

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: P295485

Luminaire Tested: **BMK-12-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: P295485  
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-12-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: 12083.0 lumens  
Efficiency: N/A  
Efficacy: 162.6 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

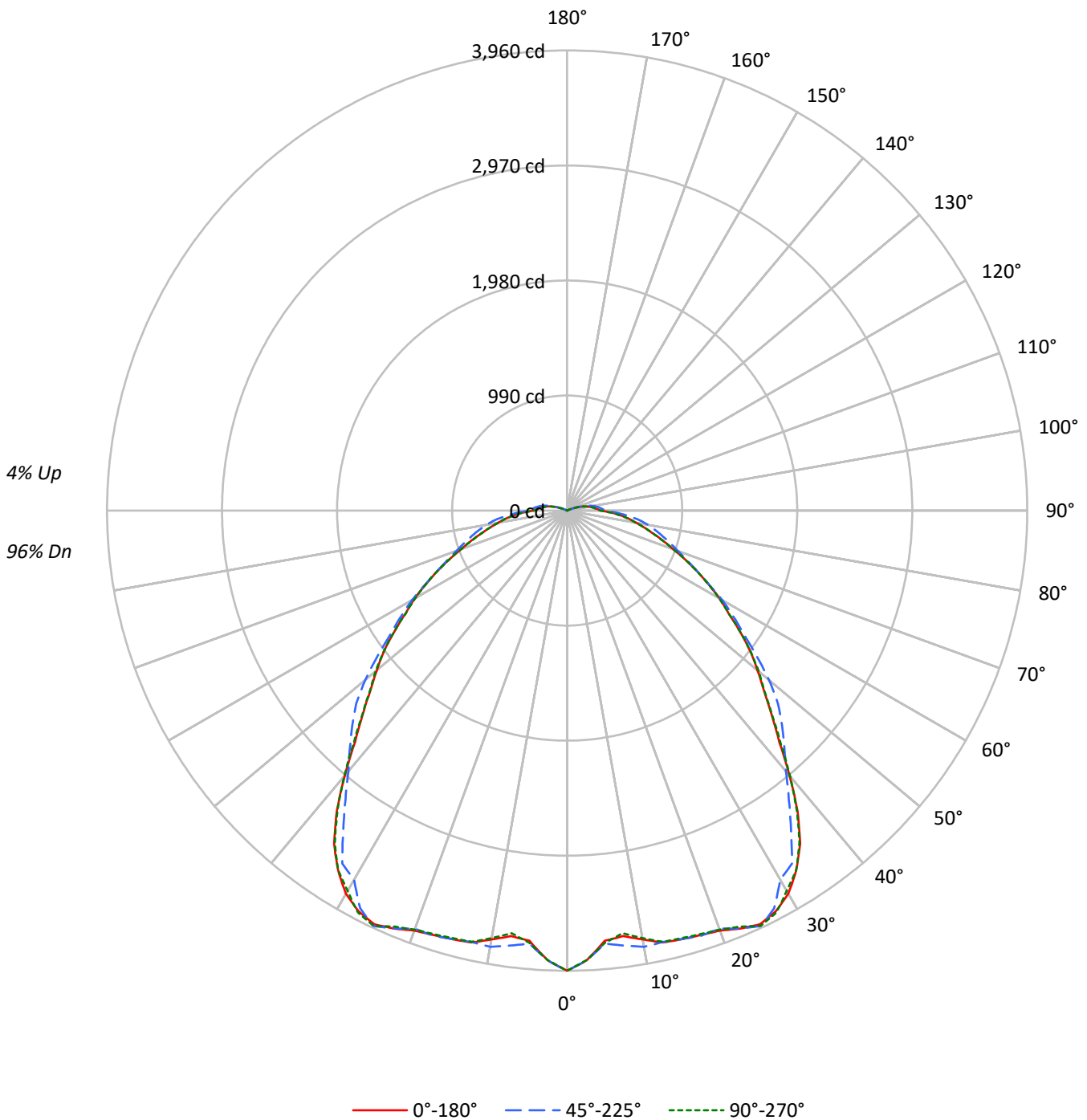
Input Watts (W): 74.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	30524	30524	30524
5°	28457	28639	28587
10°	28725	29223	28640
15°	29535	29523	29456
20°	30239	30094	30167
25°	31650	31783	31760
30°	31706	30536	31468
35°	30374	29170	30272
40°	27242	26790	27286
45°	24243	25462	24314
50°	22450	23809	22578
55°	20857	21303	20875
60°	19381	19679	19300
65°	17899	17948	17886
70°	16461	17167	16518
75°	15759	17546	15809
80°	15948	18733	15807
85°	17097	19745	17026



