

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: P294462

Luminaire Tested: **BMK-18-WFL-UNV-L840-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: P294462
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-18-WFL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE FROSTED LENS
Light Source: (528) 80 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18358.0 lumens
Efficiency: N/A
Efficacy: 161.3 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

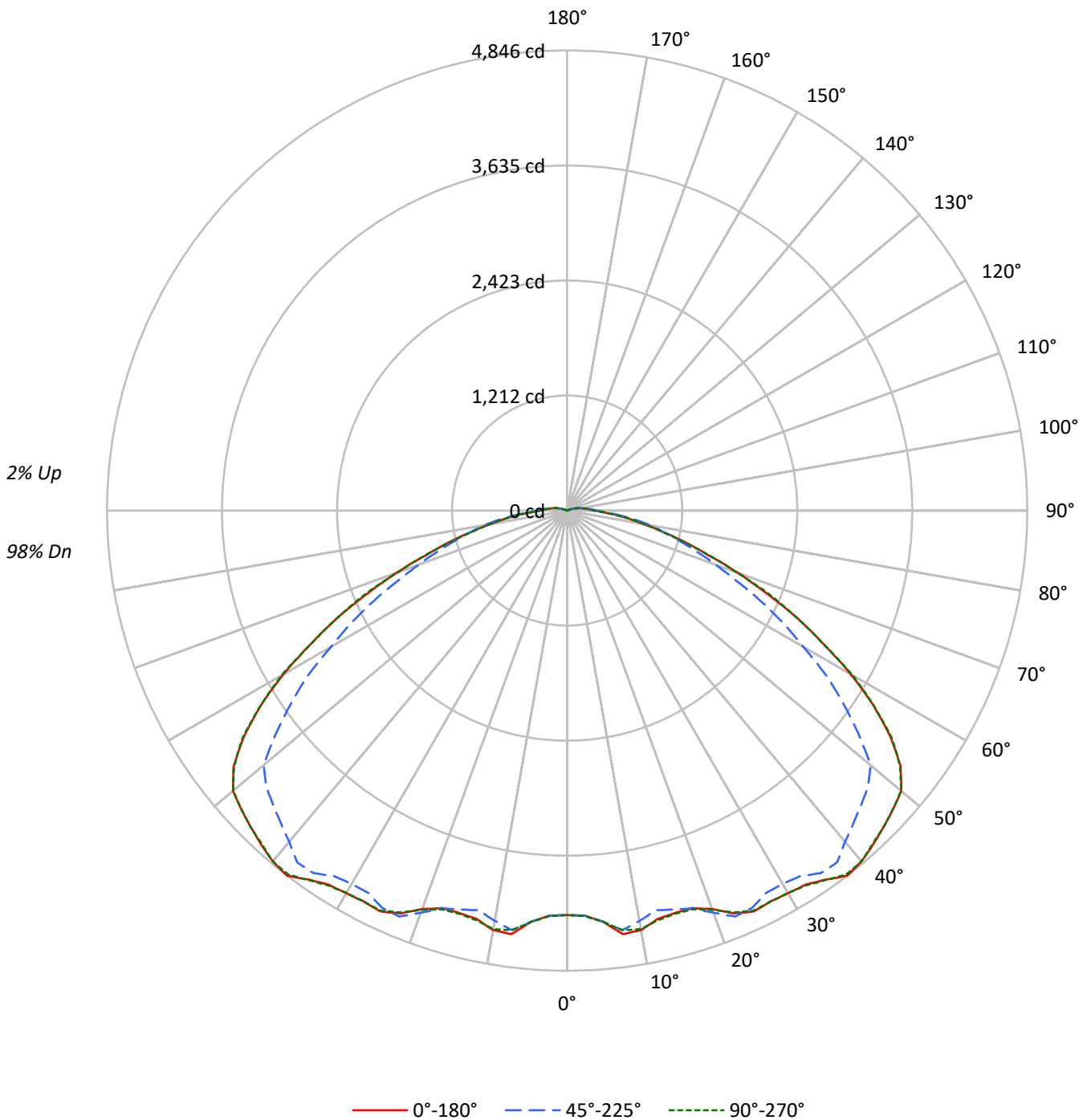
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	32828	32828	32828
5°	33272	33295	33291
10°	34390	33644	34308
15°	33923	33634	33990
20°	35103	35434	35172
25°	37525	37182	37451
30°	38750	37797	38707
35°	41204	40470	41243
40°	44114	41656	44105
45°	45901	42658	45906
50°	48229	43797	48203
55°	47737	40822	47923
60°	44107	36717	44354
65°	38776	32602	38740
70°	32382	28147	32166
75°	26497	25141	25943
80°	21555	23244	21822
85°	18836	20482	19120



