

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: P381637

Luminaire Tested: **BMK-70-WFL-UNV-L840-CD-U**

Issue Date: 2/4/2020

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: P381637
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-1)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-WFL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH WIDE FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 70801.0 lumens
Efficiency: N/A
Efficacy: 141.4 lumens/watt
Spacing Criteria (0/90/45): 1.69 / 1.69 / 1.76
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

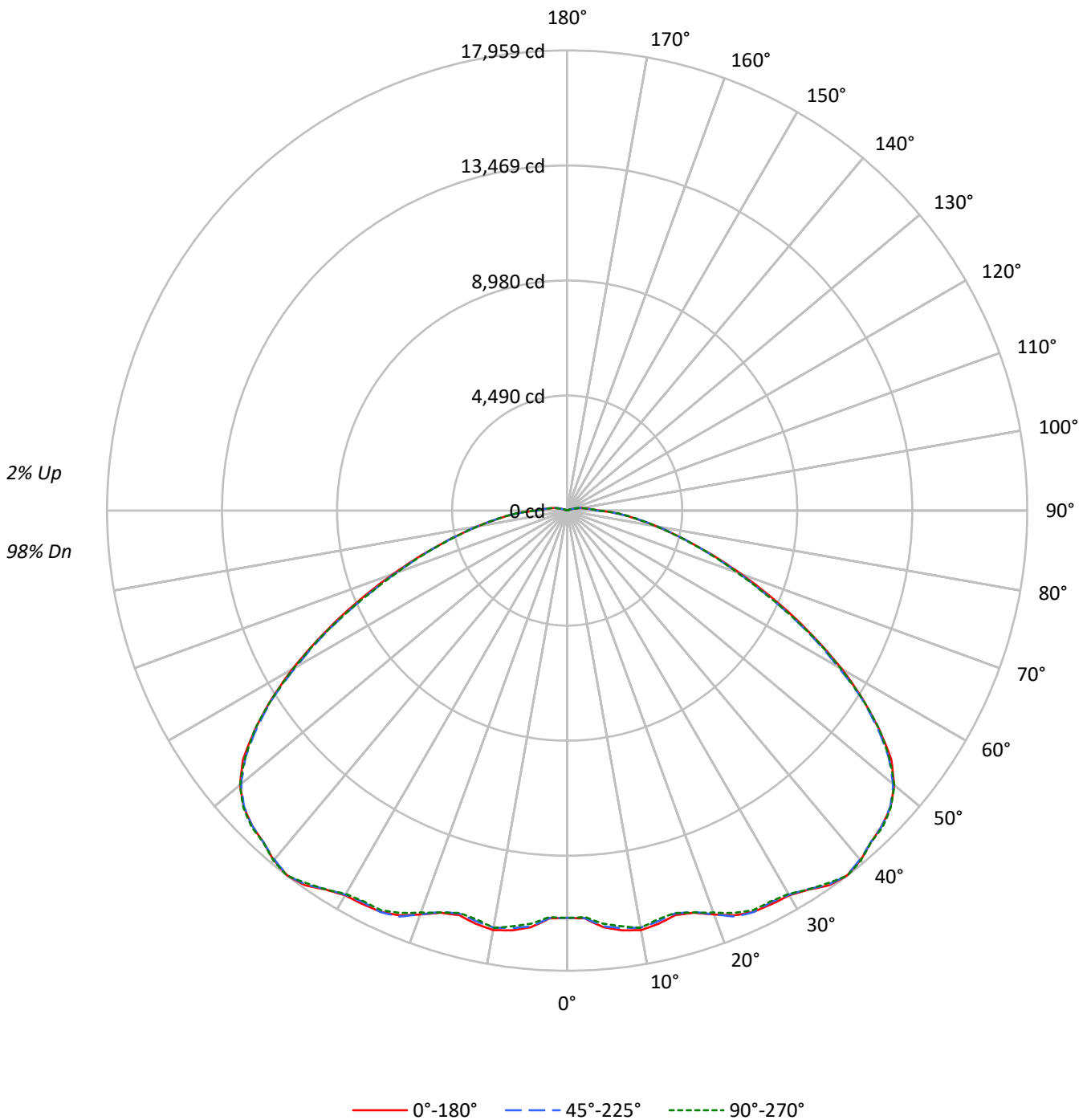
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	91	95	91	88		90	87	85		86	84	82	79
2	96	88	80	74	94	85	79	73	81	76	71		78	73	69		74	70	67	65
3	87	76	67	60	85	74	66	59	71	64	58		68	62	57		65	60	56	53
4	79	66	57	50	77	65	56	49	62	55	48		60	53	48		57	51	47	44
5	73	59	49	42	70	58	49	42	55	47	41		53	46	40		51	45	40	38
6	67	52	43	36	64	51	42	36	49	41	35		47	40	35		46	39	34	32
7	61	47	38	31	59	46	37	31	44	37	31		43	36	30		41	35	30	28
8	57	43	34	28	55	42	33	27	40	33	27		39	32	27		38	31	26	24
9	53	39	30	24	51	38	30	24	37	29	24		36	29	24		34	28	24	22
10	49	36	27	22	48	35	27	22	34	27	22		33	26	21		32	26	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	122585	122585	122585
5°	125090	124806	124042
10°	127518	126775	126829
15°	126449	125931	125788
20°	131926	131915	131309
25°	139189	139305	138673
30°	144451	144201	143916
35°	155070	154748	154191
40°	162969	162696	163165
45°	169412	169467	169884
50°	175007	174468	175098
55°	170585	169848	170863
60°	158430	156372	157520
65°	140845	138589	139189
70°	122175	120504	119852
75°	105570	105393	105040
80°	93804	94445	93502
85°	87051	87265	87852



