

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: P294449

Luminaire Tested: **BMK-12-WFL-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: P294449  
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-L835-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH WIDE FROSTED 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: 11961.0 lumens  
Efficiency: N/A  
Efficacy: 161.0 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

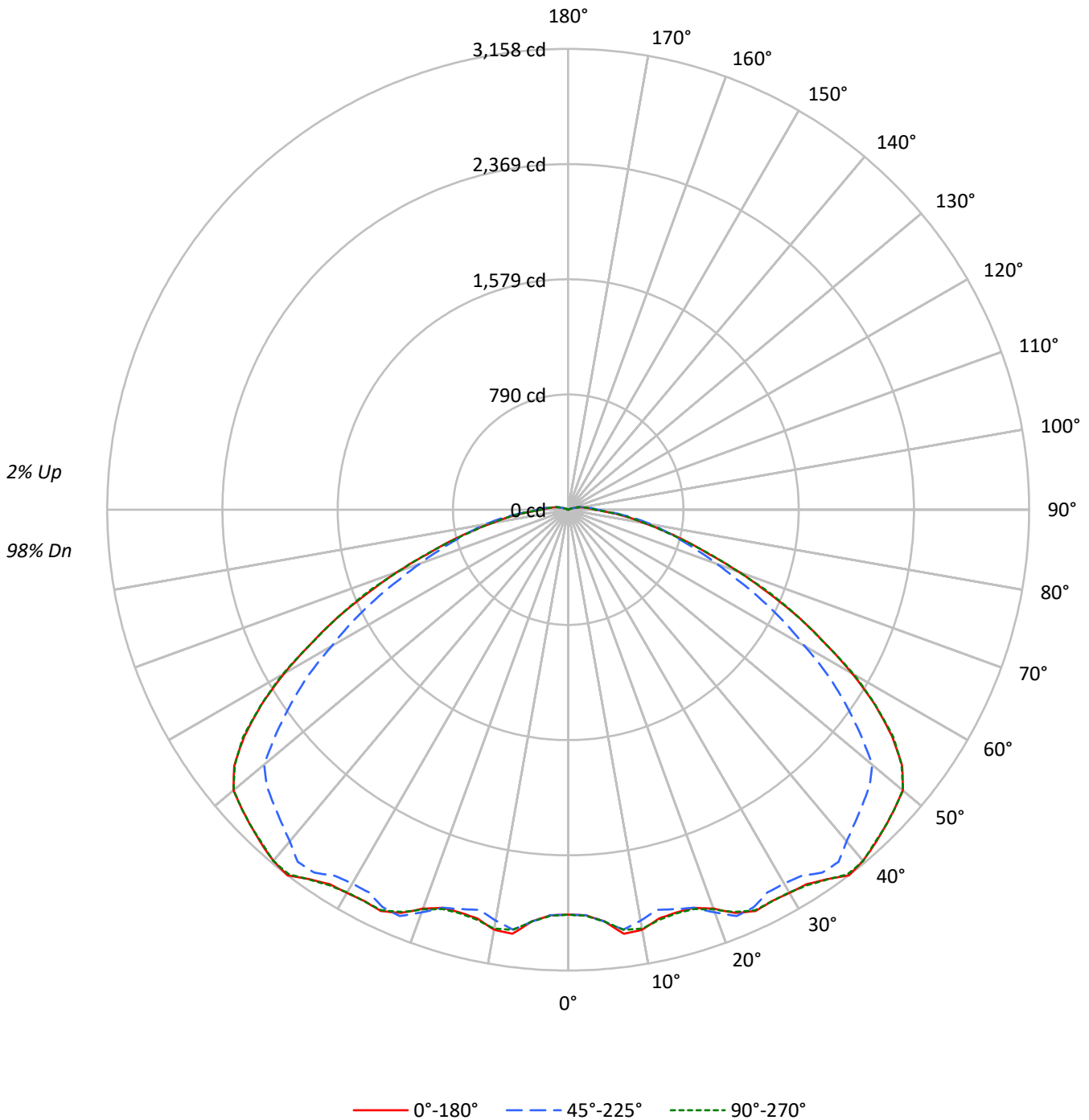
Input Watts (W): 74.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P294449

CATALOG NUMBER: BMK-12-WFL-UNV-L835-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P294449

CATALOG NUMBER: BMK-12-WFL-UNV-L835-CD-U

**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°	21389	21389	21389
5°	21678	21693	21691
10°	22407	21920	22353
15°	22102	21913	22145
20°	22871	23087	22915
25°	24449	24226	24401
30°	25247	24627	25220
35°	26846	26368	26872
40°	28742	27141	28736
45°	29907	27793	29910
50°	31423	28536	31405
55°	31103	26597	31223
60°	28738	23923	28898
65°	25265	21242	25240
70°	21098	18340	20959
75°	17264	16380	16903
80°	14044	15143	14219
85°	12274	13344	12458



