936	834	886
85°	539	578	642	576	546	472
90°	350	377	404	382	350	201
95°	296	305	344	304	296	229
105°	160	162	189	163	161	167
115°	18	24	31	24	18	28
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°	7188.4	7188.4	7188.4	7188.4	7188.4
2.5°	7240.8	7227.3	7219.9	7211.7	7218.7
5°	7230.1	7225.2	7217.5	7214.2	7230.1
7.5°	7166.4	7161.9	7172.1	7154.9	7179.0
10°	7105.4	7090.7	7118.5	7060.9	7109.1
12.5°	6971.7	6981.9	7011.4	6970.5	6989.3
15°	6821.7	6806.1	6813.9	6809.8	6840.9
17.5°	6634.4	6624.6	6633.6	6623.0	6655.7
20°	6449.6	6437.3	6444.3	6438.1	6436.1
22.5°	6230.4	6191.2	6207.1	6163.4	6201.8
25°	5841.6	5777.4	5770.0	5754.9	5817.9
27.5°	5346.4	5282.7	5246.7	5262.2	5338.7
30°	4783.0	4779.3	4725.0	4760.5	4751.9
32.5°	4223.7	4331.2	4366.4	4329.2	4248.6
35°	3774.3	3909.7	4070.8	3901.1	3763.3
37.5°	3366.3	3558.4	3793.5	3540.9	3355.6
40°	3006.9	3240.7	3540.0	3224.8	3010.1
42.5°	2716.6	2963.5	3286.9	2959.4	2713.3
45°	2478.2	2720.7	3055.5	2712.1	2459.4
47.5°	2259.9	2504.0	2811.8	2499.5	2259.4
50°	2087.3	2287.2	2561.2	2286.8	2073.0
52.5°	1914.8	2103.7	2325.7	2107.3	1907.4
55°	1770.8	1935.6	2117.2	1934.0	1770.0
57.5°	1626.5	1783.9	1919.7	1781.9	1628.5
60°	1482.6	1635.5	1742.6	1631.0	1486.3
62.5°	1350.9	1500.2	1572.9	1492.4	1354.2
65°	1230.7	1368.1	1429.0	1365.2	1223.8
67.5°	1111.3	1246.7	1301.9	1247.9	1107.6
70°	999.7	1138.3	1184.1	1136.7	995.6
72.5°	908.1	1038.5	1083.9	1034.9	908.1
75°	834.1	938.4	994.8	935.5	834.5
77.5°	762.6	847.6	915.5	845.1	768.3
80°	696.3	762.1	837.0	754.8	696.7
82.5°	626.8	669.7	744.2	666.5	630.1
85°	539.3	578.1	641.9	576.1	545.8
87.5°	437.1	481.7	517.6	481.7	442.8
90°	350.0	377.4	403.6	381.9	349.6
92.5°	331.6	340.6	374.5	341.8	332.4
95°	296.4	304.6	343.9	304.2	296.4
97.5°	263.3	271.1	310.7	269.9	261.7
100°	228.2	235.1	273.1	237.1	226.9
102.5°	196.3	201.6	233.9	202.0	195.9
105°	159.9	161.9	188.9	162.7	160.7
107.5°	118.6	121.0	134.9	122.7	120.6
110°	79.3	81.4	90.8	83.0	81.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	45.0	47.4	59.3	47.8	44.2
115°	18.0	23.7	30.7	24.1	18.4
117.5°	4.9	9.0	11.0	9.0	5.3
120°	4.1	4.5	4.1	4.5	3.7
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)