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1559.4	2.2
10°-20°	4663.3	6.6
20°-30°	7945.9	11.2
30°-40°	11135.4	15.7
40°-50°	13405.2	18.9
50°-60°	13128.0	18.5
60°-70°	9516.2	13.4
70°-80°	5481.8	7.7
80°-90°	2568.2	3.6
90°-100°	921.1	1.3
100°-110°	350.1	0.5
110°-120°	50.1	0.1
120°-130°	18.9	0.0
130°-140°	20.9	0.0
140°-150°	18.0	0.0
150°-160°	10.4	0.0
160°-170°	6.1	0.0
170°-180°	2.0	0.0
0°-30°	14168.6	20.0
0°-40°	25304.0	35.7
0°-60°	51837.2	73.2
0°-90°	69403.4	98.0
90°-120°	1321.3	1.9
90°-150°	1379.1	1.9
90°-180°	1398.0	2.0
0°-180°	70801.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	15893	15893	15893	15893	15893	
5°	16325	16248	16288	16274	16188	###
15°	16342	16258	16275	16297	16257	4679
25°	17266	17233	17280	17239	17202	7960
35°	17846	17819	17809	17835	17745	11143
45°	17386	17448	17391	17383	17434	13405
55°	14849	14816	14785	14732	14873	13193
65°	9693	9602	9538	9521	9579	9620
75°	5121	5112	5112	5080	5095	5509
85°	2326	2360	2332	2330	2348	2145
90°	1237	1226	1143	1209	1239	720
95°	824	828	825	817	820	621
105°	312	316	322	319	315	348
115°	36	34	34	36	34	51
125°	21	21	21	21	21	19
135°	27	27	27	27	27	21
145°	30	28	30	30	28	18
155°	21	21	21	21	21	10
165°	21	21	21	21	21	6
175°	21	21	21	21	21	2
180°	21	21	21	21	21	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	15893.4	15893.4	15893.4	15893.4	15893.4
2.5°	15933.4	15887.7	15919.1	15937.6	15877.8
5°	16325.3	16248.3	16288.2	16274.0	16188.5
7.5°	16522.0	16423.7	16430.8	16437.9	16362.4
10°	16624.6	16540.5	16527.7	16571.9	16534.8
12.5°	16512.0	16402.3	16416.5	16445.0	16336.7
15°	16342.4	16258.3	16275.4	16296.8	16256.9
17.5°	16459.3	16399.4	16416.5	16443.6	16443.6
20°	16771.4	16718.7	16770.0	16745.8	16693.0
22.5°	17096.4	17062.2	17149.1	17072.2	16999.5
25°	17266.0	17233.2	17280.3	17238.9	17201.9
27.5°	17308.8	17268.8	17227.5	17248.9	17197.6
30°	17337.3	17343.0	17307.3	17330.1	17273.1
32.5°	17538.2	17568.2	17512.6	17586.7	17529.7
35°	17846.1	17819.0	17809.0	17834.7	17744.9
37.5°	17950.1	17908.8	17945.9	17947.3	17958.7
40°	17807.6	17760.6	17777.7	17787.7	17829.0
