

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: P294547

Luminaire Tested: **BMK-30-NFL-UNV-L850-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: P294547
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-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 80 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30104.0 lumens
Efficiency: N/A
Efficacy: 149.7 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

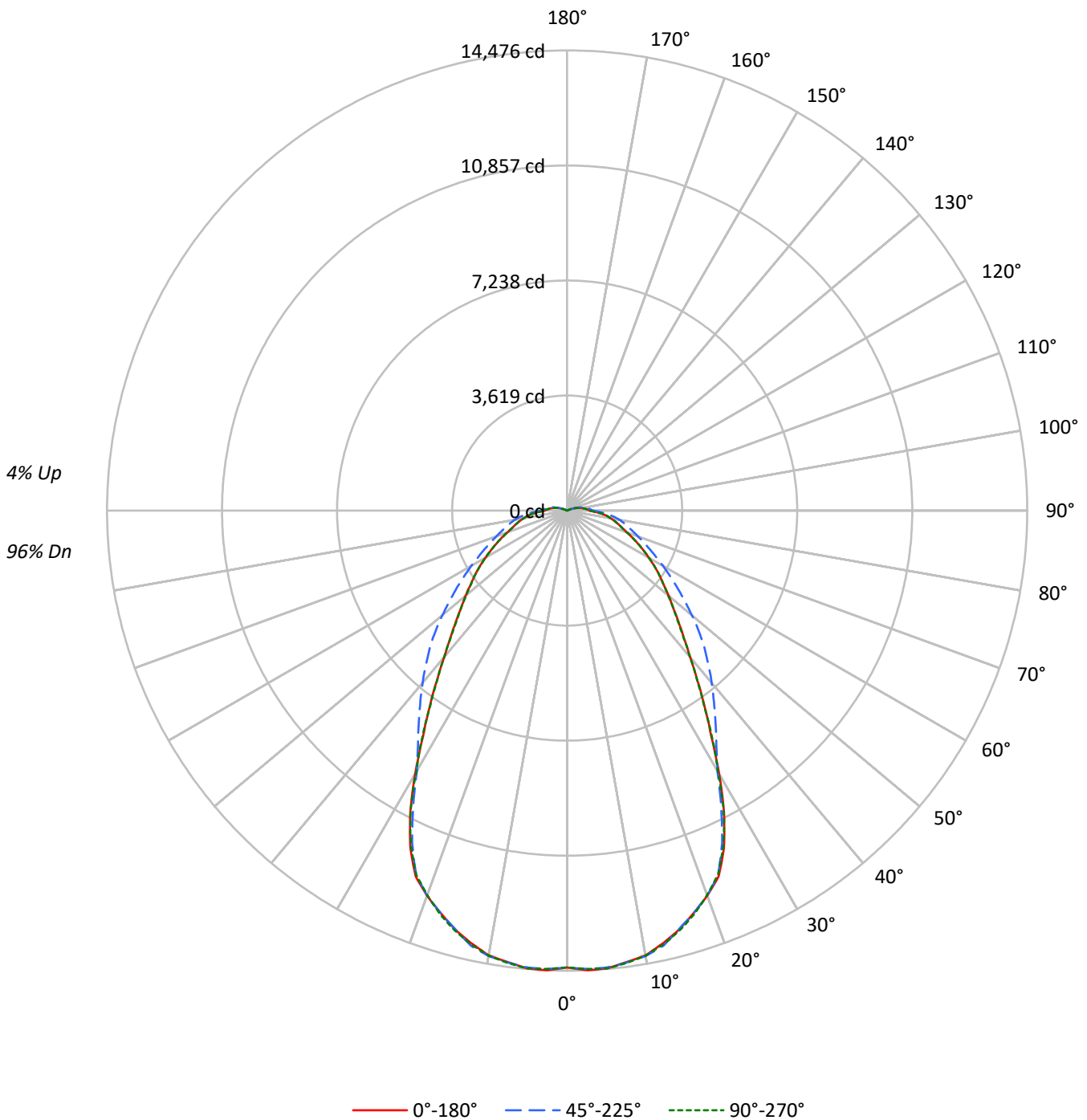
Input Watts (W): 201.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	110788	110788	110788
5°	110701	110507	110701
10°	108906	109107	108963
15°	105471	105351	105768
20°	101376	101293	101164
25°	94100	92948	93718
30°	79632	78666	79115
35°	65535	70682	65344
40°	54987	64738	55048
45°	48254	59496	47888
50°	43814	53761	43513
55°	40653	48602	40633
60°	37870	44513	37963
65°	35734	41492	35533
70°	33923	40181	33784
75°	34361	40981	34379
80°	36854	44298	36875
85°	40336	48013	40826



