

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: P294561

Luminaire Tested: **BMK-15-NCL-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: P294561
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-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 70 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

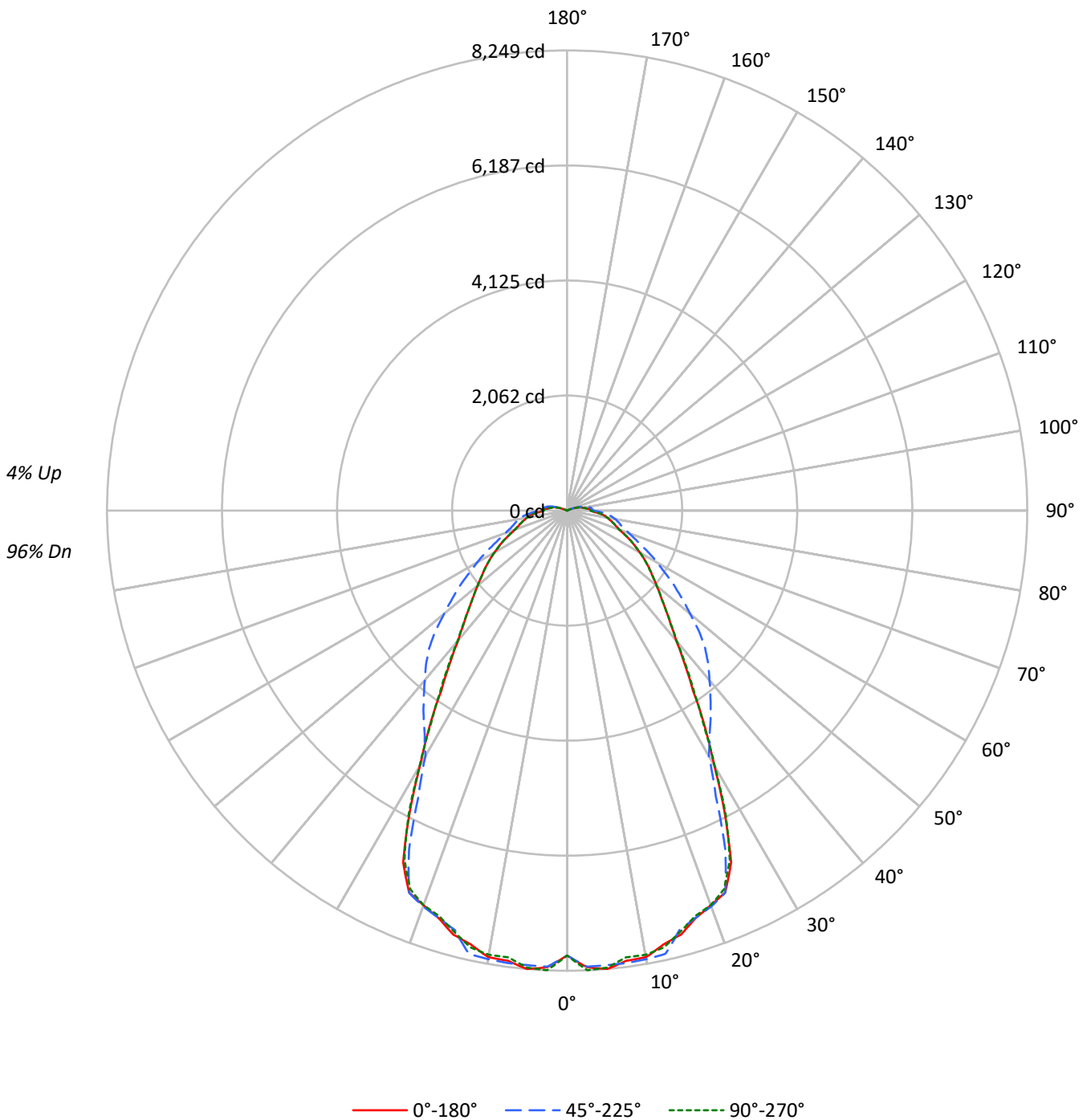
Lumens per Lamp: N/A
Luminaire Lumens: 16569.0 lumens
Efficiency: N/A
Efficacy: 176.6 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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°	61495	61495	61495
5°	63173	62642	62996
10°	62334	62594	62000
15°	60871	60188	60483
20°	59202	59373	59181
25°	56042	54027	55582
30°	43891	42318	44083
35°	34162	38965	34457
40°	27852	36304	27951
45°	24243	34075	24257
50°	22012	30201	22026
55°	20609	26866	20500
60°	19252	23800	19252
65°	18016	21273	18016
70°	16882	20018	16858
75°	17583	20437	17525
80°	19315	23164	19281
85°	21855	26430	21807



