

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: P381652

Luminaire Tested: **BMK-70-WCL-UNV-L740-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: P381652  
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-L740-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: 76510.5 lumens  
Efficiency: N/A  
Efficacy: 152.8 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

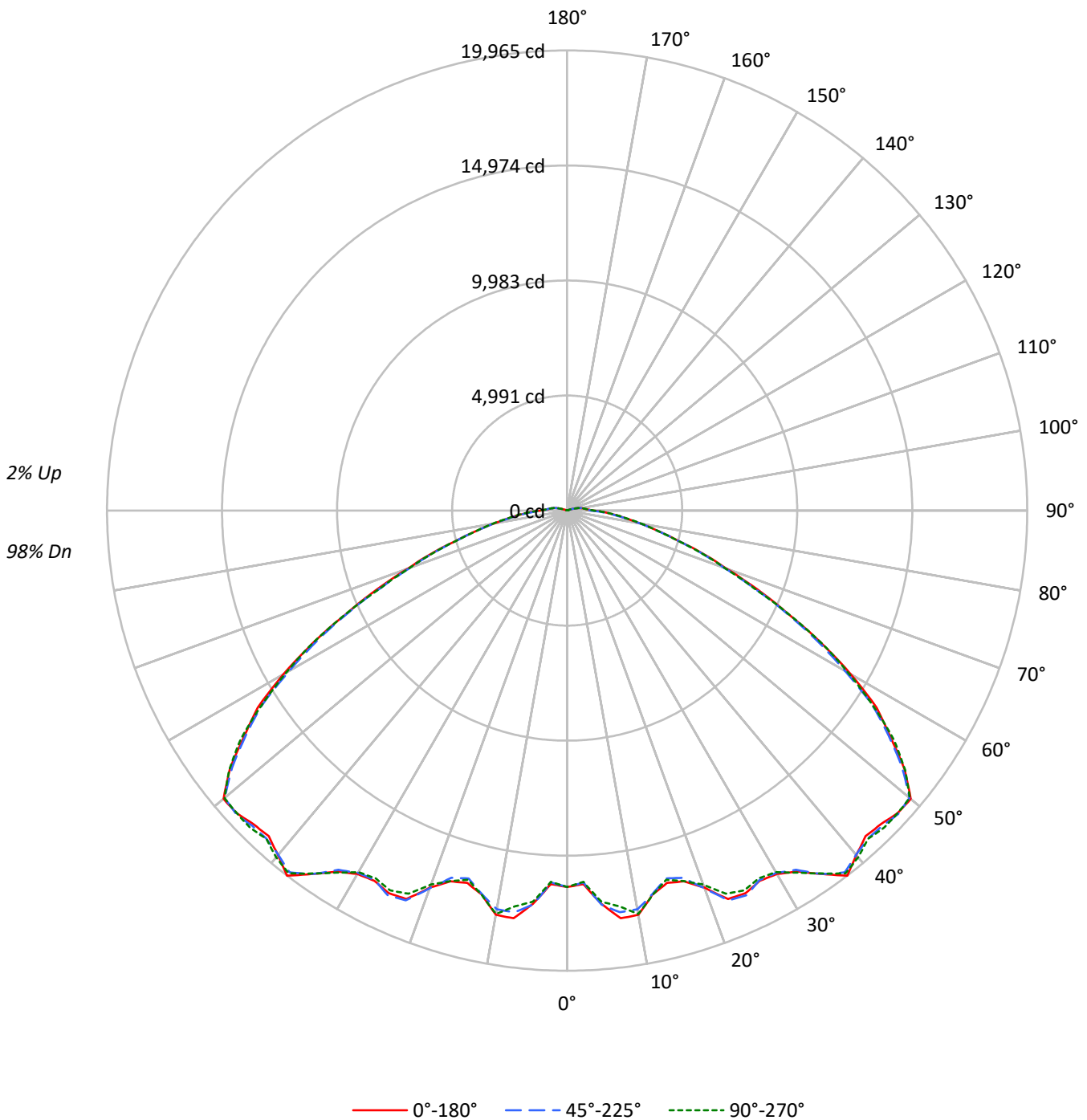
Input Watts (W): 500.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	125925	125925	125925
5°	131269	131492	130459
10°	136609	134754	136304
15°	129405	127829	128327
20°	136939	137156	135807
25°	147646	148460	146560
30°	151665	151168	150849
35°	167206	167232	166993
40°	178610	178414	179731
45°	187507	188401	189565
50°	204418	203678	203808
55°	196688	195686	198623
60°	181805	178029	180104
65°	153210	152410	153456
70°	124619	122722	123423
75°	101206	101080	100606
80°	85424	85180	86762
85°	76655	73961	78545



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1647.0	2.2
10°-20°	4814.7	6.3
20°-30°	8389.4	11.0
30°-40°	12040.7	15.7
40°-50°	15012.8	19.6
50°-60°	15177.8	19.8
60°-70°	10439.3	13.6
70°-80°	5310.3	6.9
80°-90°	2262.5	3.0
90°-100°	904.5	1.2
100°-110°	387.9	0.5
110°-120°	43.6	0.1
120°-130°	20.3	0.0
130°-140°	22.4	0.0
140°-150°	18.8	0.0
150°-160°	10.4	0.0
160°-170°	6.1	0.0
170°-180°	2.0	0.0
0°-30°	14851.1	19.4
0°-40°	26891.7	35.1
0°-60°	57082.4	74.6
0°-90°	75094.4	98.1
90°-120°	1336.0	1.7
90°-150°	1397.5	1.8
90°-180°	1416.0	1.9
0°-180°	76510.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	16326	16326	16326	16326	16326	
5°	17132	17066	17161	17118	17026	###
15°	16724	16680	16521	16636	16585	4832
25°	18315	18342	18416	18450	18180	8391
35°	19243	19278	19246	19263	19218	12058
45°	19243	19302	19334	19325	19454	14975
55°	17121	17029	17034	16995	17289	15282
65°	10544	10523	10489	10505	10561	10547
75°	4909	4860	4903	4859	4880	5357
85°	2048	2016	1976	2025	2099	1917
90°	1153	1101	1029	1098	1156	665
95°	798	811	833	801	807	622
105°	351	363	361	358	355	386
115°	28	28	28	26	28	44
125°	23	23	23	23	23	20
135°	29	29	29	29	29	22
145°	31	31	31	31	31	19
155°	21	21	21	21	21	11
165°	23	21	21	21	21	7
175°	21	21	21	21	21	2
180°	21	21	21	21	21	



