

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: P294551

Luminaire Tested: **BMK-36-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: P294551
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-36-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: 35177.0 lumens
Efficiency: N/A
Efficacy: 144.8 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

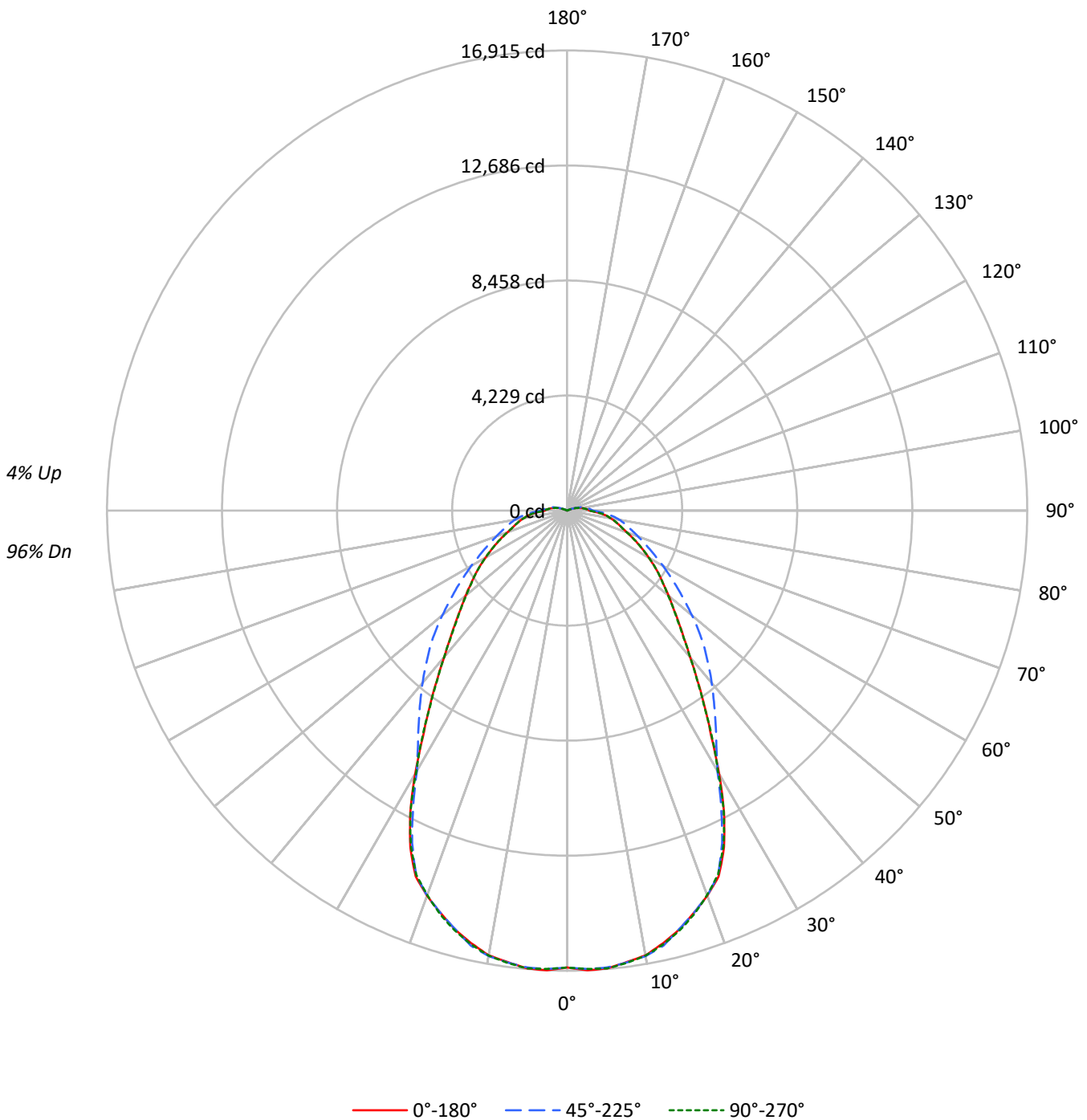
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	129458	129458	129458
5°	129355	129129	129355
10°	127259	127493	127325
15°	123245	123105	123592
20°	118460	118362	118212
25°	109958	108611	109512
30°	93051	91922	92447
35°	76579	82593	76355
40°	64253	75647	64324
45°	56386	69522	55959
50°	51198	62821	50846
55°	47503	56793	47481
60°	44252	52012	44362
65°	41757	48484	41520
70°	39640	46952	39477
75°	40153	47886	40171
80°	43064	51761	43088
85°	47133	56101	47706



