

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: P294525

Luminaire Tested: **BMK-15-NFL-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: P294525
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-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 70 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

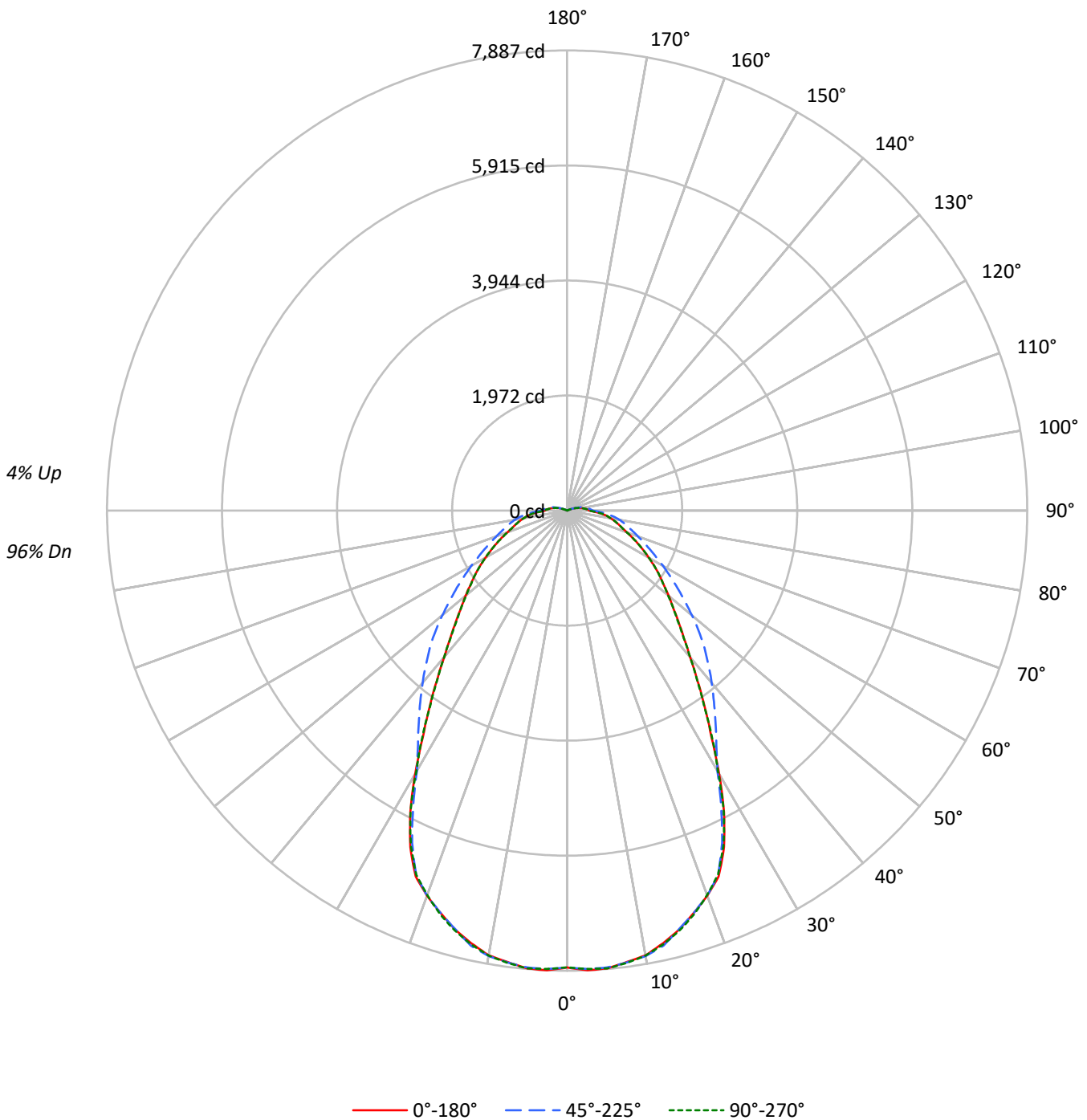
Lumens per Lamp: N/A
Luminaire Lumens: 16402.0 lumens
Efficiency: N/A
Efficacy: 174.9 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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°	60362	60362	60362
5°	60315	60209	60315
10°	59337	59446	59367
15°	57465	57400	57628
20°	55235	55189	55119
25°	51270	50642	51062
30°	43387	42861	43105
35°	35706	38511	35602
40°	29959	35272	29992
45°	26291	32416	26092
50°	23872	29292	23708
55°	22149	26481	22139
60°	20633	24253	20684
65°	19470	22607	19360
70°	18482	21892	18408
75°	18723	22329	18731
80°	20080	24136	20091
85°	21975	26157	22244