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	359.6	3.0
10°-20°	1084.2	9.0
20°-30°	1791.6	14.8
30°-40°	2132.3	17.6
40°-50°	1988.7	16.5
50°-60°	1657.2	13.7
60°-70°	1239.9	10.3
70°-80°	860.9	7.1
80°-90°	521.8	4.3
90°-100°	279.2	2.3
100°-110°	145.1	1.2
110°-120°	22.0	0.2
120°-130°	0.4	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°	3235.4	26.8
0°-40°	5367.8	44.4
0°-60°	9013.7	74.6
0°-90°	11636.3	96.3
90°-120°	446.3	3.7
90°-150°	446.7	3.7
90°-180°	447.0	3.7
0°-180°	12083.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3960	3960	3960	3960	3960	
5°	3716	3743	3740	3734	3733	357
15°	3819	3845	3818	3836	3809	1082
25°	3928	3926	3944	3933	3942	1797
35°	3497	3440	3359	3442	3486	2160
45°	2489	2577	2614	2582	2496	1936
55°	1816	1845	1855	1846	1818	1627
65°	1232	1246	1236	1246	1232	1222
75°	765	808	852	810	767	819
85°	457	470	528	470	455	404
90°	289	308	323	306	284	167
95°	238	253	283	252	240	186
105°	133	136	152	134	134	139
115°	13	14	19	15	13	21
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°	3959.5	3959.5	3959.5	3959.5	3959.5
2.5°	3873.7	3877.1	3873.3	3863.1	3870.3
5°	3715.7	3743.4	3739.5	3734.2	3732.7
7.5°	3693.0	3734.6	3776.3	3730.8	3667.8
10°	3746.8	3788.4	3811.7	3785.0	3735.6
12.5°	3807.3	3805.4	3803.0	3801.0	3801.0
15°	3819.0	3845.1	3817.5	3836.4	3808.8
17.5°	3829.6	3848.5	3836.4	3845.6	3821.4
20°	3846.1	3865.5	3827.7	3856.3	3836.9
22.5°	3893.1	3907.2	3891.7	3905.7	3875.2
25°	3928.0	3926.1	3944.5	3933.3	3941.6
27.5°	3887.8	3875.7	3859.2	3855.3	3899.4
30°	3807.3	3742.4	3666.8	3728.3	3778.7
32.5°	3670.2	3673.6	3601.4	3677.9	3668.3
35°	3497.2	3440.0	3358.6	3441.9	3485.5
37.5°	3254.9	3211.7	3133.7	3211.2	3245.2
40°	2978.1	2985.4	2928.7	2983.9	2983.0
42.5°	2700.9	2772.1	2766.3	2760.5	2721.7
45°	2489.1	2577.3	2614.2	2581.7	2496.4
47.5°	2298.2	2421.3	2462.0	2422.2	2303.5
50°	2138.2	2219.7	2267.6	2219.2	2150.4
52.5°	1985.6	2014.2	2053.9	2022.9	1988.0
55°	1816.4	1845.0	1855.2	1846.5	1817.9
57.5°	1648.3	1693.3	1695.3	1689.9	1647.3
60°	1516.9	1535.3	1540.2	1541.6	1510.6
62.5°	1366.2	1391.4	1374.0	1391.4	1369.6
65°	1232.4	1246.5	1235.8	1246.0	1231.5
67.5°	1094.8	1133.6	1116.6	1131.6	1098.2
70°	969.8	1019.2	1011.4	1020.2	973.2
72.5°	867.0	910.6	928.6	907.2	862.7
75°	764.8	808.4	851.5	809.8	767.2
77.5°	683.8	716.8	777.8	719.7	682.9
80°	602.4	632.9	707.6	630.5	597.1
82.5°	536.5	550.6	625.7	553.5	533.6
85°	457.0	470.1	527.8	470.1	455.1
87.5°	375.6	385.3	423.6	390.1	370.3
90°	288.8	308.2	323.3	305.8	284.5
92.5°	264.1	278.2	304.4	275.8	262.2
95°	237.5	253.0	283.0	251.5	239.9
97.5°	217.6	225.4	254.9	224.9	216.2
100°	192.9	200.6	230.7	198.2	190.0
102.5°	164.3	168.7	196.3	170.1	164.8
105°	133.3	135.7	151.7	134.2	134.2
107.5°	99.4	97.9	103.2	96.4	98.9
110°	64.0	59.6	64.5	59.6	64.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	34.9	31.5	37.8	32.0	34.4
115°	12.6	14.5	18.9	15.0	13.1
117.5°	3.4	5.8	6.8	5.8	3.4
120°	2.9	3.4	2.9	3.4	2.9
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)