

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: P381690

Luminaire Tested: **BMK-70-NFL-UNV-L835-CD-U**

Issue Date: 2/4/2020

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: P381690
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-4)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-NFL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

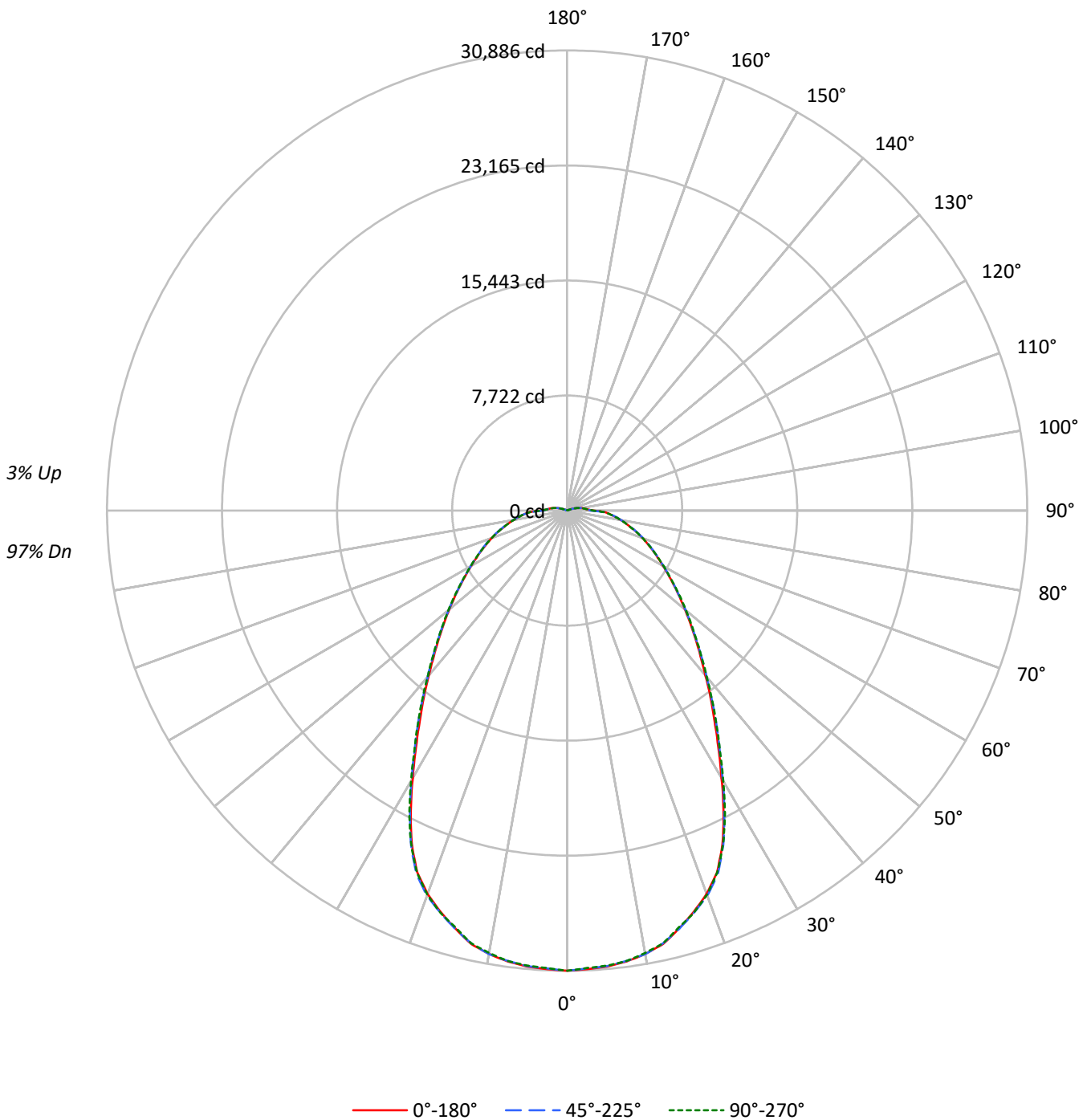
Lumens per Lamp: N/A
Luminaire Lumens: 67154.1 lumens
Efficiency: N/A
Efficacy: 134.1 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): 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	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	99	99	99	99	99	99	97		
1	107	102	98	94	104	100	96	92	95	91	88	90	88	85	86	84	82	86	84	82	86	84	82	80		
2	98	90	83	77	95	88	81	76	84	78	74	80	75	72	76	73	70	76	73	70	76	73	70	67		
3	90	80	72	65	87	78	70	65	74	68	63	71	66	61	68	64	60	68	64	60	68	64	60	58		
4	83	71	63	56	80	70	62	56	67	60	55	64	58	54	62	57	52	62	57	52	62	57	52	50		
5	77	64	56	49	75	63	55	49	61	54	48	58	52	47	56	51	46	56	51	46	56	51	46	44		
6	71	59	50	44	69	57	49	43	55	48	43	53	47	42	51	46	42	51	46	42	51	46	42	39		
7	67	54	45	39	65	53	45	39	51	44	38	49	43	38	47	42	37	47	42	37	47	42	37	36		
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	44	38	34	44	38	34	32		
9	58	46	38	32	57	45	37	32	43	37	32	42	36	31	41	35	31	41	35	31	41	35	31	29		
10	55	42	35	30	54	42	34	30	40	34	29	39	33	29	38	33	29	38	33	29	38	33	29	27		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	238226	238226	238226
5°	235447	235114	234887
10°	231750	231858	231243
15°	224674	224848	224098
20°	215365	216371	215785
25°	198905	199879	199641
30°	172649	173879	174453
35°	149713	151569	151666
40°	132097	133191	133422
45°	118632	119467	119646
50°	108356	108902	109286
55°	100517	100954	101148
60°	94938	95459	95747
65°	92174	92767	92420
70°	91566	92019	91470
75°	91923	92880	92012
80°	96733	97588	96547
85°	109341	110026	108813



