

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: P294529

Luminaire Tested: **BMK-15-NFL-UNV-L850-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: P294529
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-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 80 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15349.0 lumens
Efficiency: N/A
Efficacy: 163.6 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

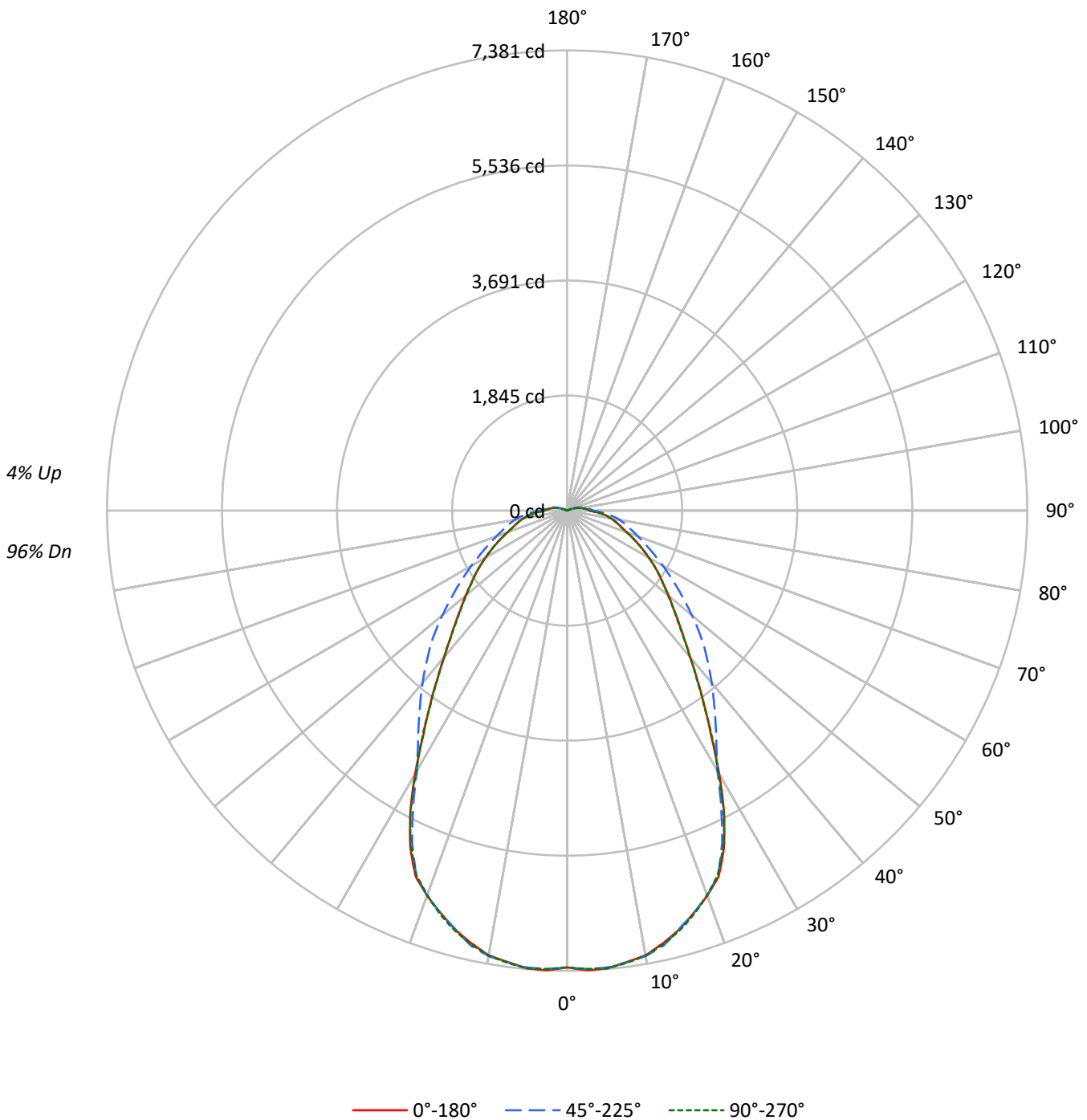
Input Watts (W): 93.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	56487	56487	56487
5°	56443	56343	56443
10°	55527	55630	55556
15°	53776	53715	53928
20°	51688	51646	51580
25°	47979	47391	47784
30°	40602	40109	40338
35°	33414	36038	33316
40°	28036	33008	28067
45°	24603	30335	24416
50°	22339	27411	22187
55°	20728	24781	20717
60°	19308	22695	19357
65°	18220	21155	18117
70°	17296	20487	17226
75°	17519	20895	17527
80°	18791	22584	18801
85°	20565	24478	20815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	697.8	4.5
10°-20°	1954.9	12.7
20°-30°	2672.5	17.4
30°-40°	2510.2	16.4
40°-50°	2164.3	14.1
50°-60°	1775.8	11.6
60°-70°	1368.3	8.9
70°-80°	1002.6	6.5
80°-90°	642.4	4.2
90°-100°	347.4	2.3
100°-110°	179.9	1.2
110°-120°	32.5	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°	5325.2	34.7
0°-40°	7835.4	51.0
0°-60°	11775.4	76.7
0°-90°	14788.7	96.3
90°-120°	559.8	3.6
90°-150°	560.3	3.7
90°-180°	560.0	3.6
0°-180°	15349.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7327	7327	7327	7327	7327	
5°	7370	7365	7357	7354	7370	699
15°	6954	6938	6946	6941	6973	1955
25°	5954	5889	5882	5866	5930	2693
35°	3847	3985	4149	3976	3836	2421
45°	2526	2773	3115	2764	2507	1964
55°	1805	1973	2158	1971	1804	1617
65°	1254	1394	1457	1392	1247	1245
75°	850	956	1014	954	851	903
85°	550	589	654	587	556	481
90°	357	385	411	389	356	205
95°	302	310	350	310	302	233
105°	163	165	193	166	164	170
115°	18	24	31	25	19	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°	7327.3	7327.3	7327.3	7327.3	7327.3
