

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: P294546

Luminaire Tested: **BMK-30-NFL-UNV-L840-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: P294546
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-30-NFL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 80 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

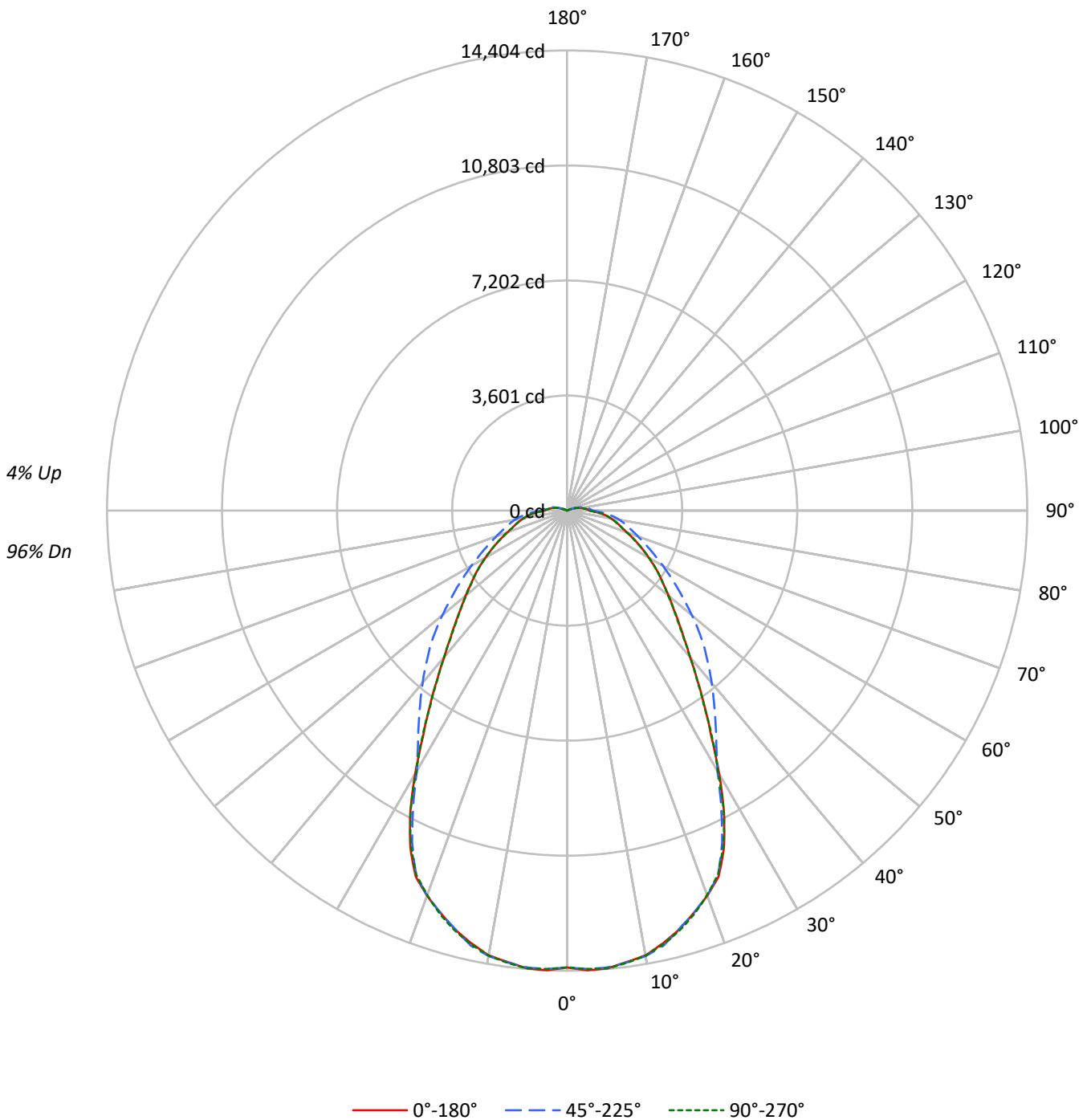
Lumens per Lamp: N/A
Luminaire Lumens: 29954.0 lumens
Efficiency: N/A
Efficacy: 149.0 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 201.1
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°	110236	110236	110236
5°	110149	109956	110149
10°	108364	108563	108419
15°	104945	104826	105241
20°	100871	100788	100661
25°	93631	92485	93252
30°	79235	78274	78721
35°	65208	70330	65018
40°	54714	64415	54773
45°	48014	59200	47650
50°	43596	53493	43297
55°	40450	48360	40431
60°	37681	44290	37774
65°	35556	41286	35356
70°	33753	39981	33616
75°	34190	40777	34206
80°	36668	44076	36692
85°	40134	47773	40620