TEST NUMBER: P294449

CATALOG NUMBER: BMK-12-WFL-UNV-L835-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.5	2.3
10°-20°	809.7	6.8
20°-30°	1377.3	11.5
30°-40°	1918.1	16.0
40°-50°	2295.2	19.2
50°-60°	2231.9	18.7
60°-70°	1583.4	13.2
70°-80°	862.3	7.2
80°-90°	377.9	3.2
90°-100°	157.0	1.3
100°-110°	64.5	0.5
110°-120°	9.9	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°	2460.5	20.6
0°-40°	4378.6	36.6
0°-60°	8905.7	74.5
0°-90°	11729.3	98.1
90°-120°	231.4	1.9
90°-150°	231.6	1.9
90°-180°	232.0	1.9
0°-180°	11961.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2774	2774	2774	2774	2774	
5°	2831	2826	2832	2827	2832	275
15°	2858	2822	2834	2816	2864	815
25°	3034	2956	3007	2959	3028	1392
35°	3091	3093	3036	3084	3094	1946
45°	3071	2971	2854	2974	3071	2376
55°	2709	2506	2316	2510	2719	2395
65°	1740	1588	1463	1590	1738	1717
75°	838	785	795	787	820	898
85°	328	327	357	330	333	310
90°	183	197	202	197	185	105
95°	134	141	151	142	136	102
105°	58	59	58	59	59	63
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: P294449

CATALOG NUMBER: BMK-12-WFL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2774.5	2774.5	2774.5	2774.5	2774.5
2.5°	2781.4	2779.8	2781.8	2782.4	2785.4
5°	2830.6	2825.9	2832.5	2826.9	2832.2
7.5°	2931.1	2908.0	2902.4	2900.8	2903.4
10°	2922.6	2906.1	2859.2	2905.4	2915.6
12.5°	2869.5	2852.3	2808.5	2850.7	2879.0
15°	2857.9	2821.7	2833.5	2816.4	2863.5
17.5°	2859.6	2827.3	2860.2	2824.6	2868.5
20°	2909.0	2888.3	2936.4	2886.0	2914.6
22.5°	2991.5	2955.2	3014.5	2944.0	2983.5
25°	3034.3	2955.9	3006.6	2958.8	3028.4
27.5°	3023.1	2971.0	2956.8	2970.7	3024.8
30°	3031.7	3002.3	2957.2	2997.4	3028.4
32.5°	3042.9	3025.4	2974.3	3023.4	3049.5
35°	3091.0	3093.3	3036.0	3083.5	3094.0
37.5°	3157.6	3084.8	3042.2	3079.8	3147.1
40°	3142.1	3044.2	2967.1	3043.9	3141.5
42.5°	3107.9	3017.5	2907.7	3018.8	3102.2
45°	3070.6	2970.7	2853.6	2974.3	3070.9
47.5°	3032.7	2952.9	2800.6	2949.3	3032.7
50°	2992.8	2850.3	2717.8	2851.0	2991.1
52.5°	2884.3	2700.7	2520.6	2700.7	2879.0
55°	2708.6	2505.5	2316.2	2510.4	2719.1
57.5°	2494.3	2315.2	2109.5	2312.9	2496.9
60°	2249.3	2065.0	1872.4	2078.2	2261.8
62.5°	1983.2	1852.0	1669.7	1840.4	1981.6
65°	1739.6	1588.5	1462.6	1590.2	1737.9
67.5°	1476.4	1357.1	1253.6	1355.1	1500.2
70°	1243.0	1143.4	1080.5	1143.4	1234.8
72.5°	1011.9	961.4	929.8	959.5	1023.1
75°	837.8	784.7	794.9	787.3	820.3
77.5°	669.0	642.6	680.5	642.9	664.7
80°	530.5	524.9	572.0	523.3	537.1
82.5°	425.3	419.1	463.6	417.1	429.9
85°	328.1	327.4	356.7	330.0	333.0
87.5°	242.3	250.9	264.4	252.2	242.7
90°	183.0	197.2	201.5	196.8	185.3
92.5°	156.6	166.2	172.4	165.8	159.3
95°	133.9	140.8	150.7	142.4	135.5
97.5°	113.4	120.0	126.9	120.0	114.4
100°	94.3	98.9	105.5	99.6	95.3
102.5°	77.8	78.8	82.1	80.1	77.5
105°	58.4	59.0	58.0	59.3	58.7
107.5°	42.2	41.5	38.9	42.5	41.9
110°	26.4	26.4	25.7	26.7	26.4



TEST NUMBER: P294449

CATALOG NUMBER: BMK-12-WFL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	13.8	14.8	16.2	14.8	14.5
115°	5.3	7.3	8.6	6.9	5.6
117.5°	2.3	3.3	3.6	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)