

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: P295500

Luminaire Tested: **BMK-24-MCL-UNV-L735-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: P295500  
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-L735-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH MEDIUM CLEAR LENS  
Light Source: (528) 70 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26107.0 lumens  
Efficiency: N/A  
Efficacy: 167.9 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

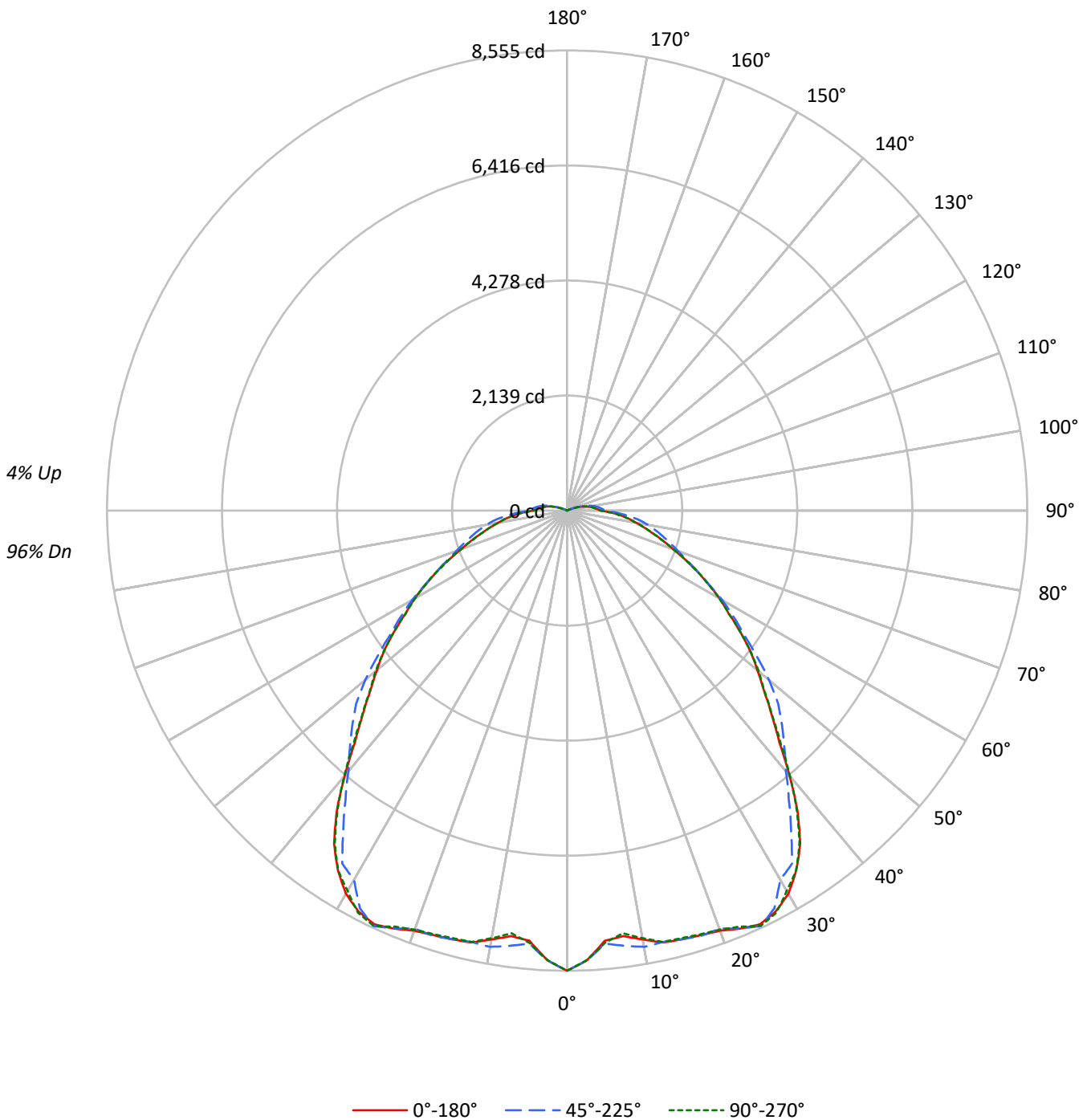
Input Watts (W): 155.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P295500

CATALOG NUMBER: BMK-24-MCL-UNV-L735-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P295500

CATALOG NUMBER: BMK-24-MCL-UNV-L735-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	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	96	
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	86	83	81	79	
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	75	71	68	66	
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	66	62	58	55	
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	59	54	50	48	
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	54	48	44	41	
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	49	43	38	36	
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	45	39	34	32	
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	41	35	31	29	
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	38	32	28	26	
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	35	29	25	23	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	65952	65952	65952
5°	61486	61879	61766
10°	62065	63140	61880
15°	63814	63790	63644
20°	65336	65023	65180
25°	68384	68671	68620
30°	68507	65978	67992
35°	65626	63025	65408
40°	58859	57882	58955
45°	52381	55012	52534
50°	48508	51443	48782
55°	45067	46028	45102
60°	41875	42518	41702
65°	38675	38781	38644
70°	35564	37094	35688
75°	34049	37911	34157
80°	34458	40473	34153
85°	36939	42659	36786



