

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: P295503

Luminaire Tested: **BMK-24-MCL-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: P295503
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-24-MCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR 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: 24285.0 lumens
Efficiency: N/A
Efficacy: 156.2 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.37 / 1.37
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

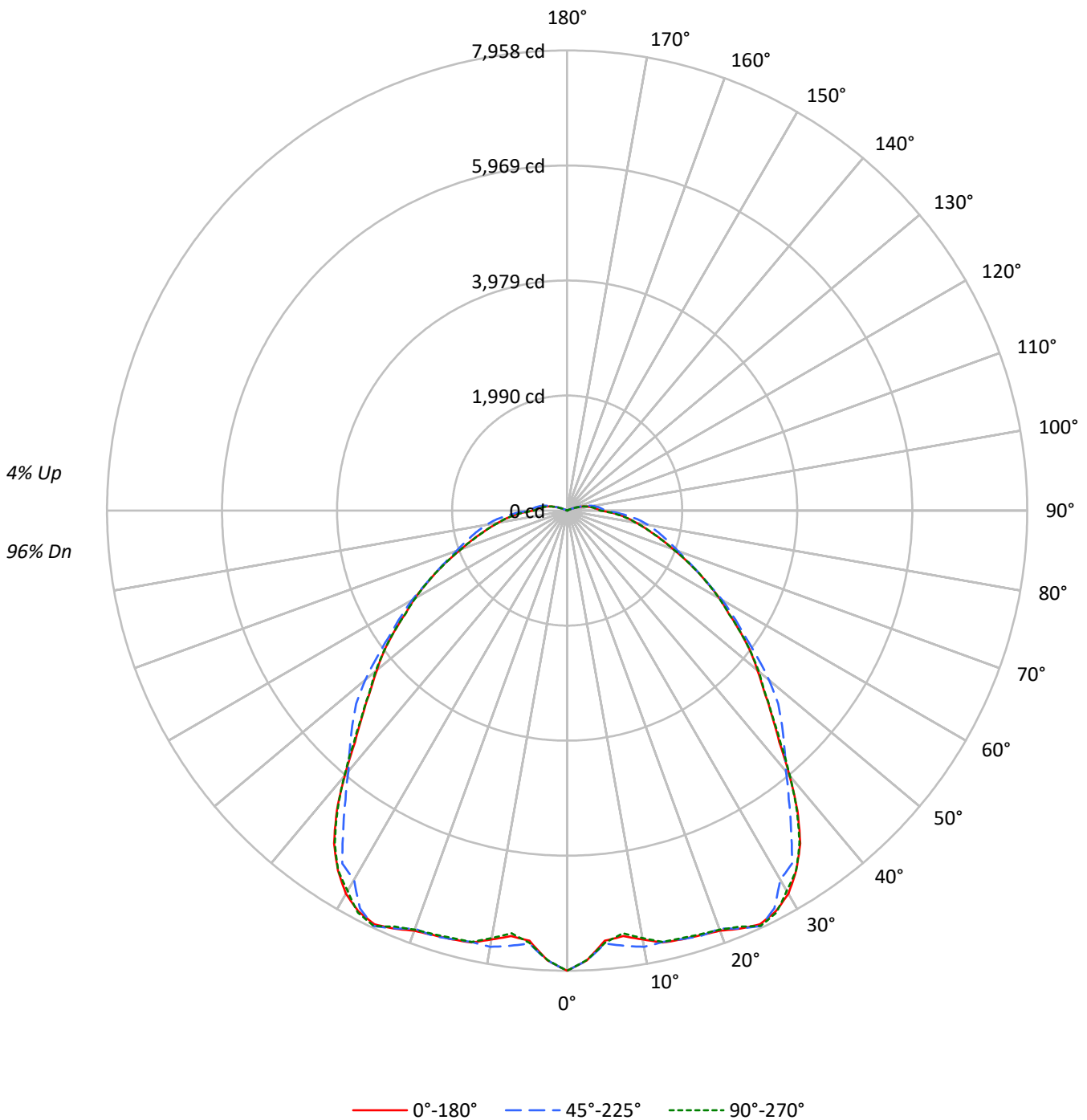
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	66
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	41
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	36
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	61349	61349	61349
5°	57195	57560	57456
10°	57733	58733	57561
15°	59361	59337	59202
20°	60776	60485	60631
25°	63612	63879	63832
30°	63726	61373	63247
35°	61046	58626	60843
40°	54752	53843	54841
45°	48726	51173	48868
50°	45122	47853	45378
55°	41922	42816	41955
60°	38953	39550	38791
65°	35975	36073	35947
70°	33083	34505	33198
75°	31674	35265	31772
80°	32054	37648	31768
85°	34362	39681	34216