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1368.6	4.5
10°-20°	3834.2	12.7
20°-30°	5241.5	17.4
30°-40°	4923.2	16.4
40°-50°	4244.8	14.1
50°-60°	3482.9	11.6
60°-70°	2683.6	8.9
70°-80°	1966.3	6.5
80°-90°	1260.0	4.2
90°-100°	681.3	2.3
100°-110°	352.8	1.2
110°-120°	63.8	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°	10444.3	34.7
0°-40°	15367.5	51.0
0°-60°	23095.1	76.7
0°-90°	29005.1	96.3
90°-120°	1098.0	3.6
90°-150°	1098.9	3.7
90°-180°	1099.0	3.7
0°-180°	30104.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	14371	14371	14371	14371	14371	
5°	14454	14445	14429	14423	14454	###
15°	13638	13607	13622	13614	13676	3835
25°	11678	11550	11536	11505	11631	5283
35°	7546	7816	8138	7799	7524	4748
45°	4954	5439	6109	5422	4917	3852
55°	3540	3870	4233	3866	3539	3172
65°	2460	2735	2857	2729	2447	2442
75°	1668	1876	1989	1870	1668	1770
85°	1078	1156	1283	1152	1091	943
90°	700	754	807	764	699	402
95°	593	609	688	608	593	457
105°	320	324	378	325	321	333
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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	14371.1	14371.1	14371.1	14371.1	14371.1
2.5°	14475.8	14448.8	14434.1	14417.7	14431.6
5°	14454.5	14444.7	14429.2	14422.6	14454.5
7.5°	14327.0	14318.0	14338.4	14304.1	14352.3
10°	14205.2	14175.8	14231.4	14116.1	14212.6
12.5°	13937.9	13958.3	14017.2	13935.4	13973.0
15°	13637.9	13606.8	13622.4	13614.2	13676.3
17.5°	13263.5	13243.9	13261.9	13240.6	13306.0
20°	12894.0	12869.5	12883.4	12871.2	12867.1
22.5°	12455.9	12377.4	12409.3	12321.8	12398.7
25°	11678.5	11550.2	11535.5	11505.2	11631.1
27.5°	10688.6	10561.1	10489.2	10520.2	10673.1
30°	9562.2	9554.9	9446.2	9517.3	9500.1
32.5°	8444.0	8659.0	8729.3	8654.9	8493.9
35°	7545.6	7816.2	8138.3	7799.0	7523.6
37.5°	6729.9	7114.0	7584.1	7078.9	6708.6
40°	6011.3	6478.9	7077.3	6447.0	6017.9
42.5°	5431.0	5924.7	6571.3	5916.5	5424.4
45°	4954.4	5439.1	6108.6	5422.0	4916.8
47.5°	4517.9	5005.9	5621.4	4996.9	4517.1
50°	4172.9	4572.7	5120.3	4571.9	4144.3
52.5°	3828.0	4205.6	4649.5	4213.0	3813.3
55°	3540.3	3869.7	4232.6	3866.4	3538.6
57.5°	3251.7	3566.4	3837.8	3562.3	3255.8
60°	2964.0	3269.7	3483.9	3260.7	2971.3
62.5°	2700.8	2999.1	3144.6	2983.6	2707.3
65°	2460.4	2735.1	2856.9	2729.4	2446.6
67.5°	2221.8	2492.3	2602.7	2494.8	2214.4
70°	1998.6	2275.7	2367.3	2272.4	1990.4
72.5°	1815.5	2076.3	2167.0	2068.9	1815.5
75°	1667.5	1876.0	1988.8	1870.3	1668.4
77.5°	1524.5	1694.5	1830.2	1689.6	1535.9
80°	1392.1	1523.7	1673.3	1509.0	1392.9
82.5°	1253.1	1338.9	1487.7	1332.4	1259.7
85°	1078.2	1155.8	1283.4	1151.8	1091.3
87.5°	873.8	962.9	1034.9	962.9	885.3
90°	699.7	754.5	806.8	763.5	698.9
92.5°	662.9	680.9	748.8	683.4	664.6
95°	592.6	609.0	687.5	608.2	592.6
97.5°	526.4	542.0	621.2	539.5	523.2
100°	456.1	470.0	546.0	474.1	453.7
102.5°	392.4	403.0	467.6	403.8	391.5
105°	319.6	323.7	377.6	325.3	321.2
107.5°	237.1	242.0	269.7	245.2	241.1
110°	158.6	162.7	181.5	165.9	162.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	89.9	94.8	118.5	95.6	88.3
115°	36.0	47.4	61.3	48.2	36.8
117.5°	9.8	18.0	22.1	18.0	10.6
120°	8.2	9.0	8.2	9.0	7.4
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)