

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: P294467

Luminaire Tested: **BMK-24-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: P294467  
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-24-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: 24041.0 lumens  
Efficiency: N/A  
Efficacy: 154.6 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

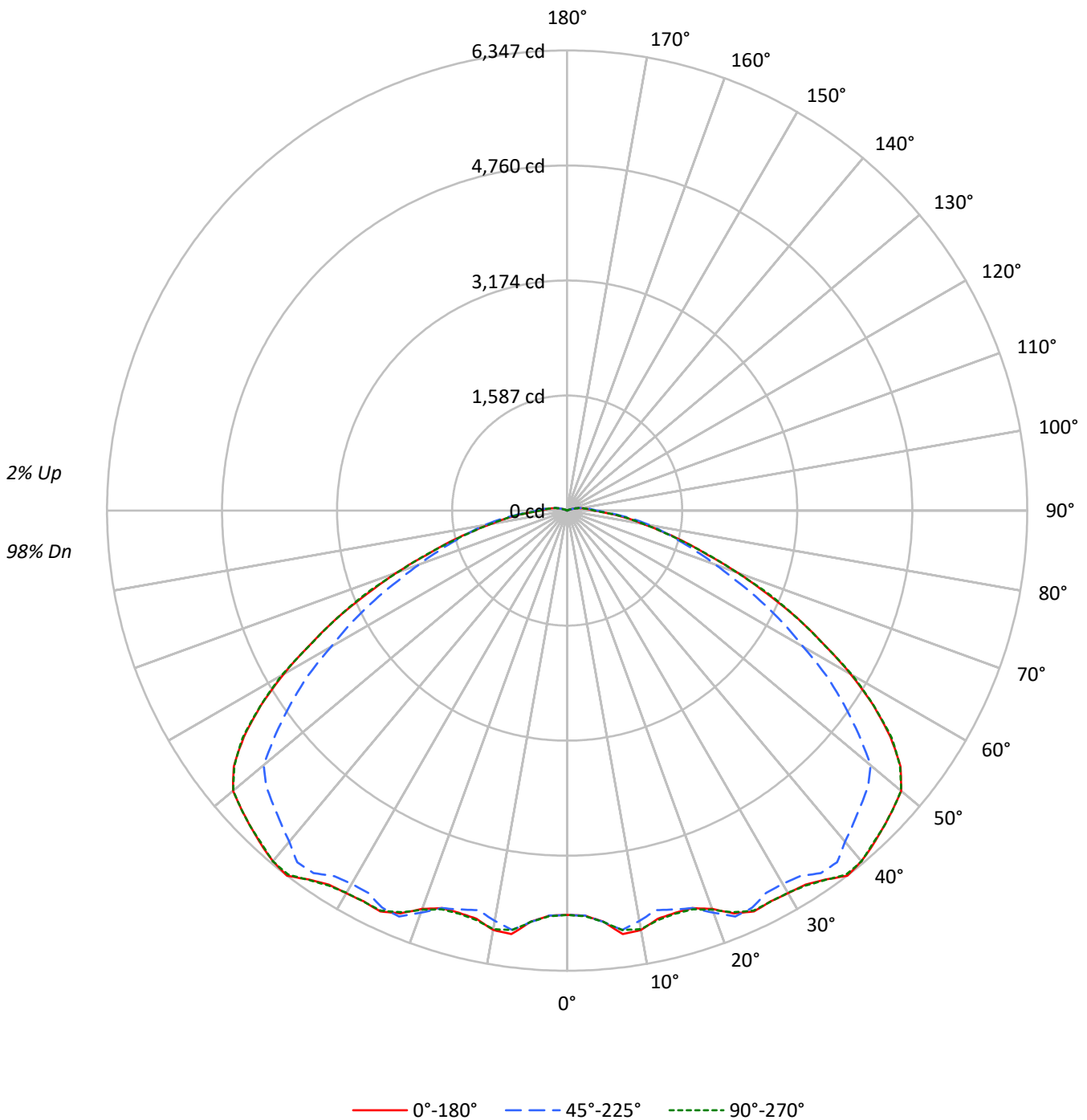
Input Watts (W): 155.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	42991	42991	42991
5°	43572	43602	43597
10°	45035	44059	44929
15°	44425	44046	44512
20°	45971	46403	46059
25°	49141	48693	49045
30°	50745	49499	50690
35°	53959	52999	54011
40°	57770	54551	57758
45°	60111	55864	60117
50°	63158	57355	63124
55°	62514	53459	62757
60°	57762	48085	58084
65°	50780	42695	50732
70°	42406	36861	42124
75°	34699	32924	33975
80°	28229	30439	28578
85°	24668	26823	25039



