

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: P294533

Luminaire Tested: **BMK-18-NFL-UNV-L835-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: P294533
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-18-NFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 80 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

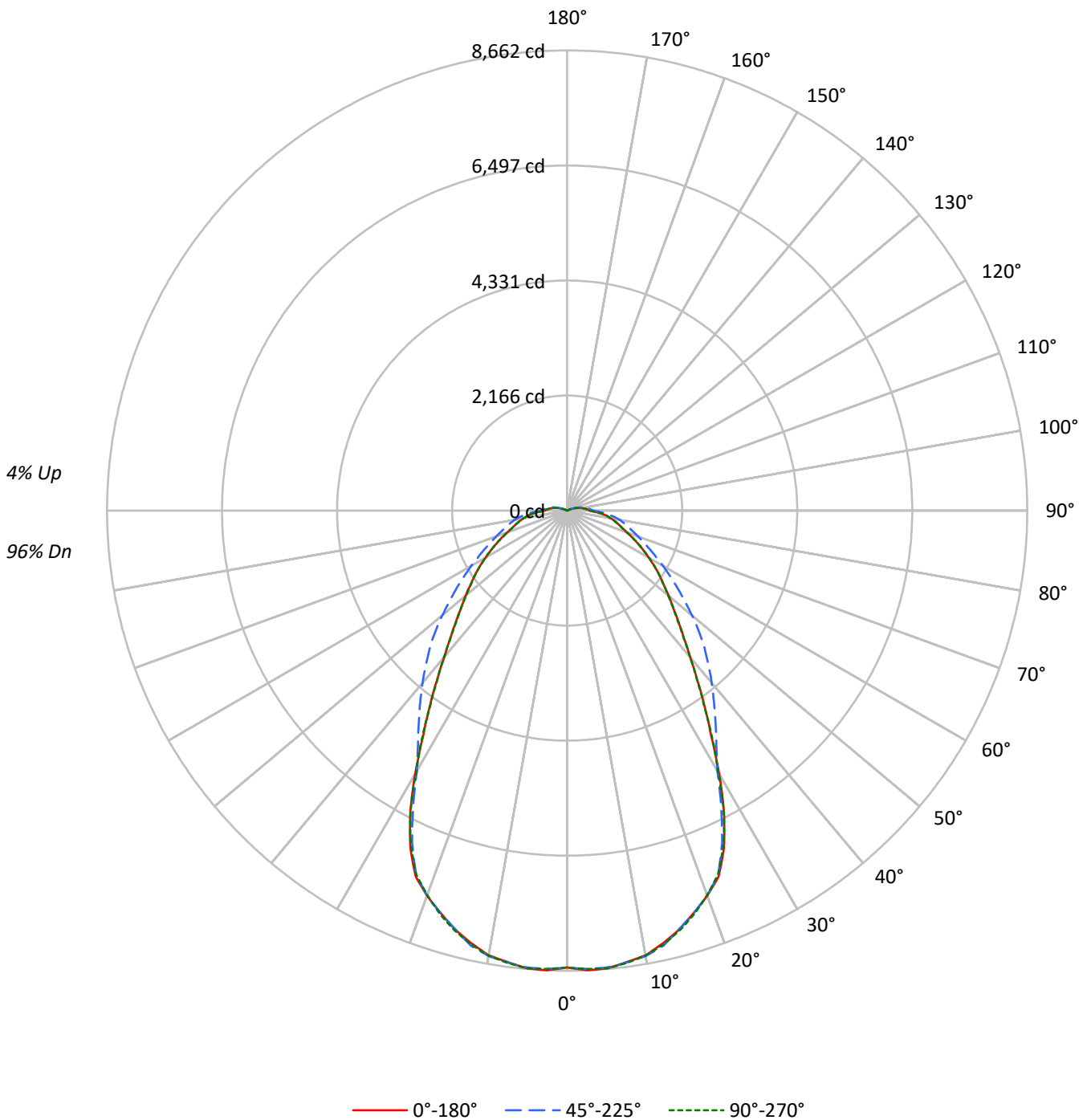
Lumens per Lamp: N/A
Luminaire Lumens: 18014.0 lumens
Efficiency: N/A
Efficacy: 158.3 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 113.8
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°	66295	66295	66295
5°	66243	66126	66243
10°	65169	65288	65203
15°	63113	63041	63291
20°	60663	60613	60536
25°	56309	55619	56081
30°	47652	47073	47342
35°	39216	42296	39101
40°	32904	38739	32940
45°	28875	35602	28656
50°	26219	32171	26038
55°	24326	29084	24315
60°	22661	26635	22717
65°	21383	24828	21262
70°	20298	24044	20217
75°	20561	24523	20571
80°	22052	26508	22066
85°	24137	28731	24429