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1361.8	4.5
10°-20°	3815.1	12.7
20°-30°	5215.4	17.4
30°-40°	4898.7	16.4
40°-50°	4223.7	14.1
50°-60°	3465.5	11.6
60°-70°	2670.2	8.9
70°-80°	1956.5	6.5
80°-90°	1253.8	4.2
90°-100°	677.9	2.3
100°-110°	351.1	1.2
110°-120°	63.5	0.2
120°-130°	1.0	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°	10392.3	34.7
0°-40°	15290.9	51.0
0°-60°	22980.1	76.7
0°-90°	28860.5	96.3
90°-120°	1092.5	3.6
90°-150°	1093.5	3.7
90°-180°	1093.0	3.6
0°-180°	29954.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	14300	14300	14300	14300	14300	
5°	14382	14373	14357	14351	14382	###
15°	13570	13539	13554	13546	13608	3816
25°	11620	11493	11478	11448	11573	5256
35°	7508	7777	8098	7760	7486	4724
45°	4930	5412	6078	5395	4892	3833
55°	3523	3850	4212	3847	3521	3156
65°	2448	2722	2843	2716	2434	2430
75°	1659	1867	1979	1861	1660	1762
85°	1073	1150	1277	1146	1086	938
90°	696	751	803	760	695	400
95°	590	606	684	605	590	455
105°	318	322	376	324	320	332
115°	36	47	61	48	37	55
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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CATALOG NUMBER: BMK-30-NFL-UNV-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	14299.5	14299.5	14299.5	14299.5	14299.5
2.5°	14403.6	14376.8	14362.2	14345.9	14359.7
5°	14382.5	14372.7	14357.3	14350.8	14382.5
7.5°	14255.6	14246.7	14267.0	14232.8	14280.8
10°	14134.4	14105.1	14160.4	14045.8	14141.7
12.5°	13868.4	13888.8	13947.3	13866.0	13903.4
15°	13569.9	13539.0	13554.5	13546.4	13608.2
17.5°	13197.4	13177.9	13195.8	13174.7	13239.7
20°	12829.8	12805.4	12819.2	12807.0	12803.0
22.5°	12393.8	12315.8	12347.5	12260.5	12336.9
25°	11620.3	11492.7	11478.0	11447.9	11573.2
27.5°	10635.4	10508.5	10436.9	10467.8	10619.9
30°	9514.6	9507.3	9399.1	9469.8	9452.8
32.5°	8401.9	8615.8	8685.8	8611.8	8451.5
35°	7508.0	7777.3	8097.7	7760.2	7486.1
37.5°	6696.3	7078.6	7546.3	7043.6	6675.2
40°	5981.4	6446.6	7042.0	6414.9	5987.9
42.5°	5403.9	5895.2	6538.5	5887.0	5397.4
45°	4929.7	5412.0	6078.2	5395.0	4892.3
47.5°	4495.4	4981.0	5593.4	4972.0	4494.6
50°	4152.2	4549.9	5094.8	4549.1	4123.7
52.5°	3808.9	4184.7	4626.3	4192.0	3794.3
55°	3522.6	3850.4	4211.5	3847.2	3521.0
57.5°	3235.5	3548.7	3818.7	3544.6	3239.6
60°	2949.2	3253.4	3466.5	3244.5	2956.5
62.5°	2687.3	2984.2	3129.0	2968.7	2693.8
65°	2448.2	2721.5	2842.7	2715.8	2434.4
67.5°	2210.7	2479.9	2589.7	2482.3	2203.4
70°	1988.6	2264.4	2355.5	2261.1	1980.5
72.5°	1806.5	2065.9	2156.2	2058.6	1806.5
75°	1659.2	1866.6	1978.9	1860.9	1660.0
77.5°	1516.9	1686.1	1821.1	1681.2	1528.3
80°	1385.1	1516.1	1664.9	1501.4	1386.0
82.5°	1246.9	1332.3	1480.3	1325.8	1253.4
85°	1072.8	1150.1	1277.0	1146.0	1085.8
87.5°	869.5	958.1	1029.7	958.1	880.9
90°	696.2	750.7	802.8	759.7	695.4
92.5°	659.6	677.5	745.0	680.0	661.3
95°	589.7	605.9	684.0	605.1	589.7
97.5°	523.8	539.3	618.1	536.8	520.5
100°	453.8	467.7	543.3	471.7	451.4
102.5°	390.4	401.0	465.2	401.8	389.6
105°	318.0	322.1	375.8	323.7	319.6
107.5°	235.9	240.8	268.4	244.0	239.9
110°	157.8	161.9	180.6	165.1	161.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	89.5	94.3	117.9	95.2	87.8
115°	35.8	47.2	61.0	48.0	36.6
117.5°	9.8	17.9	22.0	17.9	10.6
120°	8.1	8.9	8.1	8.9	7.3
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)