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	776.4	4.7
10°-20°	2206.8	13.3
20°-30°	3029.1	18.3
30°-40°	2655.9	16.0
40°-50°	2273.0	13.7
50°-60°	1840.8	11.1
60°-70°	1380.7	8.3
70°-80°	1005.7	6.1
80°-90°	688.4	4.2
90°-100°	425.6	2.6
100°-110°	247.0	1.5
110°-120°	39.0	0.2
120°-130°	0.6	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°	6012.4	36.3
0°-40°	8668.2	52.3
0°-60°	12782.1	77.1
0°-90°	15856.8	95.7
90°-120°	711.7	4.3
90°-150°	712.2	4.3
90°-180°	712.0	4.3
0°-180°	16569.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7977	7977	7977	7977	7977	
5°	8249	8173	8179	8196	8226	780
15°	7871	7792	7783	7783	7821	2211
25°	6955	6694	6705	6705	6898	3078
35°	3933	4162	4486	4197	3967	2506
45°	2489	2898	3499	2874	2490	1940
55°	1795	2042	2340	2044	1785	1604
65°	1240	1421	1465	1414	1240	1230
75°	853	969	992	963	850	903
85°	584	634	706	634	583	505
90°	429	446	467	438	417	243
95°	366	371	440	378	368	289
105°	227	232	291	228	224	229
115°	24	26	34	26	24	38
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



TEST NUMBER: P294561

CATALOG NUMBER: BMK-15-NCL-UNV-L740-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7976.9	7976.9	7976.9	7976.9	7976.9
2.5°	8194.3	8135.9	8184.8	8217.4	8247.3
5°	8248.7	8172.6	8179.4	8195.7	8225.6
7.5°	8140.0	8058.4	8179.4	8119.6	8077.5
10°	8130.5	7998.7	8164.4	8054.4	8087.0
12.5°	7966.0	7952.5	8140.0	8005.5	8017.7
15°	7870.9	7792.1	7782.6	7782.6	7820.7
17.5°	7660.3	7612.8	7656.3	7633.2	7620.9
20°	7529.9	7508.2	7551.6	7573.4	7527.2
22.5°	7406.3	7300.3	7411.7	7319.3	7346.5
25°	6955.2	6694.3	6705.2	6705.2	6898.1
27.5°	6115.5	5963.3	5771.8	5985.1	6161.7
30°	5270.4	5315.2	5081.5	5305.7	5293.5
32.5°	4588.3	4714.7	4752.7	4720.1	4554.4
35°	3933.4	4161.7	4486.4	4197.0	3967.4
37.5°	3451.1	3765.0	4221.5	3758.2	3490.5
40°	3044.8	3418.5	3968.8	3434.8	3055.7
42.5°	2739.1	3149.5	3744.6	3133.2	2747.3
45°	2489.1	2898.1	3498.6	2873.6	2490.5
47.5°	2274.5	2665.8	3205.2	2667.1	2274.5
50°	2096.5	2414.4	2876.4	2413.0	2097.8
52.5°	1929.4	2225.5	2596.5	2209.2	1934.8
55°	1794.8	2042.1	2339.7	2043.5	1785.3
57.5°	1646.7	1875.0	2078.8	1872.3	1653.5
60°	1506.8	1710.6	1862.8	1695.7	1506.8
62.5°	1369.6	1561.1	1659.0	1562.5	1372.3
65°	1240.5	1421.2	1464.7	1414.4	1240.5
67.5°	1108.7	1285.3	1305.7	1277.2	1115.5
70°	994.6	1171.2	1179.4	1159.0	993.2
72.5°	917.1	1059.8	1069.3	1062.5	917.1
75°	853.3	968.8	991.8	963.3	850.5
77.5°	786.7	881.8	934.8	883.2	792.1
80°	729.6	800.3	875.0	801.6	728.3
82.5°	669.8	722.8	805.7	725.5	675.3
85°	584.2	634.5	706.5	634.5	582.9
87.5°	475.5	538.0	582.9	534.0	467.4
90°	429.3	445.7	467.4	437.5	417.1
92.5°	441.6	417.1	453.8	414.4	423.9
95°	365.5	370.9	440.2	377.7	368.2
97.5°	330.2	345.1	418.5	338.3	328.8
100°	290.8	315.2	376.4	309.8	292.1
102.5°	264.9	281.3	345.1	285.3	269.0
105°	226.9	232.3	290.8	228.3	224.2
107.5°	169.8	169.8	191.6	171.2	167.1
110°	112.8	107.3	115.5	104.6	112.8



TEST NUMBER: P294561

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	59.8	57.1	66.6	55.7	58.4
115°	24.5	25.8	34.0	25.8	24.5
117.5°	6.8	10.9	12.2	10.9	6.8
120°	4.1	5.4	4.1	5.4	4.1
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)