TEST NUMBER: P381652

CATALOG NUMBER: BMK-70-WCL-UNV-L740-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	16326.4	16326.4	16326.4	16326.4	16326.4
2.5°	16220.8	16102.9	16150.4	16187.1	16125.9
5°	17131.6	17065.8	17160.7	17117.9	17026.0
7.5°	17838.9	17563.3	17575.6	17508.2	17316.9
10°	17809.8	17597.0	17567.9	17730.2	17770.0
12.5°	17075.0	17010.7	17052.0	17117.9	17094.9
15°	16724.4	16680.0	16520.8	16635.6	16585.1
17.5°	16865.3	16744.3	16701.5	16885.2	16853.0
20°	17408.7	17345.9	17436.3	17450.0	17264.8
22.5°	18240.0	18158.8	18298.1	18146.6	17992.0
25°	18315.0	18342.5	18416.0	18449.7	18180.3
27.5°	18105.2	18155.8	18074.6	18209.3	17988.9
30°	18203.2	18217.0	18143.5	18187.9	18105.2
32.5°	18559.9	18556.8	18483.4	18664.0	18628.8
35°	19242.7	19277.9	19245.7	19262.6	19218.2
37.5°	19965.2	19776.9	19790.7	19809.1	19838.2
40°	19516.7	19581.0	19495.2	19651.4	19639.1
42.5°	19161.5	19369.7	19305.4	19291.6	19317.7
45°	19242.7	19302.4	19334.5	19325.3	19453.9
47.5°	19441.7	19470.8	19486.1	19385.0	19440.1
50°	19460.0	19302.4	19389.6	19307.0	19401.9
52.5°	18454.3	18406.8	18322.6	18529.3	18478.8
55°	17120.9	17029.1	17033.7	16995.4	17289.3
57.5°	15916.1	15616.1	15700.3	15671.2	15723.3
60°	14223.0	13913.8	13927.6	13991.9	14089.9
62.5°	12428.9	12407.5	12234.5	12372.2	12450.3
65°	10544.4	10523.0	10489.3	10504.6	10561.3
67.5°	8924.8	8684.5	8733.4	8698.2	8756.4
70°	7338.8	7242.4	7227.1	7234.8	7268.4
72.5°	6146.3	6045.3	6057.5	6017.7	6072.8
75°	4909.4	4860.4	4903.3	4858.9	4880.3
77.5°	3978.7	3960.3	3971.0	3945.0	3974.1
80°	3225.5	3213.2	3216.3	3219.4	3276.0
82.5°	2574.9	2561.1	2513.6	2567.2	2590.2
85°	2048.3	2016.1	1976.3	2025.3	2098.8
87.5°	1613.5	1550.7	1521.7	1572.2	1621.2
90°	1152.7	1100.7	1028.7	1097.6	1155.8
92.5°	930.8	943.0	910.8	924.6	952.2
95°	797.6	811.3	832.8	800.6	806.8
97.5°	716.4	718.0	718.0	716.4	719.5
100°	607.7	613.9	616.9	615.4	610.8
102.5°	506.7	511.3	499.1	503.6	500.6
105°	350.6	362.8	361.3	358.2	355.2
107.5°	228.1	228.1	223.5	228.1	237.3
110°	124.0	120.9	117.9	122.5	127.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	56.6	58.2	59.7	56.6	56.6
115°	27.6	27.6	27.6	26.0	27.6
117.5°	18.4	18.4	18.4	18.4	18.4
120°	18.4	18.4	18.4	18.4	19.9
122.5°	19.9	21.4	19.9	21.4	21.4
125°	23.0	23.0	23.0	23.0	23.0
127.5°	24.5	24.5	24.5	24.5	24.5
130°	26.0	26.0	26.0	26.0	26.0
132.5°	27.6	27.6	27.6	27.6	27.6
135°	29.1	29.1	29.1	29.1	29.1
137.5°	30.6	30.6	30.6	30.6	30.6
140°	32.1	30.6	30.6	32.1	30.6
142.5°	32.1	30.6	30.6	32.1	30.6
145°	30.6	30.6	30.6	30.6	30.6
147.5°	29.1	29.1	29.1	29.1	27.6
150°	26.0	26.0	26.0	26.0	26.0
152.5°	24.5	23.0	23.0	23.0	23.0
155°	21.4	21.4	21.4	21.4	21.4
157.5°	21.4	21.4	21.4	21.4	21.4
160°	23.0	21.4	21.4	21.4	21.4
162.5°	23.0	21.4	21.4	21.4	21.4
165°	23.0	21.4	21.4	21.4	21.4
167.5°	23.0	21.4	21.4	21.4	21.4
170°	23.0	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°	21.4	21.4	21.4	21.4	23.0
180°	21.4	21.4	21.4	21.4	21.4

(END OF REPORT)