42.5°	17551.1	17576.7	17551.1	17538.2	17556.8
45°	17385.7	17448.4	17391.4	17382.9	17434.2
47.5°	17122.0	17162.0	17106.4	17102.1	17136.3
50°	16660.2	16604.7	16608.9	16626.0	16668.8
52.5°	15943.3	15853.5	15823.6	15802.2	15842.1
55°	14848.7	14815.9	14784.6	14731.8	14872.9
57.5°	13668.6	13564.5	13617.2	13573.1	13654.3
60°	12394.3	12287.5	12233.3	12246.1	12323.1
62.5°	11013.2	10984.7	10907.8	10916.3	10977.6
65°	9693.4	9602.2	9538.1	9521.0	9579.4
67.5°	8397.8	8281.0	8255.3	8206.8	8216.8
70°	7194.9	7127.9	7096.5	7073.7	7058.1
72.5°	6113.1	6076.0	6051.8	6037.5	6039.0
75°	5121.1	5112.5	5112.5	5079.7	5095.4
77.5°	4280.2	4318.6	4287.3	4261.6	4254.5
80°	3541.9	3586.0	3566.1	3541.9	3530.5
82.5°	2884.8	2933.3	2909.0	2899.0	2889.1
85°	2326.1	2360.3	2331.8	2330.4	2347.5
87.5°	1798.7	1811.5	1771.6	1794.4	1835.8
90°	1237.2	1225.8	1143.1	1208.6	1238.6
92.5°	980.6	989.2	973.5	970.6	977.8
95°	823.8	828.1	825.2	816.7	819.5
97.5°	687.0	695.5	691.3	687.0	687.0
100°	558.7	563.0	565.8	560.1	558.7
102.5°	437.6	440.4	439.0	440.4	439.0
105°	312.1	316.4	322.1	319.3	315.0
107.5°	212.4	213.8	212.4	215.2	216.6
110°	132.6	129.7	126.9	131.1	134.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	71.3	69.8	72.7	71.3	68.4
115°	35.6	34.2	34.2	35.6	34.2
117.5°	20.0	20.0	18.5	20.0	20.0
120°	17.1	17.1	17.1	17.1	18.5
122.5°	18.5	20.0	18.5	20.0	20.0
125°	21.4	21.4	21.4	21.4	21.4
127.5°	22.8	22.8	22.8	22.8	22.8
130°	24.2	24.2	24.2	24.2	24.2
132.5°	25.7	25.7	25.7	25.7	25.7
135°	27.1	27.1	27.1	27.1	27.1
137.5°	28.5	28.5	28.5	28.5	28.5
140°	29.9	29.9	29.9	29.9	28.5
142.5°	29.9	29.9	29.9	29.9	28.5
145°	29.9	28.5	29.9	29.9	28.5
147.5°	28.5	27.1	27.1	28.5	27.1
150°	25.7	25.7	25.7	25.7	25.7
152.5°	22.8	22.8	22.8	22.8	22.8
155°	21.4	21.4	21.4	21.4	21.4
157.5°	21.4	21.4	21.4	21.4	21.4
160°	21.4	21.4	21.4	21.4	21.4
162.5°	21.4	21.4	21.4	21.4	21.4
165°	21.4	21.4	21.4	21.4	21.4
167.5°	21.4	21.4	21.4	21.4	21.4
170°	21.4	21.4	21.4	21.4	21.4
172.5°	21.4	21.4	21.4	21.4	21.4
175°	21.4	21.4	21.4	21.4	21.4
177.5°	20.0	21.4	21.4	21.4	21.4
180°	21.4	21.4	21.4	21.4	21.4

(END OF REPORT)