

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: P381724

Luminaire Tested: **BMK-70-MCL-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: P381724  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-6)  
Test Lab: INNOVATIONS CENTER(G2)  
Issue Date: 2/4/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-70-MCL-UNV-L740-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM CLEAR LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 74388.8 lumens  
Efficiency: N/A  
Efficacy: 148.6 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.41 / 1.39  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

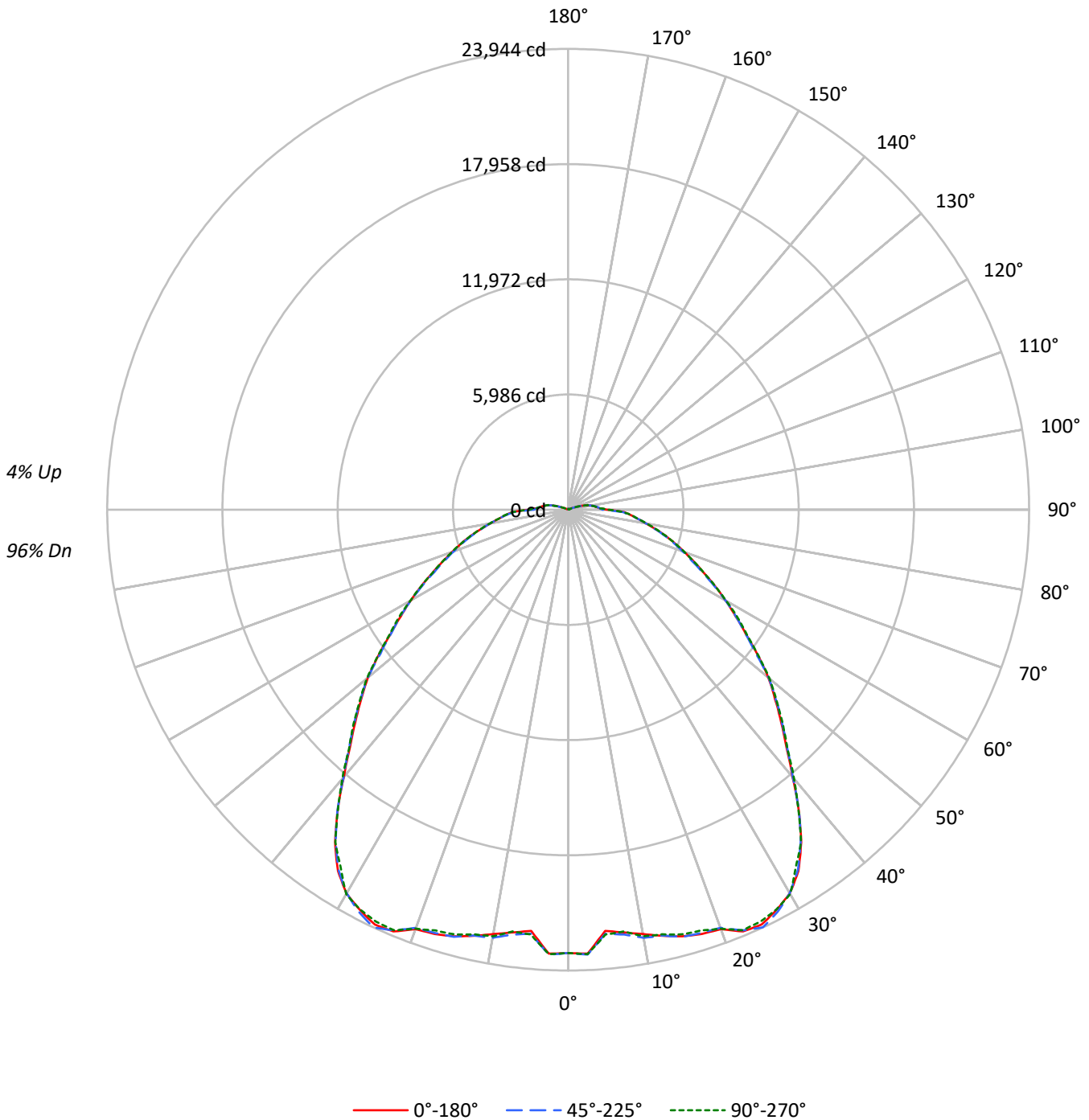
Input Watts (W): 500.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96				
1	107	102	97	93	104	99	95	91	94	90	87	89	87	84	85	83	81	78				
2	97	88	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	65				
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55				
4	81	69	60	53	79	67	59	53	64	57	52	62	55	50	59	54	49	47				
5	75	62	53	46	72	60	52	45	58	50	45	55	49	44	53	48	43	41				
6	69	56	47	40	67	54	46	40	52	45	39	50	44	38	48	42	38	36				
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32				
8	60	46	37	32	58	45	37	31	43	36	31	42	35	31	41	35	30	28				
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28	37	32	27	25				
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	177638	177638	177638
5°	168286	169436	169811
10°	171740	173231	172609
15°	177528	177753	176735
20°	182370	181876	182225
25°	191712	193021	190380
30°	191815	191726	192210
35°	183405	182953	183219
40°	165887	166111	167078
45°	152420	153166	153658
50°	142618	142859	143438
55°	129541	129136	130139
60°	120752	120635	121124
65°	113061	111637	113150
70°	108787	107410	108969
75°	107957	106475	107863
80°	108248	108571	109951
85°	122428	121912	124090



