

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: P381656

Luminaire Tested: **BMK-70-WCL-UNV-L850-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: P381656
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-2)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-WCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH WIDE CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 71595.4 lumens
Efficiency: N/A
Efficacy: 143.0 lumens/watt
Spacing Criteria (0/90/45): 1.76 / 1.77 / 1.85
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

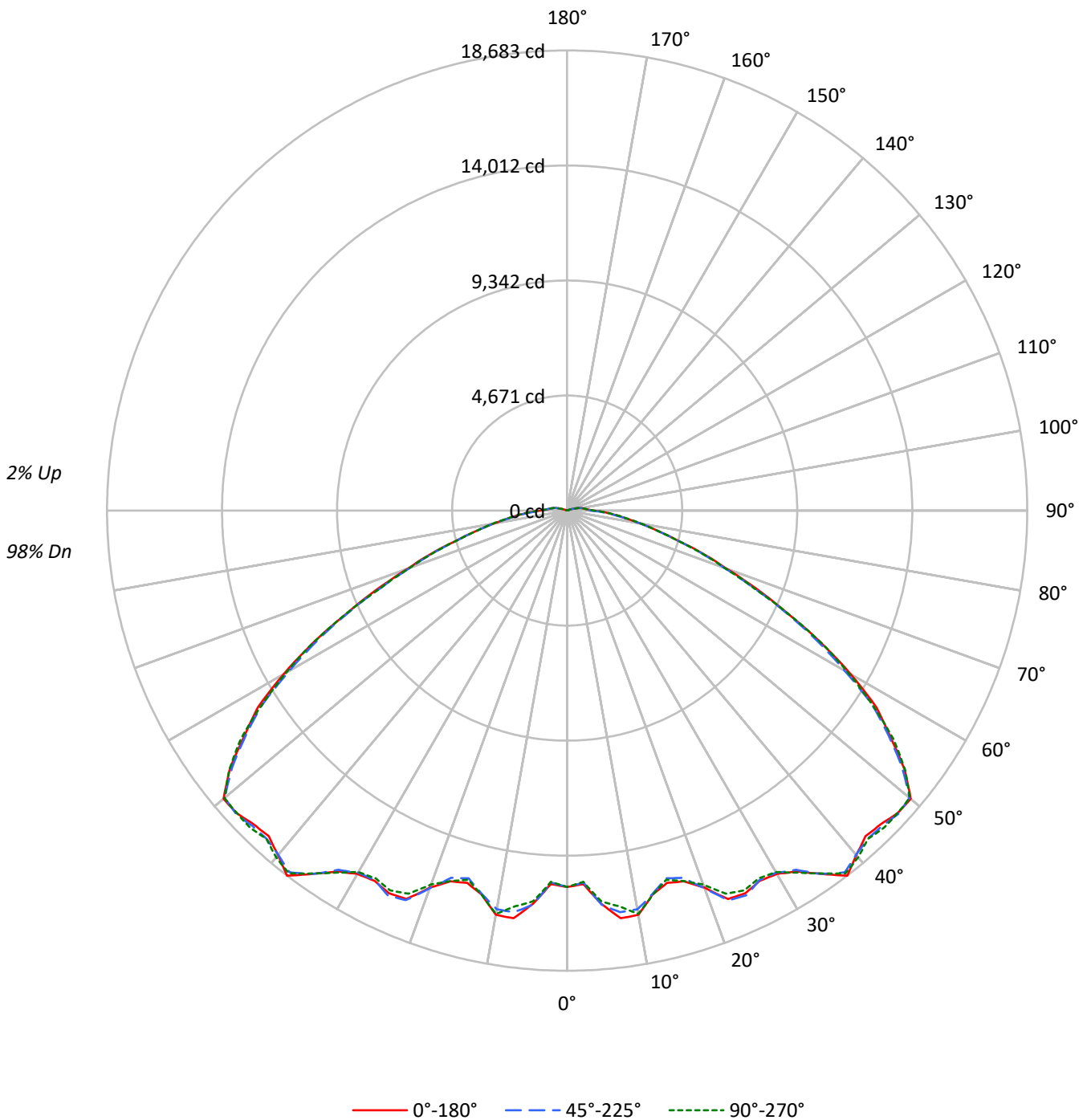
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	93	104	100	95	92	95	92	88		91	88	85		87	85	82	80
2	97	88	81	74	94	86	79	73	82	76	71		78	74	69		75	71	68	65
3	88	76	68	61	85	74	66	60	71	64	59		68	62	57		65	60	56	54
4	80	67	57	50	77	65	56	50	62	55	49		60	53	48		57	52	47	45
5	73	59	49	42	70	58	49	42	55	47	41		53	46	41		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	36	31		43	36	30		41	35	30	28
8	57	43	34	27	55	42	33	27	40	32	27		39	32	27		37	31	26	24
9	53	39	30	24	51	38	30	24	37	29	24		35	29	24		34	28	23	21
10	49	35	27	22	48	35	27	22	34	26	21		33	26	21		32	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	117835	117835	117835
5°	122836	123045	122078
10°	127833	126097	127547
15°	121092	119618	120083
20°	128142	128344	127082
25°	138161	138922	137144
30°	141922	141457	141158
35°	156464	156489	156265
40°	167136	166952	168185
45°	175461	176298	177387
50°	191286	190594	190715
55°	184052	183115	185863
60°	170126	166593	168533
65°	143368	142619	143597
70°	116614	114838	115495
75°	94704	94587	94143
80°	79937	79709	81187
85°	71730	69212	73500