2.5°	7380.7	7366.9	7359.4	7351.1	7358.2
5°	7369.9	7364.9	7356.9	7353.6	7369.9
7.5°	7304.8	7300.3	7310.7	7293.2	7317.8
10°	7242.7	7227.7	7256.1	7197.3	7246.5
12.5°	7106.5	7116.9	7146.9	7105.2	7124.4
15°	6953.5	6937.7	6945.6	6941.4	6973.1
17.5°	6762.6	6752.6	6761.8	6750.9	6784.3
20°	6574.2	6561.7	6568.8	6562.6	6560.5
22.5°	6350.8	6310.8	6327.1	6282.5	6321.7
25°	5954.5	5889.1	5881.6	5866.1	5930.3
27.5°	5449.8	5384.8	5348.1	5363.9	5441.9
30°	4875.5	4871.7	4816.3	4852.5	4843.8
32.5°	4305.3	4414.9	4450.8	4412.8	4330.7
35°	3847.3	3985.2	4149.4	3976.5	3836.0
37.5°	3431.3	3627.2	3866.9	3609.3	3420.5
40°	3065.0	3303.4	3608.5	3287.1	3068.3
42.5°	2769.1	3020.8	3350.5	3016.6	2765.7
45°	2526.1	2773.2	3114.6	2764.5	2506.9
47.5°	2303.5	2552.3	2866.2	2547.8	2303.1
50°	2127.6	2331.4	2610.7	2331.0	2113.1
52.5°	1951.8	2144.3	2370.6	2148.1	1944.3
55°	1805.1	1973.0	2158.1	1971.4	1804.2
57.5°	1657.9	1818.4	1956.8	1816.3	1660.0
60°	1511.2	1667.1	1776.3	1662.5	1515.0
62.5°	1377.0	1529.2	1603.3	1521.2	1380.4
65°	1254.5	1394.5	1456.6	1391.6	1247.4
67.5°	1132.8	1270.8	1327.0	1272.0	1129.0
70°	1019.0	1160.3	1207.0	1158.6	1014.9
72.5°	925.7	1058.6	1104.9	1054.9	925.7
75°	850.2	956.5	1014.0	953.6	850.6
77.5°	777.3	864.0	933.2	861.5	783.1
80°	709.8	776.9	853.1	769.4	710.2
82.5°	638.9	682.7	758.5	679.3	642.3
85°	549.7	589.3	654.3	587.2	556.4
87.5°	445.5	491.0	527.6	491.0	451.4
90°	356.8	384.7	411.4	389.3	356.3
92.5°	338.0	347.2	381.8	348.4	338.8
95°	302.2	310.5	350.5	310.1	302.2
97.5°	268.4	276.3	316.8	275.1	266.7
100°	232.6	239.6	278.4	241.7	231.3
102.5°	200.1	205.5	238.4	205.9	199.6
105°	163.0	165.0	192.6	165.9	163.8
107.5°	120.9	123.4	137.5	125.0	122.9
110°	80.9	82.9	92.5	84.6	82.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	45.8	48.3	60.4	48.8	45.0
115°	18.3	24.2	31.3	24.6	18.8
117.5°	5.0	9.2	11.3	9.2	5.4
120°	4.2	4.6	4.2	4.6	3.8
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)