

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: P294565

Luminaire Tested: **BMK-15-NCL-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: P294565
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-7)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-15-NCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 80 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

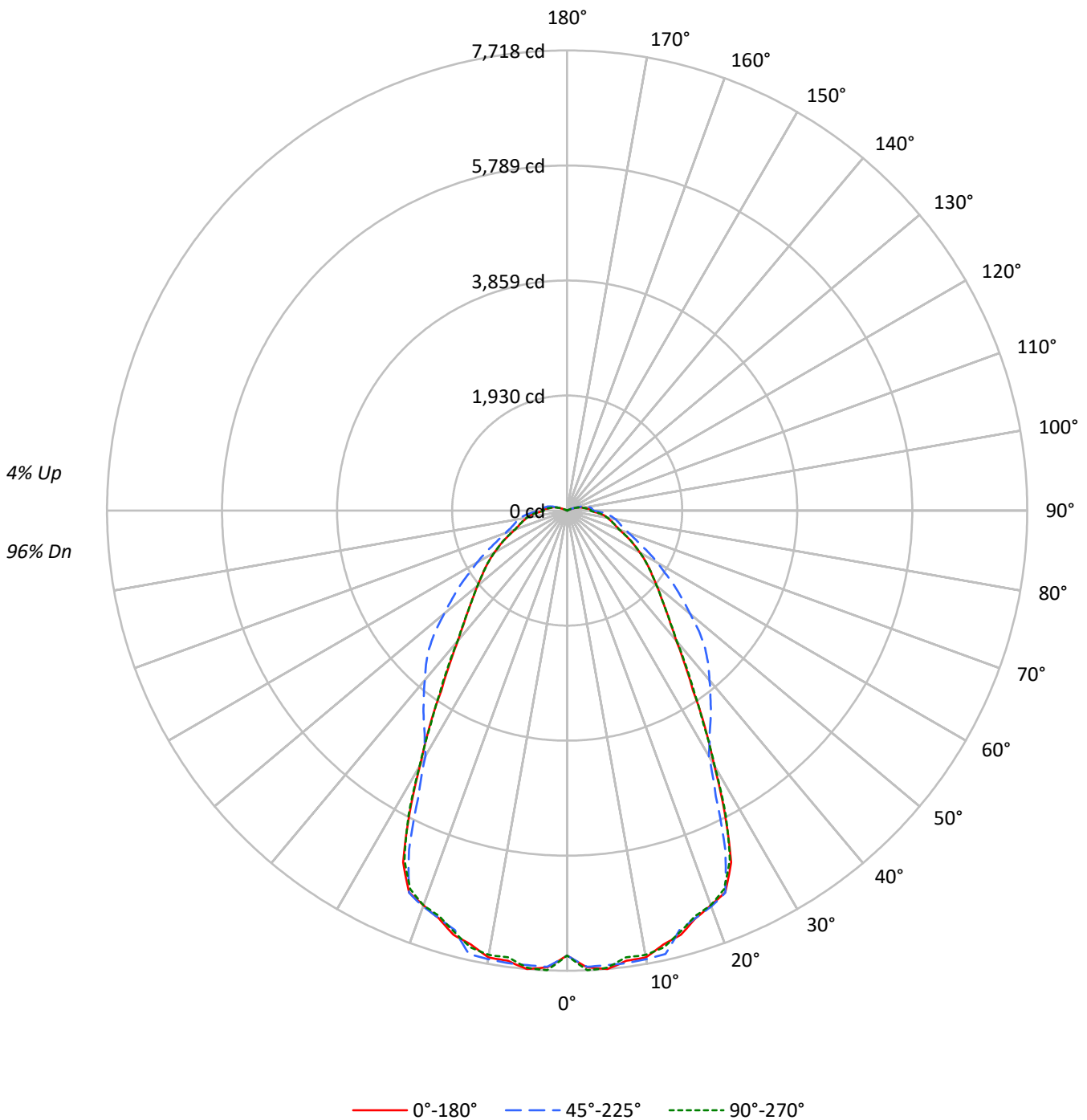
Lumens per Lamp: N/A
Luminaire Lumens: 15504.0 lumens
Efficiency: N/A
Efficacy: 165.3 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96				
1	108	103	99	95	105	100	96	93	95	92	89	91	88	86	86	84	82	80				
2	99	91	84	79	96	89	83	78	84	79	75	81	76	73	77	74	71	68				
3	91	81	73	67	88	79	72	66	76	70	65	72	67	63	69	65	61	59				
4	84	73	65	58	82	71	64	58	68	62	56	65	60	55	63	58	54	52				
5	78	66	58	51	76	65	57	51	62	55	50	60	54	49	58	52	48	46				
6	73	60	52	46	71	59	51	45	57	50	45	55	49	44	53	48	43	41				
7	68	55	47	41	66	54	46	41	52	45	40	51	44	40	49	43	39	37				
8	64	51	43	37	62	50	42	37	48	42	37	47	41	36	45	40	36	34				
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	42	37	33	31				
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	34	30	29				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	57542	57542	57542
5°	59113	58616	58946
10°	58327	58570	58015
15°	56959	56320	56595
20°	55397	55557	55377
25°	52439	50555	52009
30°	41069	39598	41249
35°	31967	36461	32243
40°	26062	33970	26155
45°	22685	31886	22697
50°	20597	28260	20611
55°	19285	25139	19183
60°	18014	22270	18014
65°	16859	19904	16859
70°	15795	18730	15775
75°	16452	19124	16400
80°	18073	21676	18042
85°	20452	24732	20404