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1541.2	2.2
10°-20°	4505.4	6.3
20°-30°	7850.4	11.0
30°-40°	11267.2	15.7
40°-50°	14048.3	19.6
50°-60°	14202.8	19.8
60°-70°	9768.7	13.6
70°-80°	4969.1	6.9
80°-90°	2117.1	3.0
90°-100°	846.4	1.2
100°-110°	363.0	0.5
110°-120°	40.8	0.1
120°-130°	19.0	0.0
130°-140°	20.9	0.0
140°-150°	17.6	0.0
150°-160°	9.8	0.0
160°-170°	5.7	0.0
170°-180°	1.9	0.0
0°-30°	13897.0	19.4
0°-40°	25164.2	35.1
0°-60°	53415.3	74.6
0°-90°	70270.3	98.1
90°-120°	1250.2	1.7
90°-150°	1307.7	1.8
90°-180°	1325.0	1.9
0°-180°	71595.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	15278	15278	15278	15278	15278	
5°	16031	15970	16058	16018	15932	###
15°	15650	15608	15460	15567	15520	4522
25°	17138	17164	17233	17264	17012	7852
35°	18006	18039	18009	18025	17984	11283
45°	18006	18062	18092	18084	18204	14013
55°	16021	15935	15939	15904	16179	14300
65°	9867	9847	9816	9830	9883	9870
75°	4594	4548	4588	4547	4567	5013
85°	1917	1887	1849	1895	1964	1793
90°	1079	1030	963	1027	1082	622
95°	746	759	779	749	755	582
105°	328	340	338	335	332	361
115°	26	26	26	24	26	41
125°	22	22	22	22	22	19
135°	27	27	27	27	27	21
145°	29	29	29	29	29	18
155°	20	20	20	20	20	10
165°	22	20	20	20	20	6
175°	20	20	20	20	20	2
180°	20	20	20	20	20	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	15277.6	15277.6	15277.6	15277.6	15277.6
2.5°	15178.7	15068.4	15112.8	15147.2	15089.9
5°	16031.1	15969.5	16058.3	16018.2	15932.2
7.5°	16692.9	16435.0	16446.5	16383.5	16204.4
10°	16665.7	16466.6	16439.3	16591.2	16628.4
12.5°	15978.1	15917.9	15956.6	16018.2	15996.7
15°	15650.0	15608.5	15459.5	15566.9	15519.7
17.5°	15781.8	15668.7	15628.5	15800.4	15770.4
20°	16290.4	16231.6	16316.1	16329.0	16155.7
22.5°	17068.2	16992.3	17122.6	16980.8	16836.1
25°	17138.4	17164.2	17232.9	17264.5	17012.3
27.5°	16942.1	16989.4	16913.5	17039.6	16833.3
30°	17033.8	17046.7	16978.0	17019.5	16942.1
32.5°	17367.6	17364.7	17296.0	17465.0	17432.1
35°	18006.5	18039.4	18009.4	18025.1	17983.6
37.5°	18682.6	18506.4	18519.3	18536.5	18563.7
40°	18262.9	18323.1	18242.8	18389.0	18377.5
