

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: P294497

Luminaire Tested: **BMK-18-WCL-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: P294497
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-18-WCL-UNV-L835-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE 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: 18631.0 lumens
Efficiency: N/A
Efficacy: 163.7 lumens/watt
Spacing Criteria (0/90/45): 1.8 / 1.79 / 1.79
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

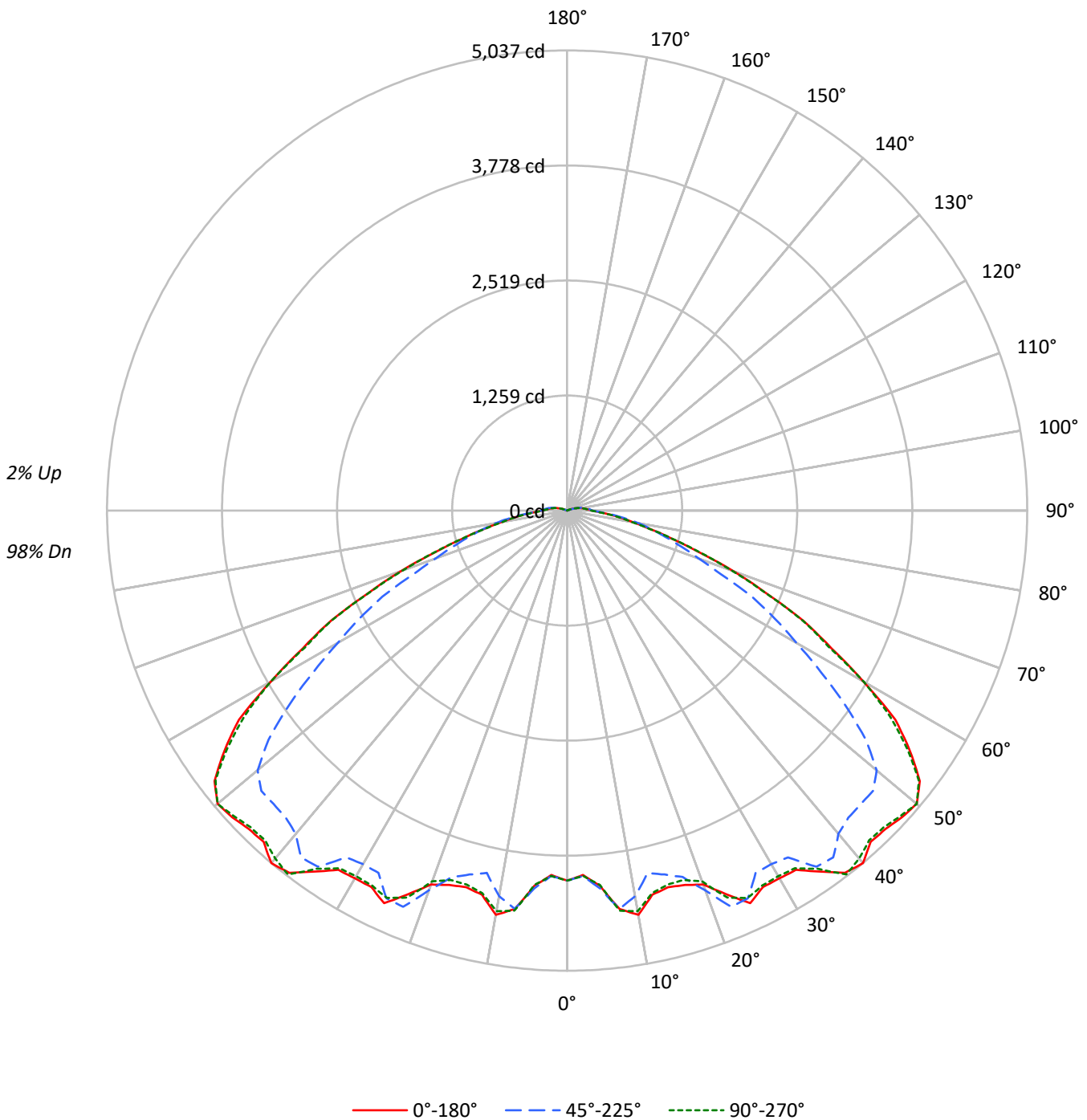
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	100	100	100	100	100	100	98		
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83	87	85	83	87	85	83	80		
2	97	88	81	75	94	86	80	74	82	77	72	79	74	70	75	71	68	75	71	68	75	71	68	66		
3	88	77	68	61	85	75	67	60	72	65	59	68	63	58	66	61	56	66	61	56	66	61	56	54		
4	80	67	58	51	77	66	57	50	63	55	49	60	54	48	58	52	47	58	52	47	58	52	47	45		
5	73	59	50	43	71	58	49	42	56	48	42	53	46	41	51	45	40	51	45	40	51	45	40	38		
6	67	53	43	37	65	52	43	36	50	42	36	48	41	35	46	40	35	46	40	35	46	40	35	33		
7	62	47	38	32	60	46	38	32	45	37	31	43	36	31	41	35	30	41	35	30	41	35	30	28		
8	57	43	34	28	55	42	34	28	41	33	27	39	32	27	38	31	27	38	31	27	38	31	27	25		
9	53	39	30	25	51	38	30	24	37	29	24	36	29	24	35	28	24	35	28	24	35	28	24	22		
10	50	36	27	22	48	35	27	22	34	27	22	33	26	21	32	26	21	32	26	21	32	26	21	19		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	31230	31230	31230
5°	31574	31803	31494
10°	34445	32855	34136
15°	33003	31895	32784
20°	34244	34783	33951
25°	38209	37728	37692
30°	38707	37203	38471
35°	41884	41340	41560
40°	46079	42257	45478
45°	48002	44252	47740
50°	52436	46436	52452
55°	52584	42731	52172
60°	47851	37061	47889
65°	41434	32419	41327
70°	32772	25985	32443
75°	24412	22906	24567
80°	19355	20975	18921
85°	16969	17920	16524