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	819.0	4.5
10°-20°	2294.3	12.7
20°-30°	3136.5	17.4
30°-40°	2946.0	16.4
40°-50°	2540.1	14.1
50°-60°	2084.1	11.6
60°-70°	1605.8	8.9
70°-80°	1176.6	6.5
80°-90°	754.0	4.2
90°-100°	407.7	2.3
100°-110°	211.1	1.2
110°-120°	38.2	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°	6249.8	34.7
0°-40°	9195.8	51.0
0°-60°	13820.0	76.7
0°-90°	17356.4	96.3
90°-120°	657.0	3.6
90°-150°	657.6	3.7
90°-180°	658.0	3.7
0°-180°	18014.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8600	8600	8600	8600	8600	
5°	8650	8644	8634	8630	8650	820
15°	8161	8142	8152	8147	8184	2295
25°	6988	6912	6903	6885	6960	3161
35°	4515	4677	4870	4667	4502	2841
45°	2965	3255	3655	3244	2942	2305
55°	2118	2316	2533	2314	2118	1898
65°	1472	1637	1710	1633	1464	1461
75°	998	1123	1190	1119	998	1059
85°	645	692	768	689	653	564
90°	419	452	483	457	418	241
95°	355	364	411	364	355	274
105°	191	194	226	195	192	200
115°	22	28	37	29	22	33
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°	8599.6	8599.6	8599.6	8599.6	8599.6
2.5°	8662.2	8646.0	8637.2	8627.5	8635.8
5°	8649.5	8643.6	8634.3	8630.4	8649.5
7.5°	8573.2	8567.8	8580.0	8559.5	8588.3
10°	8500.3	8482.7	8515.9	8447.0	8504.7
12.5°	8340.3	8352.6	8387.8	8338.9	8361.4
15°	8160.8	8142.2	8151.5	8146.6	8183.8
17.5°	7936.8	7925.0	7935.8	7923.1	7962.2
20°	7715.7	7701.0	7709.3	7702.0	7699.6
22.5°	7453.5	7406.6	7425.6	7373.3	7419.3
25°	6988.3	6911.6	6902.7	6884.6	6960.0
27.5°	6396.0	6319.7	6276.6	6295.2	6386.7
30°	5722.0	5717.6	5652.5	5695.1	5684.8
32.5°	5052.8	5181.5	5223.5	5179.0	5082.7
35°	4515.3	4677.2	4869.9	4666.9	4502.0
37.5°	4027.1	4257.0	4538.2	4236.0	4014.4
40°	3597.1	3876.9	4235.0	3857.8	3601.1
42.5°	3249.8	3545.3	3932.2	3540.4	3245.9
45°	2964.7	3254.7	3655.3	3244.5	2942.2
47.5°	2703.5	2995.5	3363.8	2990.1	2703.0
50°	2497.1	2736.3	3064.0	2735.8	2479.9
52.5°	2290.6	2516.6	2782.2	2521.0	2281.8
55°	2118.5	2315.6	2532.8	2313.6	2117.5
57.5°	1945.8	2134.1	2296.5	2131.7	1948.2
60°	1773.6	1956.6	2084.7	1951.2	1778.0
62.5°	1616.1	1794.7	1881.7	1785.4	1620.0
65°	1472.3	1636.7	1709.5	1633.2	1464.0
67.5°	1329.5	1491.4	1557.4	1492.9	1325.1
70°	1195.9	1361.8	1416.6	1359.8	1191.1
72.5°	1086.4	1242.4	1296.7	1238.0	1086.4
75°	997.8	1122.6	1190.1	1119.2	998.3
77.5°	912.2	1014.0	1095.2	1011.1	919.1
80°	833.0	911.8	1001.3	903.0	833.5
82.5°	749.9	801.2	890.2	797.3	753.8
85°	645.2	691.6	768.0	689.2	653.0
87.5°	522.9	576.2	619.3	576.2	529.7
90°	418.7	451.5	482.8	456.9	418.2
92.5°	396.7	407.5	448.1	408.9	397.7
95°	354.6	364.4	411.4	363.9	354.6
97.5°	315.0	324.3	371.7	322.8	313.0
100°	272.9	281.3	326.7	283.7	271.5
102.5°	234.8	241.1	279.8	241.6	234.3
105°	191.3	193.7	226.0	194.7	192.2
107.5°	141.9	144.8	161.4	146.7	144.3
110°	94.9	97.3	108.6	99.3	97.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	53.8	56.7	70.9	57.2	52.8
115°	21.5	28.4	36.7	28.9	22.0
117.5°	5.9	10.8	13.2	10.8	6.4
120°	4.9	5.4	4.9	5.4	4.4
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)