

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: P294450

Luminaire Tested: **BMK-12-WFL-UNV-L840-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: P294450
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-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE FROSTED LENS
Light Source: (528) 80 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12131.0 lumens
Efficiency: N/A
Efficacy: 163.3 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

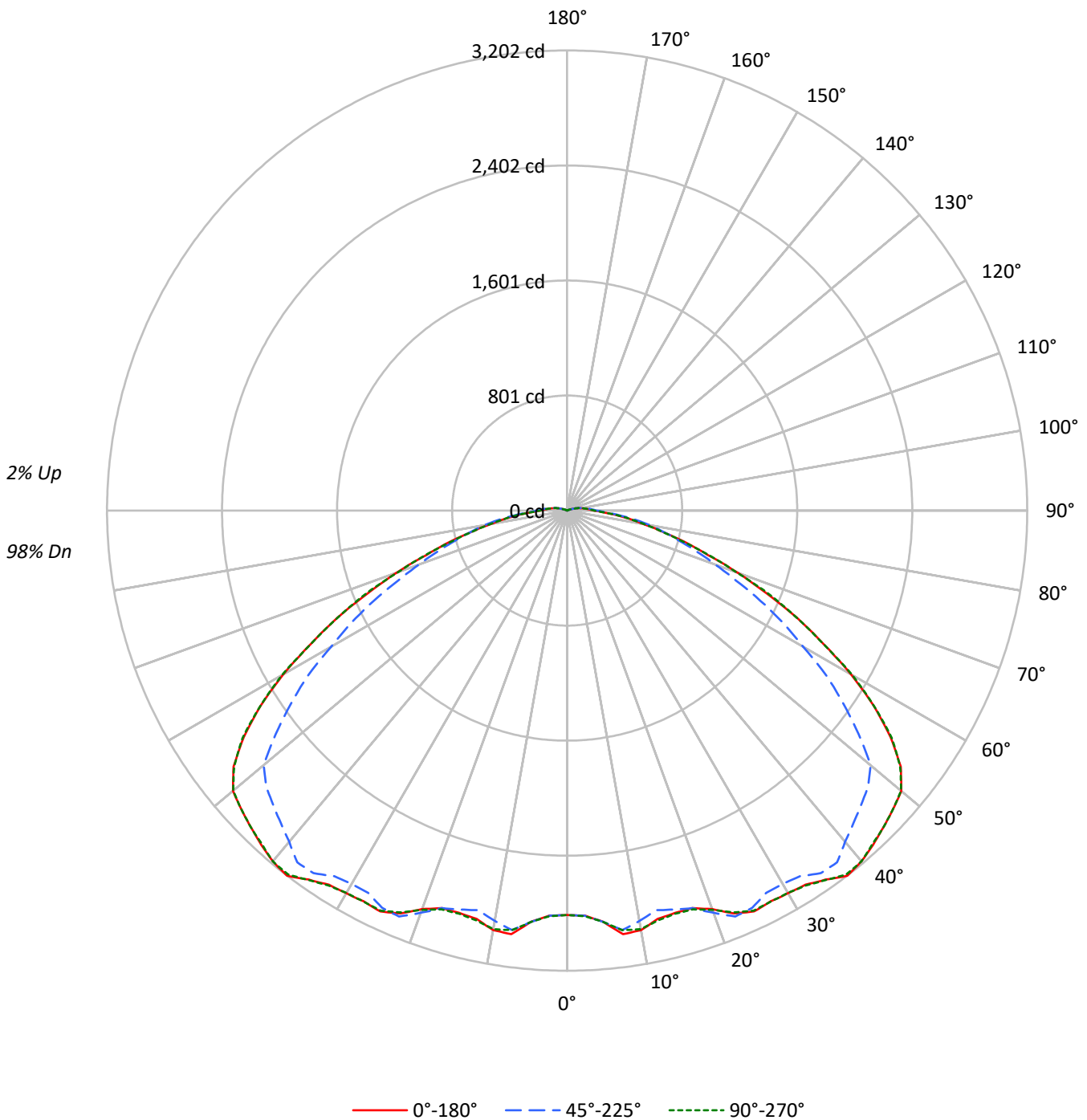
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	21693	21693	21693
5°	21986	22002	21999
10°	22725	22233	22671
15°	22416	22225	22460
20°	23197	23415	23242
25°	24797	24571	24748
30°	25606	24977	25578
35°	27228	26742	27254
40°	29151	27526	29144
45°	30331	28189	30335
50°	31869	28941	31852
55°	31545	26974	31667
60°	29147	24263	29310
65°	25624	21544	25599
70°	21398	18599	21256
75°	17509	16613	17144
80°	14243	15360	14420
85°	12446	13535	12634