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	726.5	4.7
10°-20°	2065.0	13.3
20°-30°	2834.4	18.3
30°-40°	2485.2	16.0
40°-50°	2126.9	13.7
50°-60°	1722.5	11.1
60°-70°	1291.9	8.3
70°-80°	941.0	6.1
80°-90°	644.1	4.2
90°-100°	398.2	2.6
100°-110°	231.2	1.5
110°-120°	36.5	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°	5625.9	36.3
0°-40°	8111.1	52.3
0°-60°	11960.5	77.1
0°-90°	14837.5	95.7
90°-120°	665.9	4.3
90°-150°	666.5	4.3
90°-180°	666.0	4.3
0°-180°	15504.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7464	7464	7464	7464	7464	
5°	7718	7647	7654	7669	7697	729
15°	7365	7291	7282	7282	7318	2069
25°	6508	6264	6274	6274	6455	2880
35°	3681	3894	4198	3927	3712	2345
45°	2329	2712	3274	2689	2330	1816
55°	1680	1911	2189	1912	1671	1501
65°	1161	1330	1370	1324	1161	1151
75°	798	906	928	901	796	845
85°	547	594	661	594	545	473
90°	402	417	437	409	390	228
95°	342	347	412	353	344	271
105°	212	217	272	214	210	214
115°	23	24	32	24	23	35
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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CATALOG NUMBER: BMK-15-NCL-UNV-L850-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7464.2	7464.2	7464.2	7464.2	7464.2
2.5°	7667.6	7612.9	7658.7	7689.2	7717.2
5°	7718.5	7647.3	7653.6	7668.9	7696.8
7.5°	7616.8	7540.5	7653.6	7597.7	7558.3
10°	7607.9	7484.5	7639.6	7536.7	7567.2
12.5°	7454.0	7441.3	7616.8	7490.9	7502.3
15°	7365.0	7291.3	7282.4	7282.4	7318.0
17.5°	7168.0	7123.5	7164.1	7142.5	7131.1
20°	7045.9	7025.6	7066.3	7086.6	7043.4
22.5°	6930.2	6831.0	6935.3	6848.8	6874.3
25°	6508.1	6264.0	6274.2	6274.2	6454.7
27.5°	5722.4	5580.0	5400.8	5600.4	5765.6
30°	4931.6	4973.6	4754.9	4964.7	4953.2
32.5°	4293.4	4411.6	4447.2	4416.7	4261.6
35°	3680.6	3894.2	4198.1	3927.2	3712.4
37.5°	3229.3	3523.0	3950.1	3516.6	3266.1
40°	2849.1	3198.8	3713.7	3214.0	2859.3
42.5°	2563.1	2947.0	3503.9	2931.8	2570.7
45°	2329.1	2711.8	3273.8	2688.9	2330.4
47.5°	2128.3	2494.4	2999.2	2495.7	2128.3
50°	1961.7	2259.2	2691.5	2257.9	1963.0
52.5°	1805.3	2082.5	2429.6	2067.2	1810.4
55°	1679.5	1910.9	2189.3	1912.1	1670.6
57.5°	1540.9	1754.5	1945.2	1751.9	1547.3
60°	1409.9	1600.6	1743.0	1586.7	1409.9
62.5°	1281.5	1460.8	1552.3	1462.1	1284.1
65°	1160.8	1329.8	1370.5	1323.5	1160.8
67.5°	1037.4	1202.7	1221.8	1195.1	1043.8
70°	930.6	1095.9	1103.5	1084.5	929.4
72.5°	858.2	991.7	1000.6	994.2	858.2
75°	798.4	906.5	928.1	901.4	795.9
77.5°	736.1	825.1	874.7	826.4	741.2
80°	682.7	748.8	818.8	750.1	681.5
82.5°	626.8	676.4	753.9	678.9	631.9
85°	546.7	593.7	661.1	593.7	545.4
87.5°	445.0	503.5	545.4	499.6	437.3
90°	401.8	417.0	437.3	409.4	390.3
92.5°	413.2	390.3	424.6	387.8	396.7
95°	342.0	347.1	411.9	353.4	344.5
97.5°	308.9	322.9	391.6	316.6	307.7
100°	272.1	295.0	352.2	289.9	273.3
102.5°	247.9	263.2	322.9	267.0	251.7
105°	212.3	217.4	272.1	213.6	209.8
107.5°	158.9	158.9	179.3	160.2	156.4
110°	105.5	100.4	108.1	97.9	105.5



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CATALOG NUMBER: BMK-15-NCL-UNV-L850-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	55.9	53.4	62.3	52.1	54.7
115°	22.9	24.2	31.8	24.2	22.9
117.5°	6.4	10.2	11.4	10.2	6.4
120°	3.8	5.1	3.8	5.1	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)