TEST NUMBER: P295500

CATALOG NUMBER: BMK-24-MCL-UNV-L735-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	777.1	3.0
10°-20°	2342.6	9.0
20°-30°	3871.0	14.8
30°-40°	4607.2	17.6
40°-50°	4296.9	16.5
50°-60°	3580.7	13.7
60°-70°	2679.0	10.3
70°-80°	1860.1	7.1
80°-90°	1127.4	4.3
90°-100°	603.2	2.3
100°-110°	313.6	1.2
110°-120°	47.6	0.2
120°-130°	0.8	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°	6990.6	26.8
0°-40°	11597.8	44.4
0°-60°	19475.4	74.6
0°-90°	25141.8	96.3
90°-120°	964.4	3.7
90°-150°	965.2	3.7
90°-180°	965.0	3.7
0°-180°	26107.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8555	8555	8555	8555	8555	
5°	8028	8088	8080	8068	8065	772
15°	8251	8308	8248	8289	8229	2338
25°	8487	8483	8523	8498	8516	3883
35°	7556	7433	7257	7437	7531	4666
45°	5378	5569	5648	5578	5394	4184
55°	3925	3986	4008	3990	3928	3515
65°	2663	2693	2670	2692	2661	2640
75°	1652	1747	1840	1750	1658	1769
85°	987	1016	1140	1016	983	872
90°	624	666	698	661	615	360
95°	513	547	612	544	518	402
105°	288	293	328	290	290	301
115°	27	31	41	32	28	46
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



TEST NUMBER: P295500

CATALOG NUMBER: BMK-24-MCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8555.1	8555.1	8555.1	8555.1	8555.1
2.5°	8369.8	8377.1	8368.7	8346.7	8362.4
5°	8028.4	8088.1	8079.7	8068.2	8065.0
7.5°	7979.2	8069.2	8159.3	8060.8	7924.7
10°	8095.4	8185.5	8235.7	8178.1	8071.3
12.5°	8226.3	8222.1	8216.9	8212.7	8212.7
15°	8251.4	8308.0	8248.3	8289.1	8229.4
17.5°	8274.5	8315.3	8289.1	8309.0	8256.7
20°	8310.1	8351.9	8270.3	8332.1	8290.2
22.5°	8411.6	8442.0	8408.5	8438.9	8372.9
25°	8487.0	8482.8	8522.6	8498.5	8516.3
27.5°	8400.1	8373.9	8338.3	8330.0	8425.2
30°	8226.3	8086.0	7922.6	8055.6	8164.5
32.5°	7930.0	7937.3	7781.3	7946.7	7925.8
35°	7556.1	7432.6	7256.6	7436.8	7531.0
37.5°	7032.6	6939.4	6770.8	6938.3	7011.6
40°	6434.6	6450.4	6327.8	6447.2	6445.1
42.5°	5835.7	5989.6	5977.0	5964.5	5880.7
45°	5378.1	5568.7	5648.2	5578.1	5393.8
47.5°	4965.5	5231.5	5319.4	5233.6	4977.0
50°	4620.0	4795.9	4899.5	4794.8	4646.1
52.5°	4290.1	4351.9	4437.8	4370.7	4295.3
55°	3924.7	3986.4	4008.4	3989.6	3927.8
57.5°	3561.3	3658.7	3662.9	3651.4	3559.2
60°	3277.5	3317.3	3327.8	3330.9	3263.9
62.5°	2951.9	3006.3	2968.6	3006.3	2959.2
65°	2662.9	2693.2	2670.2	2692.2	2660.8
67.5°	2365.5	2449.2	2412.6	2445.1	2372.8
70°	2095.3	2202.1	2185.4	2204.2	2102.6
72.5°	1873.3	1967.6	2006.3	1960.2	1863.9
75°	1652.4	1746.6	1839.8	1749.8	1657.6
77.5°	1477.5	1548.7	1680.7	1555.0	1475.4
80°	1301.6	1367.6	1528.8	1362.3	1290.1
82.5°	1159.2	1189.5	1351.9	1195.8	1152.9
85°	987.4	1015.7	1140.3	1015.7	983.3
87.5°	811.5	832.5	915.2	842.9	800.0
90°	624.1	666.0	698.4	660.7	614.7
92.5°	570.7	601.1	657.6	595.8	566.5
95°	513.1	546.6	611.5	543.5	518.3
97.5°	470.2	486.9	550.8	485.9	467.0
100°	416.8	433.5	498.4	428.3	410.5
102.5°	355.0	364.4	424.1	367.5	356.0
105°	288.0	293.2	327.8	290.1	290.1
107.5°	214.7	211.5	223.0	208.4	213.6
110°	138.2	128.8	139.3	128.8	140.3



TEST NUMBER: P295500

CATALOG NUMBER: BMK-24-MCL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	75.4	68.1	81.7	69.1	74.3
115°	27.2	31.4	40.8	32.5	28.3
117.5°	7.3	12.6	14.7	12.6	7.3
120°	6.3	7.3	6.3	7.3	6.3
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)