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.4	2.3
10°-20°	821.2	6.8
20°-30°	1396.9	11.5
30°-40°	1945.4	16.0
40°-50°	2327.8	19.2
50°-60°	2263.6	18.7
60°-70°	1605.9	13.2
70°-80°	874.5	7.2
80°-90°	383.3	3.2
90°-100°	159.3	1.3
100°-110°	65.4	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°	2495.5	20.6
0°-40°	4440.9	36.6
0°-60°	9032.3	74.5
0°-90°	11896.1	98.1
90°-120°	234.7	1.9
90°-150°	234.9	1.9
90°-180°	235.0	1.9
0°-180°	12131.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2814	2814	2814	2814	2814	
5°	2871	2866	2873	2867	2872	279
15°	2898	2862	2874	2856	2904	827
25°	3078	2998	3049	3001	3071	1412
35°	3135	3137	3079	3127	3138	1974
45°	3114	3013	2894	3017	3115	2409
55°	2747	2541	2349	2546	2758	2429
65°	1764	1611	1483	1613	1763	1742
75°	850	796	806	798	832	911
85°	333	332	362	335	338	315
90°	186	200	204	200	188	106
95°	136	143	153	144	137	103
105°	59	60	59	60	60	64
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



TEST NUMBER: P294450

CATALOG NUMBER: BMK-12-WFL-UNV-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2813.9	2813.9	2813.9	2813.9	2813.9
2.5°	2821.0	2819.3	2821.3	2822.0	2825.0
5°	2870.8	2866.1	2872.8	2867.1	2872.5
7.5°	2972.8	2949.4	2943.7	2942.0	2944.7
10°	2964.1	2947.4	2899.9	2946.7	2957.1
12.5°	2910.3	2892.9	2848.4	2891.2	2920.0
15°	2898.5	2861.8	2873.8	2856.4	2904.2
17.5°	2900.2	2867.5	2900.9	2864.8	2909.2
20°	2950.4	2929.3	2978.1	2927.0	2956.1
22.5°	3034.0	2997.2	3057.4	2985.8	3026.0
25°	3077.5	2997.9	3049.4	3000.9	3071.4
27.5°	3066.1	3013.2	2998.9	3012.9	3067.8
30°	3074.8	3045.0	2999.2	3040.0	3071.4
32.5°	3086.1	3068.4	3016.6	3066.4	3092.8
35°	3135.0	3137.3	3079.1	3127.3	3138.0
37.5°	3202.5	3128.6	3085.5	3123.6	3191.8
40°	3186.8	3087.5	3009.2	3087.1	3186.1
42.5°	3152.0	3060.4	2949.0	3061.7	3146.3
45°	3114.2	3012.9	2894.2	3016.6	3114.6
47.5°	3075.8	2994.9	2840.4	2991.2	3075.8
50°	3035.3	2890.9	2756.4	2891.5	3033.6
52.5°	2925.3	2739.0	2556.5	2739.0	2920.0
55°	2747.1	2541.1	2349.1	2546.1	2757.8
57.5°	2529.7	2348.1	2139.5	2345.8	2532.4
60°	2281.3	2094.3	1899.0	2107.7	2294.0
62.5°	2011.4	1878.3	1693.4	1866.6	2009.7
65°	1764.3	1611.1	1483.4	1612.8	1762.6
67.5°	1497.4	1376.4	1271.4	1374.4	1521.5
70°	1260.7	1159.7	1095.8	1159.7	1252.3
72.5°	1026.3	975.1	943.0	973.1	1037.6
75°	849.7	795.9	806.2	798.5	832.0
77.5°	678.5	651.7	690.2	652.1	674.1
80°	538.0	532.4	580.2	530.7	544.7
82.5°	431.4	425.0	470.2	423.0	436.1
85°	332.7	332.1	361.8	334.7	337.7
87.5°	245.8	254.5	268.2	255.8	246.1
90°	185.6	200.0	204.3	199.6	187.9
92.5°	158.8	168.5	174.9	168.2	161.5
95°	135.8	142.8	152.8	144.5	137.4
97.5°	115.0	121.7	128.7	121.7	116.0
100°	95.6	100.3	107.0	101.0	96.6
102.5°	78.9	79.9	83.3	81.3	78.6
105°	59.2	59.9	58.9	60.2	59.5
107.5°	42.8	42.1	39.5	43.1	42.5
110°	26.8	26.8	26.1	27.1	26.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	14.0	15.0	16.4	15.0	14.7
115°	5.4	7.4	8.7	7.0	5.7
117.5°	2.3	3.3	3.7	3.3	2.3
120°	2.0	2.3	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)