

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: P294535

Luminaire Tested: **BMK-18-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: P294535
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-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

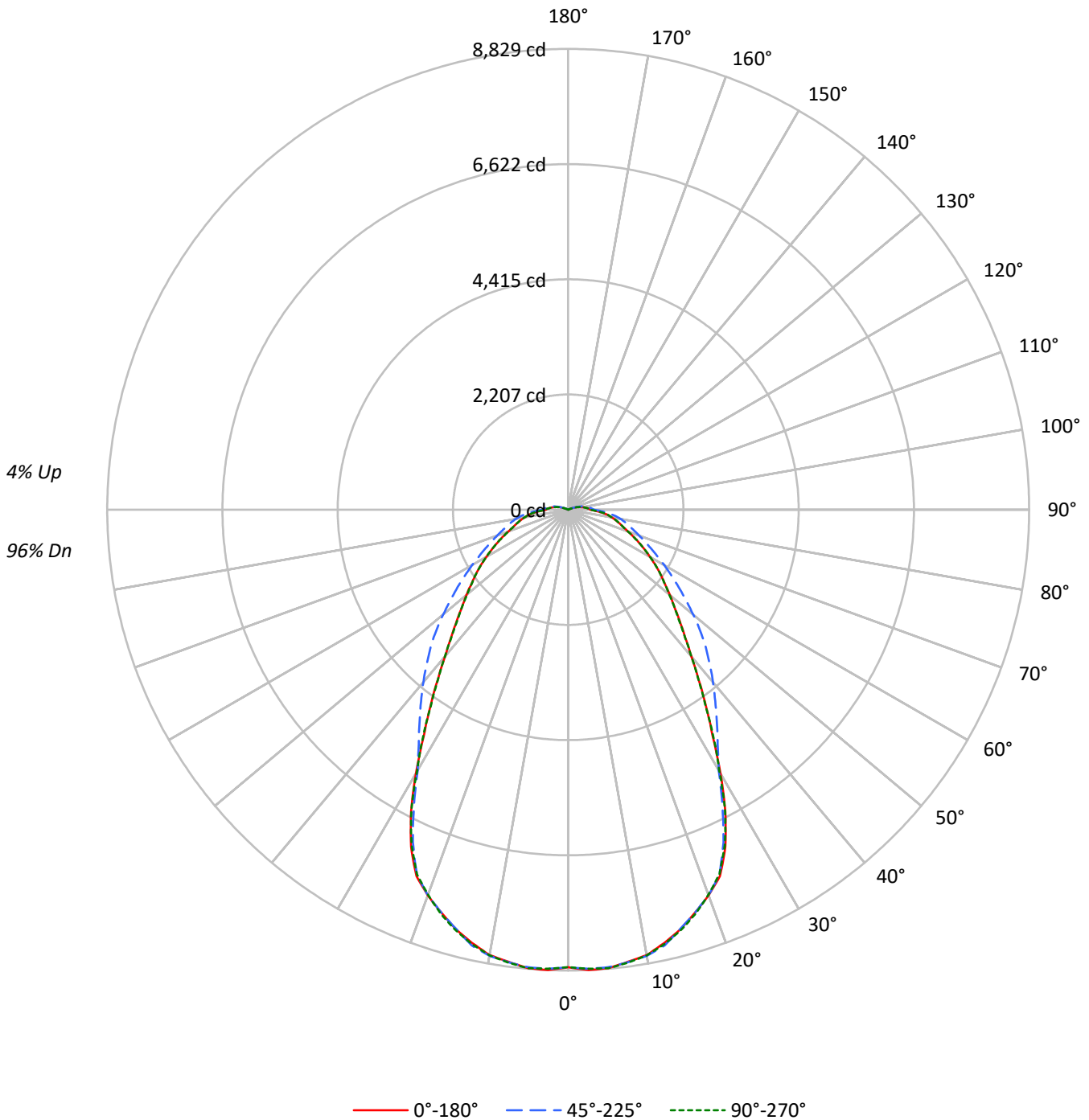
Lumens per Lamp: N/A
Luminaire Lumens: 18361.0 lumens
Efficiency: N/A
Efficacy: 161.3 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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°	67572	67572	67572
5°	67519	67400	67519
10°	66424	66547	66458
15°	64329	64255	64510
20°	61831	61780	61702
25°	57394	56690	57160
30°	48569	47980	48254
35°	39971	43110	39854
40°	33538	39485	33574
45°	29431	36288	29208
50°	26724	32790	26540
55°	24795	29644	24783
60°	23098	27149	23155
65°	21795	25307	21672
70°	20691	24506	20606
75°	20958	24995	20969
80°	22479	27019	22492
85°	24601	29281	24900