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	722.8	3.0
10°-20°	2179.1	9.0
20°-30°	3600.8	14.8
30°-40°	4285.6	17.6
40°-50°	3997.0	16.5
50°-60°	3330.8	13.7
60°-70°	2492.0	10.3
70°-80°	1730.2	7.1
80°-90°	1048.7	4.3
90°-100°	561.1	2.3
100°-110°	291.7	1.2
110°-120°	44.3	0.2
120°-130°	0.7	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°	6502.7	26.8
0°-40°	10788.4	44.4
0°-60°	18116.2	74.6
0°-90°	23387.1	96.3
90°-120°	897.1	3.7
90°-150°	897.8	3.7
90°-180°	898.0	3.7
0°-180°	24285.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7958	7958	7958	7958	7958	
5°	7468	7524	7516	7505	7502	718
15°	7676	7728	7673	7711	7655	2175
25°	7895	7891	7928	7905	7922	3612
35°	7029	6914	6750	6918	7005	4340
45°	5003	5180	5254	5189	5017	3892
55°	3651	3708	3729	3711	3654	3270
65°	2477	2505	2484	2504	2475	2455
75°	1537	1625	1711	1628	1542	1646
85°	918	945	1061	945	915	811
90°	580	620	650	615	572	335
95°	477	508	569	506	482	374
105°	268	273	305	270	270	280
115°	25	29	38	30	26	43
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°	7958.0	7958.0	7958.0	7958.0	7958.0
2.5°	7785.6	7792.4	7784.7	7764.2	7778.8
5°	7468.1	7523.6	7515.8	7505.1	7502.2
7.5°	7422.3	7506.1	7589.8	7498.3	7371.7
10°	7530.4	7614.2	7660.9	7607.4	7508.0
12.5°	7652.2	7648.3	7643.4	7639.5	7639.5
15°	7675.6	7728.2	7672.6	7710.6	7655.1
17.5°	7697.0	7735.0	7710.6	7729.1	7680.4
20°	7730.1	7769.1	7693.1	7750.6	7711.6
22.5°	7824.6	7852.8	7821.7	7849.9	7788.6
25°	7894.7	7890.8	7927.8	7905.4	7922.0
27.5°	7813.9	7789.5	7756.4	7748.6	7837.3
30°	7652.2	7521.7	7369.7	7493.4	7594.7
32.5°	7376.5	7383.3	7238.2	7392.1	7372.6
35°	7028.8	6913.8	6750.2	6917.7	7005.4
37.5°	6541.8	6455.1	6298.2	6454.1	6522.3
40°	5985.6	6000.2	5886.2	5997.3	5995.3
42.5°	5428.4	5571.6	5559.9	5548.2	5470.3
45°	5002.8	5180.0	5254.1	5188.8	5017.4
47.5°	4619.0	4866.4	4948.2	4868.3	4629.7
50°	4297.5	4461.2	4557.6	4460.2	4321.9
52.5°	3990.7	4048.2	4128.0	4065.7	3995.6
55°	3650.8	3708.2	3728.7	3711.2	3653.7
57.5°	3312.8	3403.4	3407.2	3396.5	3310.8
60°	3048.8	3085.8	3095.5	3098.5	3036.1
62.5°	2745.9	2796.5	2761.4	2796.5	2752.7
65°	2477.0	2505.3	2483.8	2504.3	2475.1
67.5°	2200.4	2278.3	2244.2	2274.4	2207.2
70°	1949.1	2048.4	2032.9	2050.4	1955.9
72.5°	1742.6	1830.3	1866.3	1823.4	1733.8
75°	1537.1	1624.7	1711.4	1627.6	1541.9
77.5°	1374.4	1440.6	1563.4	1446.5	1372.4
80°	1210.8	1272.1	1422.1	1267.2	1200.0
82.5°	1078.3	1106.5	1257.5	1112.4	1072.4
85°	918.5	944.8	1060.7	944.8	914.6
87.5°	754.9	774.4	851.3	784.1	744.2
90°	580.5	619.5	649.7	614.6	571.8
92.5°	530.9	559.1	611.7	554.2	527.0
95°	477.3	508.5	568.8	505.5	482.2
97.5°	437.4	452.9	512.4	452.0	434.4
100°	387.7	403.3	463.7	398.4	381.8
102.5°	330.2	339.0	394.5	341.9	331.2
105°	267.9	272.7	304.9	269.8	269.8
107.5°	199.7	196.8	207.5	193.8	198.7
110°	128.6	119.8	129.5	119.8	130.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	70.1	63.3	76.0	64.3	69.2
115°	25.3	29.2	38.0	30.2	26.3
117.5°	6.8	11.7	13.6	11.7	6.8
120°	5.8	6.8	5.8	6.8	5.8
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)