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2913.7	4.3
10°-20°	8170.8	12.2
20°-30°	11252.9	16.8
30°-40°	10912.6	16.3
40°-50°	9496.5	14.1
50°-60°	7899.9	11.8
60°-70°	6340.9	9.4
70°-80°	4759.8	7.1
80°-90°	3108.1	4.6
90°-100°	1404.1	2.1
100°-110°	666.3	1.0
110°-120°	106.9	0.2
120°-130°	29.7	0.0
130°-140°	33.0	0.0
140°-150°	28.8	0.0
150°-160°	16.6	0.0
160°-170°	10.1	0.0
170°-180°	3.4	0.0
0°-30°	22337.5	33.3
0°-40°	33250.1	49.5
0°-60°	50646.5	75.4
0°-90°	64855.3	96.6
90°-120°	2177.2	3.2
90°-150°	2268.7	3.4
90°-180°	2299.0	3.4
0°-180°	67154.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	30886	30886	30886	30886	30886	
5°	30728	30627	30684	30735	30655	###
15°	29037	28940	29060	29081	28963	8169
25°	24674	24672	24794	24835	24765	11217
35°	17230	17286	17443	17443	17454	10834
45°	12174	12225	12260	12278	12278	9442
55°	8750	8766	8788	8809	8804	7866
65°	6344	6362	6384	6387	6361	6307
75°	4459	4484	4506	4486	4463	4747
85°	2922	2947	2940	2902	2908	2535
90°	1783	1726	1582	1698	1736	1035
95°	1276	1280	1276	1249	1258	981
105°	639	635	631	623	621	675
115°	76	74	74	72	70	109
125°	32	34	32	34	35	29
135°	42	44	42	44	44	33
145°	48	46	46	46	46	29
155°	34	35	34	34	34	17
165°	36	36	35	35	35	10
175°	35	36	35	36	36	3
180°	36	36	36	36	36	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	30886.5	30886.5	30886.5	30886.5	30886.5
2.5°	30809.3	30726.3	30757.3	30810.7	30730.6
5°	30727.7	30626.6	30684.2	30734.8	30654.7
7.5°	30526.8	30422.8	30494.5	30576.0	30494.5
10°	30213.4	30119.2	30227.4	30237.3	30147.3
12.5°	29791.8	29687.8	29746.8	29783.4	29749.6
15°	29037.1	28940.2	29059.6	29080.7	28962.6
17.5°	28240.3	28206.6	28295.1	28345.7	28300.7
20°	27378.8	27402.7	27506.7	27518.0	27432.2
22.5°	26279.8	26260.2	26410.5	26392.3	26315.0
25°	24673.5	24672.1	24794.4	24835.2	24764.9
27.5°	22728.6	22682.2	22857.8	22857.8	22943.6
30°	20721.7	20693.6	20869.3	20880.5	20938.2
32.5°	18875.1	18922.9	19057.8	19087.3	19083.1
35°	17229.5	17285.7	17443.1	17443.1	17454.3
37.5°	15790.4	15834.0	15928.1	15977.3	15956.2
40°	14434.2	14491.9	14553.7	14609.9	14579.0