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	549.8	2.3
10°-20°	1627.4	6.8
20°-30°	2768.3	11.5
30°-40°	3855.3	16.0
40°-50°	4613.2	19.2
50°-60°	4486.0	18.7
60°-70°	3182.5	13.2
70°-80°	1733.1	7.2
80°-90°	759.6	3.2
90°-100°	315.6	1.3
100°-110°	129.6	0.5
110°-120°	19.9	0.1
120°-130°	0.5	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°	4945.5	20.6
0°-40°	8800.9	36.6
0°-60°	17900.1	74.5
0°-90°	23575.4	98.1
90°-120°	465.1	1.9
90°-150°	465.6	1.9
90°-180°	466.0	1.9
0°-180°	24041.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5577	5577	5577	5577	5577	
5°	5689	5680	5693	5682	5693	553
15°	5744	5671	5695	5661	5756	1638
25°	6099	5941	6043	5947	6087	2798
35°	6213	6218	6102	6198	6219	3911
45°	6172	5971	5736	5978	6172	4775
55°	5444	5036	4656	5046	5465	4814
65°	3496	3193	2940	3196	3493	3451
75°	1684	1577	1598	1582	1649	1805
85°	659	658	717	663	669	623
90°	368	396	405	396	372	211
95°	269	283	303	286	272	204
105°	117	119	117	119	118	127
115°	11	15	17	14	11	18
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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CATALOG NUMBER: BMK-24-WFL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5576.6	5576.6	5576.6	5576.6	5576.6
2.5°	5590.5	5587.2	5591.2	5592.5	5598.5
5°	5689.3	5680.0	5693.3	5682.0	5692.6
7.5°	5891.4	5845.0	5833.8	5830.4	5835.7
10°	5874.2	5841.0	5746.9	5839.7	5860.3
12.5°	5767.5	5733.0	5644.9	5729.7	5786.7
15°	5744.3	5671.4	5695.3	5660.8	5755.6
17.5°	5747.6	5682.7	5748.9	5677.4	5765.5
20°	5847.0	5805.3	5902.0	5800.6	5858.3
22.5°	6012.7	5939.8	6059.1	5917.3	5996.8
25°	6098.8	5941.1	6043.2	5947.1	6086.9
27.5°	6076.3	5971.6	5943.1	5970.9	6079.6
30°	6093.5	6034.6	5943.8	6024.6	6086.9
32.5°	6116.1	6080.9	5978.2	6077.0	6129.3
35°	6212.8	6217.5	6102.2	6197.6	6218.8
37.5°	6346.7	6200.2	6114.7	6190.3	6325.5
40°	6315.5	6118.7	5963.6	6118.1	6314.2
42.5°	6246.6	6065.0	5844.4	6067.7	6235.4
45°	6171.7	5970.9	5735.7	5978.2	6172.4
47.5°	6095.5	5935.2	5629.0	5927.9	6095.5
50°	6015.3	5729.1	5462.6	5730.4	6012.0
52.5°	5797.3	5428.2	5066.3	5428.2	5786.7
55°	5444.1	5035.9	4655.5	5045.8	5465.3
57.5°	5013.3	4653.5	4240.0	4648.8	5018.6
60°	4520.9	4150.5	3763.5	4177.0	4546.1
62.5°	3986.1	3722.4	3355.9	3699.2	3982.8
65°	3496.4	3192.9	2939.7	3196.2	3493.1
67.5°	2967.6	2727.7	2519.6	2723.7	3015.3
70°	2498.4	2298.2	2171.7	2298.2	2481.8
72.5°	2033.8	1932.4	1868.8	1928.5	2056.4
75°	1683.9	1577.2	1597.8	1582.5	1648.8
77.5°	1344.6	1291.6	1367.8	1292.3	1336.0
80°	1066.3	1055.0	1149.8	1051.7	1079.5
82.5°	854.9	842.3	931.8	838.3	864.2
85°	659.4	658.1	717.0	663.4	669.3
87.5°	487.1	504.3	531.5	507.0	487.7
90°	367.8	396.3	404.9	395.6	372.4
92.5°	314.8	334.0	346.6	333.3	320.1
95°	269.1	283.0	302.9	286.3	272.4
97.5°	228.0	241.2	255.1	241.2	230.0
100°	189.5	198.8	212.1	200.1	191.5
102.5°	156.4	158.4	165.0	161.0	155.7
105°	117.3	118.6	116.6	119.3	118.0
107.5°	84.8	83.5	78.2	85.5	84.2
110°	53.0	53.0	51.7	53.7	53.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	27.8	29.8	32.5	29.8	29.2
115°	10.6	14.6	17.2	13.9	11.3
117.5°	4.6	6.6	7.3	6.6	4.6
120°	4.0	4.6	4.0	4.0	4.0
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)