42.5°	17930.6	18125.4	18065.2	18052.3	18076.7
45°	18006.5	18062.4	18092.4	18083.8	18204.2
47.5°	18192.7	18219.9	18234.3	18139.7	18191.3
50°	18209.9	18062.4	18144.0	18066.7	18155.5
52.5°	17268.8	17224.3	17145.6	17338.9	17291.7
55°	16021.0	15935.1	15939.4	15903.6	16178.6
57.5°	14893.7	14612.9	14691.7	14664.5	14713.2
60°	13309.3	13020.0	13032.9	13093.0	13184.7
62.5°	11630.4	11610.4	11448.5	11577.4	11650.5
65°	9867.0	9847.0	9815.5	9829.8	9882.8
67.5°	8351.5	8126.6	8172.4	8139.4	8193.9
70°	6867.4	6777.1	6762.8	6770.0	6801.5
72.5°	5751.5	5656.9	5668.4	5631.1	5682.7
75°	4594.0	4548.2	4588.3	4546.7	4566.8
77.5°	3723.1	3705.9	3715.9	3691.5	3718.8
80°	3018.3	3006.8	3009.7	3012.5	3065.5
82.5°	2409.5	2396.6	2352.2	2402.3	2423.8
85°	1916.7	1886.6	1849.4	1895.2	1964.0
87.5°	1509.9	1451.1	1423.9	1471.2	1517.0
90°	1078.7	1030.0	962.6	1027.1	1081.5
92.5°	871.0	882.4	852.3	865.2	891.0
95°	746.3	759.2	779.3	749.2	754.9
97.5°	670.4	671.8	671.8	670.4	673.3
100°	568.7	574.4	577.3	575.9	571.6
102.5°	474.2	478.5	467.0	471.3	468.4
105°	328.0	339.5	338.1	335.2	332.3
107.5°	213.4	213.4	209.1	213.4	222.0
110°	116.0	113.2	110.3	114.6	118.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	53.0	54.4	55.9	53.0	53.0
115°	25.8	25.8	25.8	24.4	25.8
117.5°	17.2	17.2	17.2	17.2	17.2
120°	17.2	17.2	17.2	17.2	18.6
122.5°	18.6	20.1	18.6	20.1	20.1
125°	21.5	21.5	21.5	21.5	21.5
127.5°	22.9	22.9	22.9	22.9	22.9
130°	24.4	24.4	24.4	24.4	24.4
132.5°	25.8	25.8	25.8	25.8	25.8
135°	27.2	27.2	27.2	27.2	27.2
137.5°	28.6	28.6	28.6	28.6	28.6
140°	30.1	28.6	28.6	30.1	28.6
142.5°	30.1	28.6	28.6	30.1	28.6
145°	28.6	28.6	28.6	28.6	28.6
147.5°	27.2	27.2	27.2	27.2	25.8
150°	24.4	24.4	24.4	24.4	24.4
152.5°	22.9	21.5	21.5	21.5	21.5
155°	20.1	20.1	20.1	20.1	20.1
157.5°	20.1	20.1	20.1	20.1	20.1
160°	21.5	20.1	20.1	20.1	20.1
162.5°	21.5	20.1	20.1	20.1	20.1
165°	21.5	20.1	20.1	20.1	20.1
167.5°	21.5	20.1	20.1	20.1	20.1
170°	21.5	20.1	20.1	20.1	20.1
172.5°	20.1	20.1	20.1	20.1	20.1
175°	20.1	20.1	20.1	20.1	20.1
177.5°	20.1	20.1	20.1	20.1	21.5
180°	20.1	20.1	20.1	20.1	20.1

(END OF REPORT)