

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: P381654

Luminaire Tested: **BMK-70-WCL-UNV-L835-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: P381654
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-L835-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: 70238.9 lumens
Efficiency: N/A
Efficacy: 140.3 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

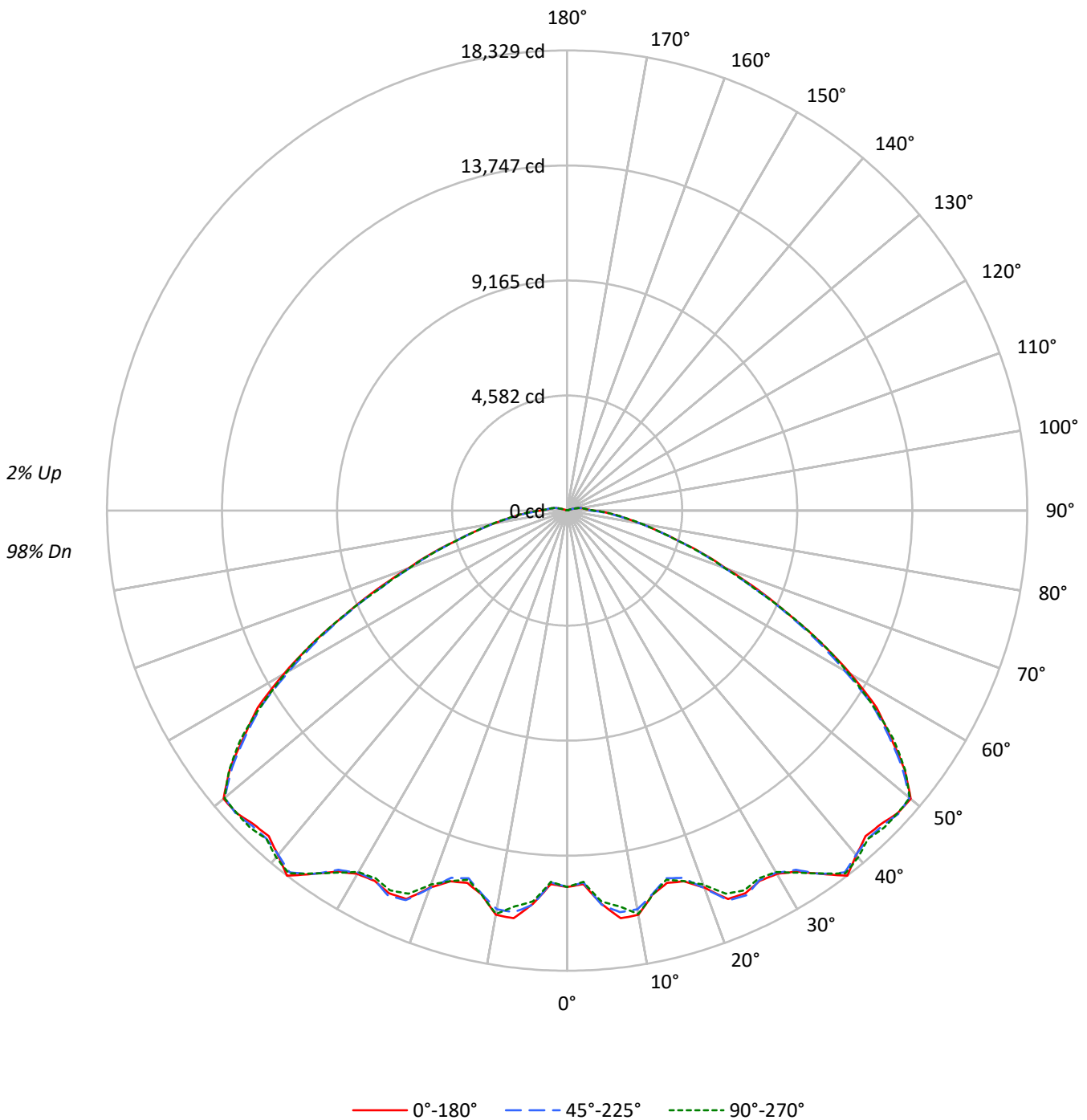
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	115602	115602	115602
5°	120508	120713	119766
10°	125411	123708	125131
15°	118798	117351	117808
20°	125714	125913	124675
25°	135543	136290	134546
30°	139234	138777	138484
35°	153499	153524	153304
40°	163970	163789	164998
45°	172136	172958	174027
50°	187662	186982	187101
55°	180566	179645	182342
60°	166903	163435	165340
65°	140652	139917	140876
70°	114405	112662	113306
75°	92911	92795	92360
80°	78422	78199	79651
85°	70372	67898	72104



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1512.0	2.2
10°-20°	4420.0	6.3
20°-30°	7701.7	11.0
30°-40°	11053.7	15.7
40°-50°	13782.2	19.6
50°-60°	13933.7	19.8
60°-70°	9583.6	13.6
70°-80°	4875.0	6.9
80°-90°	2077.0	3.0
90°-100°	830.4	1.2
100°-110°	356.1	0.5
110°-120°	40.1	0.1
120°-130°	18.6	0.0
130°-140°	20.5	0.0
140°-150°	17.3	0.0
150°-160°	9.6	0.0
160°-170°	5.6	0.0
170°-180°	1.9	0.0
0°-30°	13633.7	19.4
0°-40°	24687.4	35.1
0°-60°	52403.2	74.6
0°-90°	68938.8	98.1
90°-120°	1226.5	1.7
90°-150°	1282.9	1.8
90°-180°	1300.0	1.9
0°-180°	70238.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	14988	14988	14988	14988	14988	
5°	15727	15667	15754	15715	15630	###
15°	15354	15313	15167	15272	15226	4436
25°	16814	16839	16906	16937	16690	7703
35°	17665	17698	17668	17684	17643	11069
45°	17665	17720	17750	17741	17859	13747
55°	15718	15633	15637	15602	15872	14029
65°	9680	9660	9630	9644	9696	9683
75°	4507	4462	4501	4461	4480	4918
85°	1880	1851	1814	1859	1927	1759
90°	1058	1010	944	1008	1061	610
95°	732	745	764	735	741	571
105°	322	333	332	329	326	354
115°	25	25	25	24	25	40
125°	21	21	21	21	21	18
135°	27	27	27	27	27	21
145°	28	28	28	28	28	18
155°	20	20	20	20	20	10
165°	21	20	20	20	20	6
175°	20	20	20	20	20	2
180°	20	20	20	20	20	