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2136.3	2.9
10°-20°	6492.4	8.7
20°-30°	10885.1	14.6
30°-40°	13055.6	17.6
40°-50°	12169.4	16.4
50°-60°	10150.3	13.6
60°-70°	7711.3	10.4
70°-80°	5500.7	7.4
80°-90°	3485.5	4.7
90°-100°	1674.1	2.3
100°-110°	871.6	1.2
110°-120°	118.2	0.2
120°-130°	35.3	0.0
130°-140°	39.2	0.1
140°-150°	32.9	0.0
150°-160°	17.6	0.0
160°-170°	10.1	0.0
170°-180°	3.3	0.0
0°-30°	19513.8	26.2
0°-40°	32569.4	43.8
0°-60°	54889.0	73.8
0°-90°	71586.5	96.2
90°-120°	2663.9	3.6
90°-150°	2771.3	3.7
90°-180°	2802.0	3.8
0°-180°	74388.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	23031	23031	23031	23031	23031	
5°	21963	22058	22113	22128	22162	###
15°	22944	22881	22973	23024	22841	6498
25°	23781	23830	23944	23769	23616	10879
35°	21107	21049	21055	21122	21086	13071
45°	15642	15683	15718	15737	15769	12123
55°	11276	11247	11241	11212	11328	10173
65°	7781	7646	7683	7697	7787	7767
75°	5237	5199	5165	5177	5232	5523
85°	3271	3271	3258	3244	3316	2840
90°	2022	1944	1780	1923	2054	1182
95°	1483	1542	1545	1499	1490	1169
105°	839	848	840	833	850	877
115°	67	72	74	70	72	116
125°	40	40	38	40	41	35
135°	50	50	50	50	52	39
145°	55	54	54	54	52	34
155°	37	37	35	35	37	18
165°	37	35	35	35	35	10
175°	34	35	34	35	37	3
180°	35	35	35	35	35	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	23031.2	23031.2	23031.2	23031.2	23031.2
2.5°	23087.8	23028.1	23136.8	23175.1	23115.4
5°	21962.7	22057.6	22112.7	22128.0	22161.7
7.5°	22154.0	22057.6	22261.2	22261.2	22103.5
10°	22389.8	22613.3	22584.2	22547.5	22503.1
12.5°	22679.1	22669.9	22666.9	22634.7	22598.0
15°	22943.9	22881.2	22973.0	23023.5	22841.4
17.5°	23112.3	22936.3	23058.8	23144.5	22922.5
20°	23184.3	23002.1	23121.5	23265.4	23165.9
22.5°	23723.1	23608.3	23655.8	23762.9	23651.2
25°	23781.3	23830.3	23943.6	23769.1	23616.0
27.5°	23444.5	23514.9	23559.3	23534.8	23415.4
30°	23022.0	23005.2	23011.3	23097.0	23069.5
32.5°	22259.7	22163.2	22198.4	22102.0	22002.5
35°	21107.0	21048.8	21054.9	21122.3	21085.5
37.5°	19674.1	19585.3	19680.2	19729.2	19646.6
40°	18126.4	18258.1	18150.9	18186.1	18256.6