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	745.7	4.5
10°-20°	2089.0	12.7
20°-30°	2855.8	17.4
30°-40°	2682.4	16.4
40°-50°	2312.8	14.1
50°-60°	1897.6	11.6
60°-70°	1462.1	8.9
70°-80°	1071.3	6.5
80°-90°	686.5	4.2
90°-100°	371.2	2.3
100°-110°	192.3	1.2
110°-120°	34.8	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°	5690.5	34.7
0°-40°	8372.9	51.0
0°-60°	12583.3	76.7
0°-90°	15803.2	96.3
90°-120°	598.2	3.6
90°-150°	598.8	3.7
90°-180°	599.0	3.7
0°-180°	16402.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7830	7830	7830	7830	7830	
5°	7876	7870	7862	7858	7876	746
15°	7430	7414	7422	7418	7452	2090
25°	6363	6293	6285	6269	6337	2878
35°	4111	4259	4434	4249	4099	2587
45°	2699	2964	3328	2954	2679	2099
55°	1929	2108	2306	2107	1928	1728
65°	1341	1490	1557	1487	1333	1330
75°	909	1022	1084	1019	909	965
85°	587	630	699	628	595	514
90°	381	411	440	416	381	219
95°	323	332	375	331	323	249
105°	174	176	206	177	175	182
115°	20	26	33	26	20	30
125°	0	0	0	0	0	1
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°	7830.0	7830.0	7830.0	7830.0	7830.0
2.5°	7887.0	7872.3	7864.3	7855.4	7863.0
5°	7875.5	7870.1	7861.7	7858.1	7875.5
7.5°	7806.0	7801.1	7812.2	7793.5	7819.8
10°	7739.6	7723.6	7753.9	7691.1	7743.6
12.5°	7594.0	7605.1	7637.2	7592.7	7613.1
15°	7430.5	7413.6	7422.1	7417.6	7451.5
17.5°	7226.6	7215.9	7225.7	7214.1	7249.7
20°	7025.3	7011.9	7019.5	7012.8	7010.6
22.5°	6786.5	6743.8	6761.1	6713.5	6755.4
25°	6363.0	6293.1	6285.0	6268.6	6337.2
27.5°	5823.6	5754.2	5715.0	5731.9	5815.2
30°	5209.9	5205.9	5146.7	5185.4	5176.1
32.5°	4600.7	4717.8	4756.1	4715.6	4627.8
35°	4111.2	4258.6	4434.1	4249.3	4099.2
37.5°	3666.7	3876.0	4132.1	3856.9	3655.1
40°	3275.2	3530.0	3856.0	3512.6	3278.8
42.5°	2959.0	3228.0	3580.3	3223.6	2955.5
45°	2699.4	2963.5	3328.2	2954.1	2678.9
47.5°	2461.6	2727.4	3062.8	2722.5	2461.1
50°	2273.6	2491.4	2789.8	2490.9	2258.0
52.5°	2085.7	2291.4	2533.3	2295.4	2077.6
55°	1928.9	2108.4	2306.1	2106.6	1928.0
57.5°	1771.7	1943.1	2091.0	1940.9	1773.9
60°	1614.9	1781.5	1898.2	1776.6	1618.9
62.5°	1471.5	1634.1	1713.3	1625.6	1475.1
65°	1340.6	1490.2	1556.6	1487.1	1333.0
67.5°	1210.5	1357.9	1418.1	1359.3	1206.5
70°	1088.9	1239.9	1289.8	1238.1	1084.5
72.5°	989.2	1131.2	1180.7	1127.2	989.2
75°	908.6	1022.1	1083.6	1019.0	909.0
77.5°	830.6	923.2	997.2	920.6	836.8
80°	758.5	830.2	911.7	822.2	758.9
82.5°	682.8	729.5	810.6	726.0	686.3
85°	587.4	629.8	699.2	627.5	594.6
87.5°	476.1	524.6	563.8	524.6	482.3
90°	381.2	411.1	439.6	416.0	380.8
92.5°	361.2	371.0	408.0	372.3	362.1
95°	322.9	331.8	374.6	331.4	322.9
97.5°	286.8	295.3	338.5	293.9	285.0
100°	248.5	256.1	297.5	258.3	247.2
102.5°	213.8	219.6	254.8	220.0	213.3
105°	174.1	176.4	205.8	177.3	175.0
107.5°	129.2	131.8	147.0	133.6	131.4
110°	86.4	88.6	98.9	90.4	88.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	49.0	51.7	64.6	52.1	48.1
115°	19.6	25.8	33.4	26.3	20.0
117.5°	5.3	9.8	12.0	9.8	5.8
120°	4.5	4.9	4.5	4.9	4.0
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)