

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: P294451

Luminaire Tested: **BMK-12-WFL-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: P294451
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-12-WFL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE 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: 12192.0 lumens
Efficiency: N/A
Efficacy: 164.1 lumens/watt
Spacing Criteria (0/90/45): 1.7 / 1.7 / 1.72
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

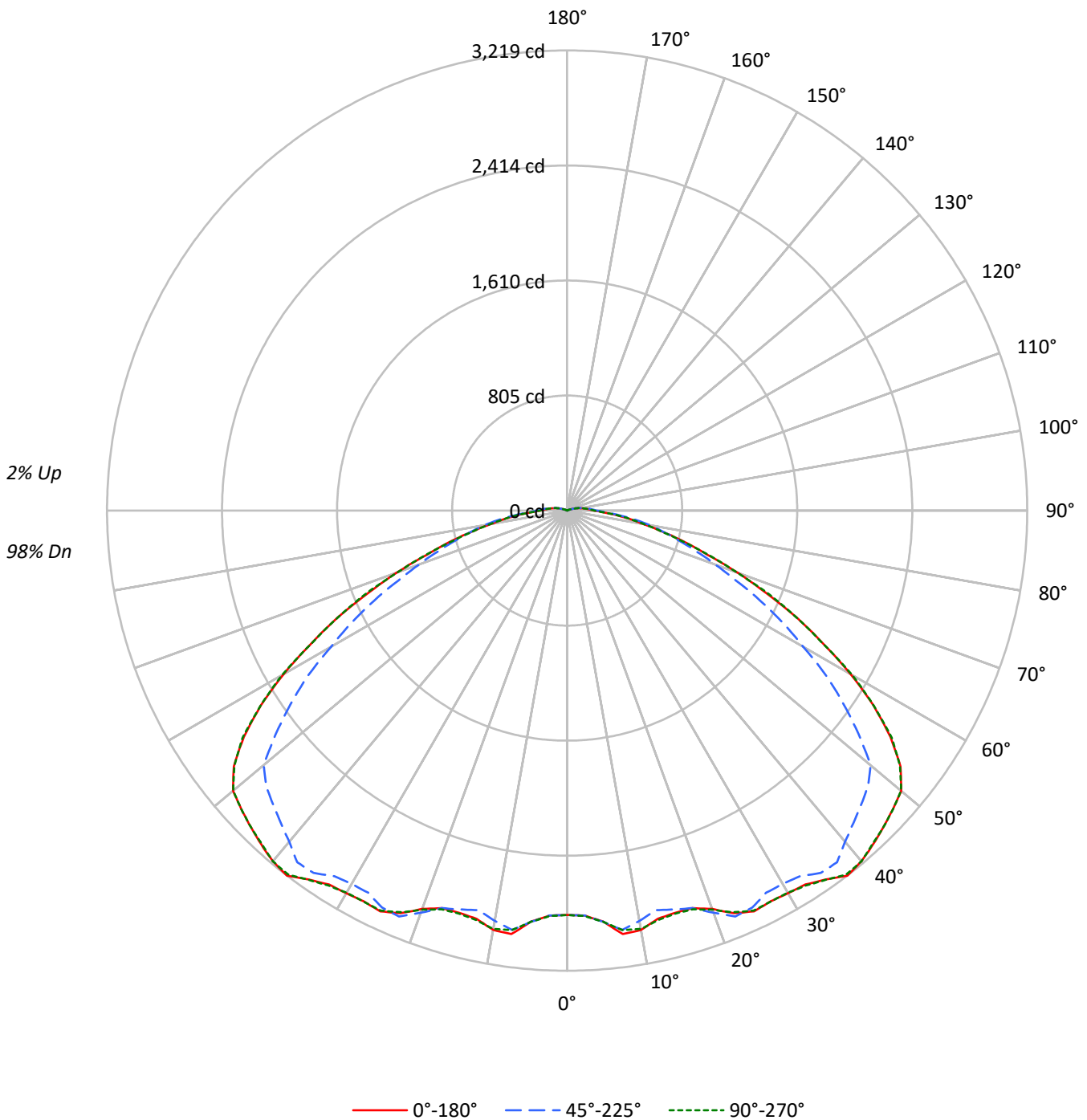
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	107	102	97	93	104	100	95	92	95	91	88	91	88	85	87	84	82	80
2	97	88	81	75	94	86	79	74	82	76	72	78	74	70	75	71	68	65
3	88	77	68	61	85	75	67	60	71	65	59	68	62	58	65	61	56	54
4	80	67	58	51	77	66	57	50	63	55	49	60	54	48	58	52	47	45
5	73	59	50	43	71	58	49	43	56	48	42	53	47	41	51	45	41	38
6	67	53	44	37	65	52	43	37	50	42	36	48	41	36	46	40	35	33
7	62	48	38	32	60	47	38	32	45	37	31	43	36	31	42	35	31	29
8	57	43	34	28	56	42	34	28	41	33	28	39	32	27	38	32	27	25
9	53	39	31	25	52	39	30	25	37	30	25	36	29	24	35	29	24	22
10	50	36	28	22	48	35	28	22	34	27	22	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21802	21802	21802
5°	22096	22112	22109
10°	22839	22344	22785
15°	22529	22337	22573
20°	23313	23533	23358
25°	24921	24694	24873
30°	25734	25102	25707
35°	27364	26877	27391
40°	29297	27665	29292
45°	30484	28331	30487
50°	32030	29087	32012
55°	31703	27110	31826
60°	29293	24385	29457
65°	25752	21652	25728
70°	21505	18693	21363
75°	17598	16697	17231
80°	14314	15437	14494
85°	12510	13602	12697