42.5°	13236.9	13272.0	13366.2	13404.1	13364.8
45°	12174.5	12225.0	12260.2	12278.5	12278.5
47.5°	11204.8	11213.2	11275.0	11276.4	11296.1
50°	10315.2	10292.7	10367.2	10346.1	10403.7
52.5°	9500.1	9504.3	9535.2	9547.9	9587.2
55°	8749.6	8766.5	8787.6	8808.7	8804.5
57.5°	8059.6	8086.3	8115.8	8131.3	8107.4
60°	7427.2	7476.4	7468.0	7504.5	7490.5
62.5°	6860.9	6907.2	6911.5	6929.7	6910.1
65°	6343.7	6362.0	6384.5	6387.3	6360.6
67.5°	5854.6	5871.5	5903.8	5896.8	5861.7
70°	5392.3	5399.3	5419.0	5421.8	5386.7
72.5°	4932.7	4937.0	4951.0	4948.2	4924.3
75°	4459.1	4484.4	4505.5	4485.8	4463.4
77.5°	4061.4	4064.2	4079.7	4050.2	4054.4
80°	3652.5	3669.3	3684.8	3639.8	3645.5
82.5°	3287.1	3305.4	3315.2	3260.4	3267.4
85°	2921.7	2947.0	2940.0	2902.0	2907.6
87.5°	2553.5	2525.4	2505.7	2490.3	2497.3
90°	1783.4	1725.8	1582.4	1697.7	1735.6
92.5°	1430.6	1451.7	1432.0	1409.6	1430.6
95°	1276.0	1280.3	1276.0	1249.3	1257.8
97.5°	1125.7	1136.9	1125.7	1099.0	1108.8
100°	966.9	969.7	962.7	945.8	952.8
102.5°	808.1	810.9	801.0	789.8	792.6
105°	639.4	635.2	631.0	622.6	621.2
107.5°	461.0	461.0	453.9	445.5	451.1
110°	302.1	297.9	282.5	285.3	288.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	160.2	161.6	164.4	156.0	150.4
115°	75.9	74.5	74.5	71.7	70.3
117.5°	33.7	33.7	30.9	32.3	33.7
120°	26.7	28.1	26.7	26.7	29.5
122.5°	29.5	30.9	29.5	30.9	32.3
125°	32.3	33.7	32.3	33.7	35.1
127.5°	35.1	36.5	35.1	36.5	36.5
130°	37.9	39.3	37.9	37.9	39.3
132.5°	39.3	40.8	40.8	40.8	40.8
135°	42.2	43.6	42.2	43.6	43.6
137.5°	45.0	45.0	45.0	45.0	45.0
140°	46.4	46.4	46.4	46.4	46.4
142.5°	47.8	47.8	47.8	47.8	46.4
145°	47.8	46.4	46.4	46.4	46.4
147.5°	45.0	45.0	45.0	45.0	43.6
150°	40.8	40.8	40.8	40.8	40.8
152.5°	36.5	37.9	36.5	36.5	36.5
155°	33.7	35.1	33.7	33.7	33.7
157.5°	35.1	35.1	33.7	33.7	35.1
160°	35.1	35.1	35.1	35.1	35.1
162.5°	36.5	36.5	35.1	35.1	35.1
165°	36.5	36.5	35.1	35.1	35.1
167.5°	36.5	36.5	35.1	35.1	35.1
170°	36.5	36.5	35.1	35.1	35.1
172.5°	36.5	36.5	36.5	36.5	36.5
175°	35.1	36.5	35.1	36.5	36.5
177.5°	35.1	35.1	35.1	36.5	37.9
180°	36.5	36.5	36.5	36.5	36.5

(END OF REPORT)