42.5°	16787.0	16906.4	16851.3	16900.3	16843.6
45°	15641.9	15683.3	15718.5	15736.8	15769.0
47.5°	14578.0	14622.4	14650.0	14669.9	14671.4
50°	13576.8	13560.0	13599.8	13497.2	13654.9
52.5°	12411.9	12301.7	12297.1	12263.4	12441.0
55°	11276.0	11246.9	11240.8	11211.7	11328.1
57.5°	10316.2	10319.3	10334.6	10343.8	10441.7
60°	9446.7	9365.6	9437.5	9416.1	9475.8
62.5°	8598.6	8502.2	8537.4	8535.9	8615.5
65°	7781.2	7646.4	7683.2	7697.0	7787.3
67.5°	7070.9	6998.9	6957.6	7015.8	7081.6
70°	6406.5	6357.5	6325.4	6363.6	6417.2
72.5°	5804.9	5736.0	5737.5	5729.9	5824.8
75°	5236.9	5198.7	5165.0	5177.2	5232.3
77.5°	4629.2	4678.2	4612.4	4636.9	4661.3
80°	4087.3	4142.4	4099.5	4094.9	4151.6
82.5°	3658.7	3663.3	3661.7	3635.7	3654.1
85°	3271.4	3271.4	3257.6	3243.8	3315.8
87.5°	2914.7	2839.7	2824.4	2835.1	2877.9
90°	2022.2	1944.1	1780.3	1922.7	2054.4
92.5°	1665.5	1694.6	1651.8	1651.8	1670.1
95°	1483.4	1541.5	1544.6	1498.7	1489.5
97.5°	1364.0	1400.7	1386.9	1362.4	1376.2
100°	1218.5	1230.8	1218.5	1209.3	1213.9
102.5°	1086.9	1085.4	1079.2	1068.5	1097.6
105°	838.9	848.1	840.4	832.8	849.6
107.5°	587.8	580.2	567.9	569.5	577.1
110°	356.7	358.2	336.8	342.9	364.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	162.3	171.5	177.6	168.4	173.0
115°	67.4	71.9	73.5	70.4	71.9
117.5°	35.2	35.2	33.7	35.2	38.3
120°	32.1	33.7	30.6	32.1	35.2
122.5°	35.2	36.7	35.2	36.7	38.3
125°	39.8	39.8	38.3	39.8	41.3
127.5°	42.9	42.9	41.3	42.9	44.4
130°	44.4	45.9	45.9	45.9	45.9
132.5°	47.5	49.0	47.5	49.0	49.0
135°	50.5	50.5	50.5	50.5	52.0
137.5°	53.6	53.6	53.6	53.6	53.6
140°	55.1	55.1	55.1	55.1	55.1
142.5°	56.6	55.1	55.1	55.1	53.6
145°	55.1	53.6	53.6	53.6	52.0
147.5°	50.5	50.5	49.0	50.5	49.0
150°	45.9	44.4	44.4	44.4	44.4
152.5°	39.8	39.8	38.3	39.8	39.8
155°	36.7	36.7	35.2	35.2	36.7
157.5°	36.7	36.7	35.2	35.2	36.7
160°	36.7	36.7	35.2	35.2	35.2
162.5°	36.7	36.7	35.2	35.2	35.2
165°	36.7	35.2	35.2	35.2	35.2
167.5°	36.7	35.2	35.2	35.2	35.2
170°	36.7	35.2	35.2	35.2	35.2
172.5°	35.2	35.2	35.2	35.2	35.2
175°	33.7	35.2	33.7	35.2	36.7
177.5°	33.7	33.7	33.7	35.2	36.7
180°	35.2	35.2	35.2	35.2	35.2

(END OF REPORT)