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	419.8	2.3
10°-20°	1242.7	6.8
20°-30°	2113.9	11.5
30°-40°	2944.0	16.0
40°-50°	3522.7	19.2
50°-60°	3425.6	18.7
60°-70°	2430.2	13.2
70°-80°	1323.4	7.2
80°-90°	580.0	3.2
90°-100°	241.0	1.3
100°-110°	98.9	0.5
110°-120°	15.2	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°	3776.5	20.6
0°-40°	6720.4	36.6
0°-60°	13668.7	74.5
0°-90°	18002.4	98.1
90°-120°	355.2	1.9
90°-150°	355.6	1.9
90°-180°	356.0	1.9
0°-180°	18358.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4258	4258	4258	4258	4258	
5°	4344	4337	4347	4339	4347	422
15°	4386	4331	4349	4323	4395	1251
25°	4657	4537	4615	4541	4648	2137
35°	4744	4748	4660	4732	4749	2987
45°	4713	4560	4380	4565	4713	3646
55°	4157	3845	3555	3853	4173	3676
65°	2670	2438	2245	2441	2667	2636
75°	1286	1204	1220	1208	1259	1378
85°	504	502	548	507	511	476
90°	281	303	309	302	284	161
95°	206	216	231	219	208	156
105°	90	91	89	91	90	97
115°	8	11	13	11	9	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°	4258.4	4258.4	4258.4	4258.4	4258.4
2.5°	4269.0	4266.5	4269.5	4270.5	4275.1
5°	4344.4	4337.3	4347.4	4338.8	4346.9
7.5°	4498.8	4463.3	4454.7	4452.2	4456.2
10°	4485.6	4460.3	4388.4	4459.3	4475.0
12.5°	4404.1	4377.8	4310.5	4375.3	4418.8
15°	4386.4	4330.7	4349.0	4322.7	4395.0
17.5°	4388.9	4339.3	4390.0	4335.3	4402.6
20°	4464.8	4433.0	4506.9	4429.4	4473.5
22.5°	4591.4	4535.7	4626.8	4518.5	4579.2
25°	4657.1	4536.7	4614.6	4541.3	4648.0
27.5°	4639.9	4560.0	4538.2	4559.5	4642.5
30°	4653.1	4608.1	4538.7	4600.5	4648.0
32.5°	4670.3	4643.5	4565.0	4640.4	4680.4
35°	4744.2	4747.7	4659.7	4732.5	4748.7
37.5°	4846.4	4734.6	4669.3	4727.0	4830.2
40°	4822.6	4672.3	4553.9	4671.8	4821.6
42.5°	4770.0	4631.3	4462.8	4633.4	4761.4
45°	4712.8	4559.5	4379.8	4565.0	4713.3
47.5°	4654.6	4532.2	4298.4	4526.6	4654.6
50°	4593.4	4374.8	4171.3	4375.8	4590.9
52.5°	4426.9	4145.0	3868.7	4145.0	4418.8
55°	4157.2	3845.4	3555.0	3853.0	4173.4
57.5°	3828.2	3553.5	3237.7	3549.9	3832.3
60°	3452.2	3169.4	2873.8	3189.6	3471.5
62.5°	3043.9	2842.5	2562.6	2824.8	3041.3
65°	2669.9	2438.1	2244.8	2440.7	2667.4
67.5°	2266.1	2082.9	1924.0	2079.9	2302.5
70°	1907.8	1755.0	1658.3	1755.0	1895.1
72.5°	1553.1	1475.6	1427.1	1472.6	1570.3
75°	1285.9	1204.4	1220.1	1208.4	1259.0
77.5°	1026.8	986.3	1044.5	986.8	1020.2
80°	814.2	805.6	878.0	803.1	824.3
82.5°	652.8	643.2	711.5	640.1	659.9
85°	503.5	502.5	547.5	506.6	511.1
87.5°	371.9	385.1	405.8	387.1	372.5
90°	280.9	302.6	309.2	302.1	284.4
92.5°	240.4	255.0	264.7	254.5	244.4
95°	205.5	216.1	231.3	218.6	208.0
97.5°	174.1	184.2	194.8	184.2	175.6
100°	144.7	151.8	161.9	152.8	146.2
102.5°	119.4	120.9	126.0	123.0	118.9
105°	89.6	90.6	89.1	91.1	90.1
107.5°	64.8	63.8	59.7	65.3	64.3
110°	40.5	40.5	39.5	41.0	40.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	21.3	22.8	24.8	22.8	22.3
115°	8.1	11.1	13.2	10.6	8.6
117.5°	3.5	5.1	5.6	5.1	3.5
120°	3.0	3.5	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)