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	834.8	4.5
10°-20°	2338.5	12.7
20°-30°	3196.9	17.4
30°-40°	3002.8	16.4
40°-50°	2589.0	14.1
50°-60°	2124.3	11.6
60°-70°	1636.8	8.9
70°-80°	1199.3	6.5
80°-90°	768.5	4.2
90°-100°	415.6	2.3
100°-110°	215.2	1.2
110°-120°	38.9	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°	6370.2	34.7
0°-40°	9372.9	51.0
0°-60°	14086.2	76.7
0°-90°	17690.8	96.3
90°-120°	669.7	3.6
90°-150°	670.3	3.7
90°-180°	670.0	3.6
0°-180°	18361.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8765	8765	8765	8765	8765	
5°	8816	8810	8801	8797	8816	836
15°	8318	8299	8308	8304	8341	2339
25°	7123	7045	7036	7017	7094	3222
35°	4602	4767	4964	4757	4589	2896
45°	3022	3317	3726	3307	2999	2349
55°	2159	2360	2582	2358	2158	1935
65°	1501	1668	1742	1665	1492	1489
75°	1017	1144	1213	1141	1018	1080
85°	658	705	783	702	666	575
90°	427	460	492	466	426	245
95°	362	371	419	371	362	279
105°	195	197	230	198	196	203
115°	22	29	37	29	22	34
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°	8765.2	8765.2	8765.2	8765.2	8765.2
2.5°	8829.0	8812.6	8803.6	8793.6	8802.1
5°	8816.1	8810.1	8800.6	8796.6	8816.1
7.5°	8738.3	8732.8	8745.3	8724.3	8753.8
10°	8664.0	8646.1	8680.0	8609.7	8668.5
12.5°	8501.0	8513.5	8549.3	8499.5	8522.4
15°	8318.0	8299.1	8308.5	8303.6	8341.4
17.5°	8089.7	8077.7	8088.7	8075.7	8115.6
20°	7864.3	7849.4	7857.8	7850.4	7847.9
22.5°	7597.1	7549.2	7568.7	7515.3	7562.2
25°	7123.0	7044.7	7035.7	7017.3	7094.0
27.5°	6519.2	6441.4	6397.6	6416.5	6509.7
30°	5832.2	5827.7	5761.4	5804.8	5794.3
32.5°	5150.1	5281.3	5324.1	5278.8	5180.6
35°	4602.2	4767.3	4963.7	4756.8	4588.8
37.5°	4104.7	4339.0	4625.7	4317.6	4091.7
40°	3666.4	3951.6	4316.6	3932.2	3670.4
42.5°	3312.4	3613.6	4007.9	3608.6	3308.5
45°	3021.8	3317.4	3725.8	3307.0	2998.9
47.5°	2755.6	3053.2	3428.6	3047.7	2755.1
50°	2545.2	2789.0	3123.0	2788.5	2527.7
52.5°	2334.8	2565.1	2835.8	2569.6	2325.8
55°	2159.3	2360.2	2581.6	2358.2	2158.3
57.5°	1983.3	2175.2	2340.8	2172.7	1985.8
60°	1807.8	1994.2	2124.9	1988.8	1812.3
62.5°	1647.3	1829.2	1918.0	1819.8	1651.2
65°	1500.7	1668.2	1742.5	1664.7	1492.2
67.5°	1355.1	1520.1	1587.4	1521.6	1350.6
70°	1219.0	1388.0	1443.8	1386.0	1214.0
72.5°	1107.3	1266.3	1321.7	1261.9	1107.3
75°	1017.1	1144.2	1213.0	1140.7	1017.6
77.5°	929.8	1033.5	1116.3	1030.5	936.8
80°	849.1	929.3	1020.6	920.3	849.6
82.5°	764.3	816.6	907.4	812.7	768.3
85°	657.6	705.0	782.7	702.5	665.6
87.5°	533.0	587.3	631.2	587.3	539.9
90°	426.8	460.2	492.1	465.7	426.3
92.5°	404.3	415.3	456.7	416.8	405.3
95°	361.5	371.4	419.3	370.9	361.5
97.5°	321.1	330.5	378.9	329.1	319.1
100°	278.2	286.7	333.0	289.2	276.7
102.5°	239.3	245.8	285.2	246.3	238.8
105°	194.9	197.4	230.3	198.4	195.9
107.5°	144.6	147.6	164.5	149.6	147.1
110°	96.7	99.2	110.7	101.2	99.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	54.8	57.8	72.3	58.3	53.8
115°	21.9	28.9	37.4	29.4	22.4
117.5°	6.0	11.0	13.5	11.0	6.5
120°	5.0	5.5	5.0	5.5	4.5
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)