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1599.3	4.5
10°-20°	4480.3	12.7
20°-30°	6124.8	17.4
30°-40°	5752.8	16.4
40°-50°	4960.1	14.1
50°-60°	4069.8	11.6
60°-70°	3135.8	8.9
70°-80°	2297.6	6.5
80°-90°	1472.4	4.2
90°-100°	796.1	2.3
100°-110°	412.3	1.2
110°-120°	74.5	0.2
120°-130°	1.2	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°	12204.3	34.7
0°-40°	17957.2	51.0
0°-60°	26987.1	76.7
0°-90°	33892.8	96.3
90°-120°	1283.0	3.6
90°-150°	1284.1	3.7
90°-180°	1284.0	3.7
0°-180°	35177.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	16793	16793	16793	16793	16793	
5°	16890	16879	16861	16853	16890	###
15°	15936	15900	15918	15908	15981	4482
25°	13647	13497	13479	13444	13591	6173
35°	8817	9133	9510	9113	8791	5548
45°	5789	6356	7138	6336	5745	4501
55°	4137	4522	4946	4518	4135	3707
65°	2875	3196	3338	3189	2859	2853
75°	1949	2192	2324	2185	1950	2069
85°	1260	1351	1500	1346	1275	1102
90°	818	882	943	892	817	470
95°	692	712	803	711	692	534
105°	374	378	441	380	375	390
115°	42	55	72	56	43	65
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°	16792.9	16792.9	16792.9	16792.9	16792.9
2.5°	16915.2	16883.6	16866.4	16847.3	16863.6
5°	16890.3	16878.9	16860.7	16853.1	16890.3
7.5°	16741.3	16730.8	16754.7	16714.6	16770.9
10°	16599.0	16564.6	16629.6	16494.9	16607.6
12.5°	16286.7	16310.5	16379.3	16283.8	16327.7
15°	15936.1	15899.8	15918.0	15908.4	15981.0
17.5°	15498.6	15475.7	15496.7	15471.9	15548.3
20°	15066.9	15038.2	15054.5	15040.2	15035.4
22.5°	14554.9	14463.2	14500.5	14398.3	14488.1
25°	13646.6	13496.6	13479.4	13444.1	13591.2
27.5°	12489.8	12340.8	12256.8	12293.1	12471.7
30°	11173.6	11165.0	11038.0	11121.1	11101.0
32.5°	9866.9	10118.1	10200.3	10113.4	9925.2
35°	8817.2	9133.4	9509.7	9113.3	8791.4
37.5°	7863.9	8312.9	8862.1	8271.8	7839.1
40°	7024.3	7570.7	8269.9	7533.4	7032.0
42.5°	6346.2	6923.1	7678.6	6913.5	6338.5
45°	5789.3	6355.7	7138.0	6335.7	5745.4
47.5°	5279.2	5849.5	6568.7	5839.0	5278.3
50°	4876.2	5343.2	5983.2	5342.3	4842.7
52.5°	4473.1	4914.4	5433.0	4923.0	4455.9
55°	4136.9	4521.8	4945.9	4518.0	4134.9
57.5°	3799.7	4167.4	4484.5	4162.6	3804.5
60°	3463.5	3820.7	4070.9	3810.2	3472.1
62.5°	3155.9	3504.5	3674.6	3486.4	3163.5
65°	2875.1	3196.0	3338.3	3189.3	2858.8
67.5°	2596.2	2912.3	3041.3	2915.2	2587.6
70°	2335.4	2659.2	2766.2	2655.4	2325.8
72.5°	2121.4	2426.1	2532.2	2417.5	2121.4
75°	1948.6	2192.1	2323.9	2185.4	1949.5
77.5°	1781.4	1980.1	2138.6	1974.3	1794.8
80°	1626.7	1780.4	1955.2	1763.2	1627.6
82.5°	1464.3	1564.6	1738.4	1556.9	1471.9
85°	1259.9	1350.6	1499.6	1345.8	1275.2
87.5°	1021.1	1125.2	1209.2	1125.2	1034.5
90°	817.6	881.6	942.8	892.1	816.7
92.5°	774.6	795.7	874.9	798.5	776.6
95°	692.5	711.6	803.3	710.6	692.5
97.5°	615.1	633.3	725.9	630.4	611.3
100°	533.0	549.2	638.1	554.0	530.1
102.5°	458.5	470.9	546.4	471.9	457.5
105°	373.5	378.2	441.3	380.2	375.4
107.5°	277.0	282.7	315.2	286.6	281.8
110°	185.3	190.1	212.0	193.9	190.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	105.1	110.8	138.5	111.8	103.2
115°	42.0	55.4	71.6	56.4	43.0
117.5°	11.5	21.0	25.8	21.0	12.4
120°	9.6	10.5	9.6	10.5	8.6
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)