TEST NUMBER: P381654

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	14988.1	14988.1	14988.1	14988.1	14988.1
2.5°	14891.1	14782.9	14826.5	14860.2	14804.0
5°	15727.3	15666.9	15754.0	15714.7	15630.4
7.5°	16376.6	16123.6	16134.9	16073.1	15897.4
10°	16349.9	16154.6	16127.9	16276.8	16313.4
12.5°	15675.3	15616.3	15654.3	15714.7	15693.6
15°	15353.5	15312.8	15166.6	15272.0	15225.6
17.5°	15482.8	15371.8	15332.4	15501.1	15471.6
20°	15981.7	15924.1	16007.0	16019.6	15849.6
22.5°	16744.8	16670.3	16798.2	16659.1	16517.1
25°	16813.7	16839.0	16906.4	16937.3	16690.0
27.5°	16621.1	16667.5	16593.0	16716.7	16514.3
30°	16711.1	16723.7	16656.3	16697.0	16621.1
32.5°	17038.5	17035.7	16968.3	17134.1	17101.8
35°	17665.3	17697.6	17668.1	17683.6	17642.8
37.5°	18328.6	18155.8	18168.4	18185.3	18212.0
40°	17916.9	17975.9	17897.2	18040.6	18029.3
42.5°	17590.8	17782.0	17722.9	17710.3	17734.2
45°	17665.3	17720.1	17749.6	17741.2	17859.3
47.5°	17848.0	17874.7	17888.8	17796.0	17846.6
50°	17864.9	17720.1	17800.2	17724.3	17811.5
52.5°	16941.6	16898.0	16820.7	17010.4	16964.0
55°	15717.5	15633.2	15637.4	15602.3	15872.1
57.5°	14611.5	14336.0	14413.3	14386.6	14434.4
60°	13057.2	12773.3	12785.9	12845.0	12934.9
62.5°	11410.1	11390.4	11231.6	11358.1	11429.8
65°	9680.1	9660.4	9629.5	9643.6	9695.5
67.5°	8193.2	7972.6	8017.6	7985.2	8038.6
70°	6737.3	6648.7	6634.7	6641.7	6672.6
72.5°	5642.5	5549.7	5561.0	5524.5	5575.0
75°	4507.0	4462.0	4501.4	4460.6	4480.3
77.5°	3652.5	3635.7	3645.5	3621.6	3648.3
80°	2961.1	2949.8	2952.7	2955.5	3007.5
82.5°	2363.8	2351.2	2307.6	2356.8	2377.9
85°	1880.4	1850.9	1814.3	1859.3	1926.7
87.5°	1481.2	1423.6	1396.9	1443.3	1488.3
90°	1058.2	1010.5	944.4	1007.6	1061.0
92.5°	854.5	865.7	836.2	848.8	874.1
95°	732.2	744.8	764.5	735.0	740.6
97.5°	657.7	659.1	659.1	657.7	660.5
100°	557.9	563.5	566.4	565.0	560.7
102.5°	465.2	469.4	458.1	462.4	459.6
105°	321.8	333.1	331.7	328.9	326.0
107.5°	209.4	209.4	205.2	209.4	217.8
110°	113.8	111.0	108.2	112.4	116.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	52.0	53.4	54.8	52.0	52.0
115°	25.3	25.3	25.3	23.9	25.3
117.5°	16.9	16.9	16.9	16.9	16.9
120°	16.9	16.9	16.9	16.9	18.3
122.5°	18.3	19.7	18.3	19.7	19.7
125°	21.1	21.1	21.1	21.1	21.1
127.5°	22.5	22.5	22.5	22.5	22.5
130°	23.9	23.9	23.9	23.9	23.9
132.5°	25.3	25.3	25.3	25.3	25.3
135°	26.7	26.7	26.7	26.7	26.7
137.5°	28.1	28.1	28.1	28.1	28.1
140°	29.5	28.1	28.1	29.5	28.1
142.5°	29.5	28.1	28.1	29.5	28.1
145°	28.1	28.1	28.1	28.1	28.1
147.5°	26.7	26.7	26.7	26.7	25.3
150°	23.9	23.9	23.9	23.9	23.9
152.5°	22.5	21.1	21.1	21.1	21.1
155°	19.7	19.7	19.7	19.7	19.7
157.5°	19.7	19.7	19.7	19.7	19.7
160°	21.1	19.7	19.7	19.7	19.7
162.5°	21.1	19.7	19.7	19.7	19.7
165°	21.1	19.7	19.7	19.7	19.7
167.5°	21.1	19.7	19.7	19.7	19.7
170°	21.1	19.7	19.7	19.7	19.7
172.5°	19.7	19.7	19.7	19.7	19.7
175°	19.7	19.7	19.7	19.7	19.7
177.5°	19.7	19.7	19.7	19.7	21.1
180°	19.7	19.7	19.7	19.7	19.7

(END OF REPORT)