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.8	2.3
10°-20°	825.3	6.8
20°-30°	1403.9	11.5
30°-40°	1955.2	16.0
40°-50°	2339.5	19.2
50°-60°	2275.0	18.7
60°-70°	1614.0	13.2
70°-80°	878.9	7.2
80°-90°	385.2	3.2
90°-100°	160.1	1.3
100°-110°	65.7	0.5
110°-120°	10.1	0.1
120°-130°	0.2	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°	2508.0	20.6
0°-40°	4463.2	36.6
0°-60°	9077.8	74.5
0°-90°	11955.9	98.1
90°-120°	235.9	1.9
90°-150°	236.1	1.9
90°-180°	236.0	1.9
0°-180°	12192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2828	2828	2828	2828	2828	
5°	2885	2880	2887	2882	2887	280
15°	2913	2876	2888	2871	2919	831
25°	3093	3013	3065	3016	3087	1419
35°	3151	3153	3095	3143	3154	1984
45°	3130	3028	2909	3032	3130	2422
55°	2761	2554	2361	2559	2772	2442
65°	1773	1619	1491	1621	1772	1750
75°	854	800	810	803	836	915
85°	334	334	364	336	339	316
90°	186	201	205	201	189	107
95°	136	144	154	145	138	103
105°	60	60	59	60	60	65
115°	5	7	9	7	6	9
125°	0	0	0	0	0	0
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°	2828.1	2828.1	2828.1	2828.1	2828.1
2.5°	2835.2	2833.5	2835.5	2836.2	2839.2
5°	2885.2	2880.5	2887.2	2881.5	2886.9
7.5°	2987.7	2964.2	2958.5	2956.8	2959.5
10°	2979.0	2962.2	2914.5	2961.5	2971.9
12.5°	2924.9	2907.4	2862.7	2905.7	2934.6
15°	2913.1	2876.2	2888.3	2870.8	2918.8
17.5°	2914.8	2881.9	2915.5	2879.2	2923.9
20°	2965.2	2944.0	2993.1	2941.7	2970.9
22.5°	3049.2	3012.3	3072.8	3000.8	3041.2
25°	3092.9	3012.9	3064.7	3016.0	3086.9
27.5°	3081.5	3028.4	3013.9	3028.1	3083.2
30°	3090.2	3060.3	3014.3	3055.3	3086.9
32.5°	3101.7	3083.9	3031.8	3081.8	3108.4
35°	3150.7	3153.1	3094.6	3143.0	3153.8
37.5°	3218.6	3144.3	3101.0	3139.3	3207.9
40°	3202.8	3103.0	3024.4	3102.7	3202.2
42.5°	3167.9	3075.8	2963.9	3077.1	3162.2
45°	3129.9	3028.1	2908.8	3031.8	3130.2
47.5°	3091.2	3009.9	2854.6	3006.2	3091.2
50°	3050.6	2905.4	2770.3	2906.1	3048.9
52.5°	2940.0	2752.8	2569.3	2752.8	2934.6
55°	2760.9	2553.9	2360.9	2558.9	2771.6
57.5°	2542.4	2359.9	2150.2	2357.6	2545.1
60°	2292.7	2104.9	1908.6	2118.3	2305.5
62.5°	2021.5	1887.8	1701.9	1876.0	2019.8
65°	1773.1	1619.2	1490.8	1620.9	1771.5
67.5°	1505.0	1383.3	1277.8	1381.3	1529.2
70°	1267.0	1165.5	1101.3	1165.5	1258.6
72.5°	1031.4	980.0	947.7	978.0	1042.9
75°	854.0	799.9	810.3	802.6	836.2
77.5°	681.9	655.0	693.7	655.4	677.5
80°	540.7	535.0	583.1	533.4	547.5
82.5°	433.5	427.2	472.5	425.1	438.2
85°	334.4	333.7	363.6	336.4	339.4
87.5°	247.0	255.8	269.5	257.1	247.4
90°	186.5	201.0	205.3	200.6	188.9
92.5°	159.6	169.4	175.8	169.0	162.3
95°	136.4	143.5	153.6	145.2	138.1
97.5°	115.6	122.3	129.4	122.3	116.6
100°	96.1	100.8	107.5	101.5	97.1
102.5°	79.3	80.3	83.7	81.7	79.0
105°	59.5	60.2	59.1	60.5	59.8
107.5°	43.0	42.3	39.7	43.4	42.7
110°	26.9	26.9	26.2	27.2	26.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	14.1	15.1	16.5	15.1	14.8
115°	5.4	7.4	8.7	7.1	5.7
117.5°	2.4	3.4	3.7	3.4	2.4
120°	2.0	2.4	2.0	2.0	2.0
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)