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	406.9	2.2
10°-20°	1196.9	6.4
20°-30°	2092.8	11.2
30°-40°	2980.2	16.0
40°-50°	3688.7	19.8
50°-60°	3669.3	19.7
60°-70°	2487.1	13.3
70°-80°	1233.3	6.6
80°-90°	514.4	2.8
90°-100°	242.1	1.3
100°-110°	105.2	0.6
110°-120°	13.7	0.1
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°	3696.6	19.8
0°-40°	6676.9	35.8
0°-60°	14034.9	75.3
0°-90°	18269.7	98.1
90°-120°	361.0	1.9
90°-150°	361.3	1.9
90°-180°	361.0	1.9
0°-180°	18631.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4051	4051	4051	4051	4051	
5°	4123	4106	4153	4124	4112	409
15°	4268	4114	4124	4121	4239	1224
25°	4742	4458	4682	4440	4678	2136
35°	4822	4838	4760	4849	4785	3041
45°	4928	4778	4544	4760	4902	3840
55°	4579	4157	3721	4126	4544	4043
65°	2853	2480	2232	2490	2846	2794
75°	1185	1109	1112	1121	1192	1306
85°	454	442	479	440	442	428
90°	272	290	276	286	267	154
95°	207	222	231	219	206	159
105°	100	96	92	97	100	106
115°	8	9	10	9	8	14
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°	4051.1	4051.1	4051.1	4051.1	4051.1
2.5°	3991.4	4007.8	4001.9	3995.9	4001.9
5°	4122.7	4106.3	4152.6	4124.2	4112.3
7.5°	4398.8	4358.5	4395.8	4360.0	4416.7
10°	4492.8	4425.6	4285.4	4409.2	4452.5
12.5°	4306.3	4240.6	4063.0	4252.5	4288.4
15°	4267.5	4113.8	4124.2	4121.2	4239.1
17.5°	4295.8	4112.3	4204.8	4115.3	4239.1
20°	4355.5	4273.4	4424.1	4276.4	4318.2
22.5°	4543.5	4471.9	4694.2	4468.9	4585.3
25°	4742.0	4458.5	4682.3	4440.5	4677.8
27.5°	4643.5	4485.3	4470.4	4467.4	4627.1
30°	4648.0	4534.6	4467.4	4546.5	4619.6
32.5°	4662.9	4625.6	4500.2	4642.0	4642.0
35°	4822.5	4837.5	4759.9	4849.4	4785.2
37.5°	4997.1	4836.0	4785.2	4840.4	5021.0
40°	5037.4	4753.9	4619.6	4747.9	4971.7
42.5°	4918.0	4791.2	4558.4	4776.3	4894.2
45°	4928.5	4777.8	4543.5	4759.9	4901.6
47.5°	4970.2	4868.8	4542.0	4853.9	4947.9
50°	4994.1	4688.2	4422.6	4686.7	4995.6
52.5°	4865.8	4464.4	4119.7	4458.5	4850.9
55°	4579.3	4157.0	3721.3	4125.7	4543.5
57.5°	4260.0	3803.4	3297.6	3778.0	4191.4
60°	3745.2	3360.3	2900.7	3354.3	3748.2
62.5°	3261.8	2994.7	2565.0	2985.7	3227.5
65°	2852.9	2479.9	2232.2	2490.3	2845.5
67.5°	2351.6	2062.1	1818.9	2063.6	2338.2
70°	1930.8	1727.9	1530.9	1714.4	1911.4
72.5°	1514.5	1399.6	1304.1	1395.1	1519.0
75°	1184.7	1108.6	1111.6	1120.6	1192.2
77.5°	926.6	887.8	947.5	892.3	919.1
80°	731.1	710.2	792.3	710.2	714.7
82.5°	581.9	562.5	628.2	564.0	580.4
85°	453.6	441.7	479.0	440.2	441.7
87.5°	340.2	346.2	350.6	347.7	331.3
90°	271.6	289.5	276.0	286.5	267.1
92.5°	238.7	253.7	253.7	258.1	232.8
95°	207.4	222.3	231.3	219.3	205.9
97.5°	180.5	195.5	205.9	195.5	180.5
100°	155.2	165.6	176.1	162.6	152.2
102.5°	129.8	134.3	137.3	134.3	128.3
105°	100.0	95.5	92.5	97.0	100.0
107.5°	70.1	65.7	55.2	65.7	73.1
110°	41.8	38.8	32.8	38.8	44.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	20.9	19.4	19.4	20.9	22.4
115°	7.5	9.0	10.4	9.0	7.5
117.5°	3.0	4.5	4.5	4.5	3.0
120°	3.0	3.0	3.0	3.0	3.0
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)