

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: P381664

Luminaire Tested: **BMK-60-NCL-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: P381664  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-3)  
Test Lab: INNOVATIONS CENTER(G2)  
Issue Date: 2/4/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-60-NCL-UNV-L740-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 63004.5 lumens  
Efficiency: N/A  
Efficacy: 155.3 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

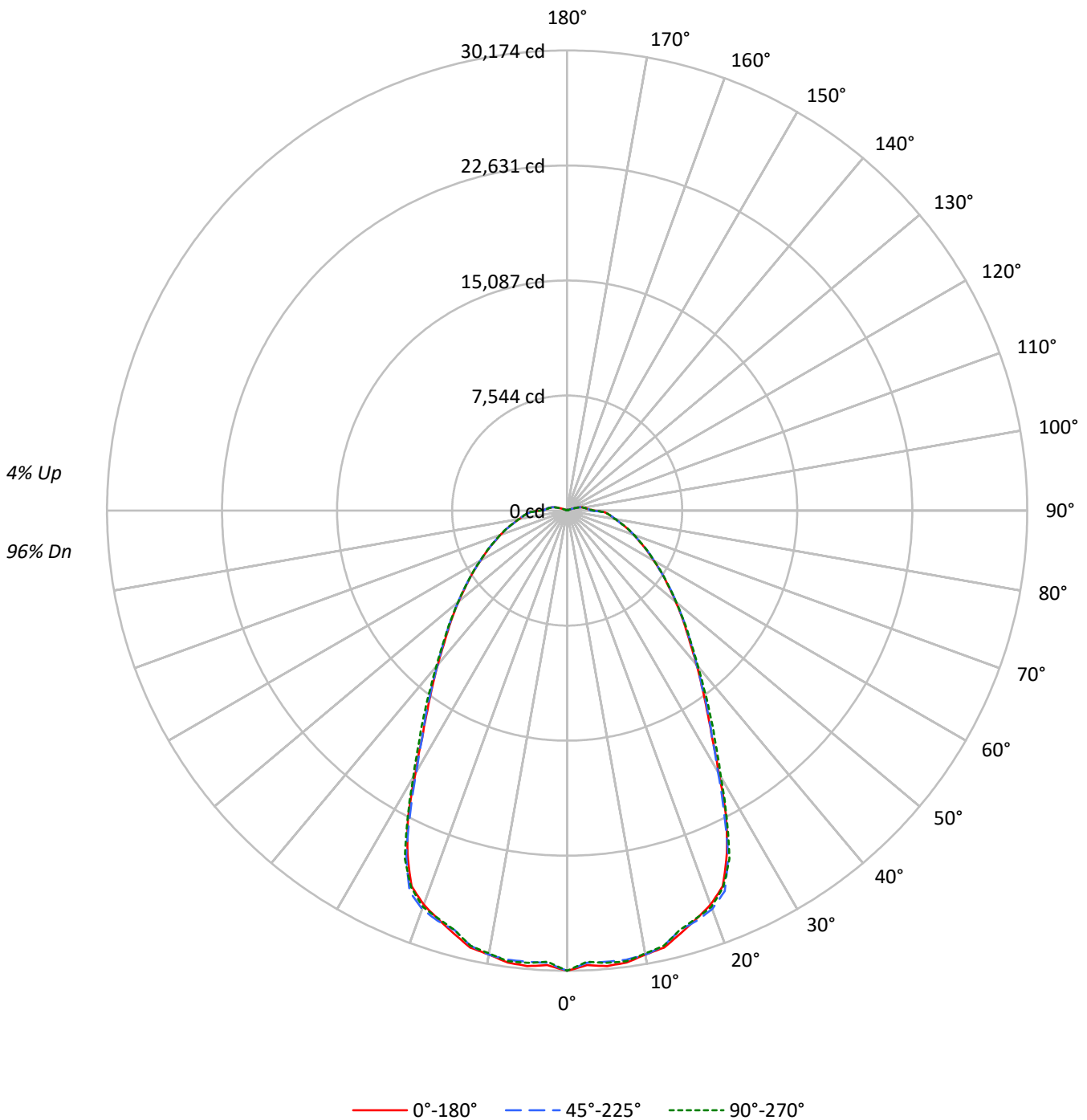
Input Watts (W): 405.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	107	103	98	94	104	100	96	92	95	92	89	90	88	85	86	84	82	80
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	68
3	91	80	73	66	88	79	71	65	75	69	64	72	67	62	69	64	61	58
4	84	72	64	57	81	71	63	57	68	61	56	65	59	54	62	57	53	51
5	77	65	57	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	40
7	67	54	46	40	65	54	46	40	52	45	40	50	44	39	48	43	38	37
8	63	50	42	37	61	49	42	36	48	41	36	46	40	36	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	33	42	36	32	30
10	56	43	36	31	54	43	35	31	41	35	30	40	34	30	39	34	30	28

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

	0°	45°	90°
0°	232729	232729	232729
5°	229697	227584	228093
10°	226706	226797	226148
15°	222135	220434	220333
20°	216260	218716	217529
25°	199764	201327	202994
30°	165697	164591	167995
35°	138759	139607	142162
40°	120854	121081	122212
45°	107435	108361	108487
50°	97613	97928	98147
55°	89896	90105	90120
60°	83877	84276	84060
65°	80223	80525	80884
70°	78864	79107	79305
75°	79517	79276	79839
80°	84894	85273	84585
85°	101216	100827	101703



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2838.4	4.5
10°-20°	8087.0	12.8
20°-30°	11246.6	17.9
30°-40°	10138.5	16.1
40°-50°	8592.9	13.6
50°-60°	7032.7	11.2
60°-70°	5528.2	8.8
70°-80°	4111.6	6.5
80°-90°	2863.4	4.5
90°-100°	1482.1	2.4
100°-110°	829.2	1.3
110°-120°	121.3	0.2
120°-130°	32.8	0.1
130°-140°	36.4	0.1
140°-150°	31.4	0.0
150°-160°	17.9	0.0
160°-170°	10.6	0.0
170°-180°	3.6	0.0
0°-30°	22171.9	35.2
0°-40°	32310.5	51.3
0°-60°	47936.0	76.1
0°-90°	60439.2	95.9
90°-120°	2432.6	3.9
90°-150°	2533.2	4.0
90°-180°	2565.0	4.1
0°-180°	63004.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	30174	30174	30174	30174	30174	
5°	29977	29713	29702	29855	29768	###
15°	28709	28545	28489	28693	28476	8095
25°	24780	24850	24974	25206	25181	11199
35°	15969	15948	16066	16115	16360	10082
45°	11025	11046	11120	11053	11133	8556
55°	7825	7787	7843	7843	7845	7028
65°	5521	5517	5542	5603	5567	5495
75°	3857	3870	3846	3872	3873	4107
85°	2705	2711	2694	2685	2718	2310
90°	1771	1685	1542	1663	1733	1022
95°	1323	1335	1367	1304	1297	1050
105°	835	827	820	800	810	834
115°	81	79	79	76	78	124
125°	36	38	36	36	38	32
135°	47	48	47	47	48	36
145°	52	51	52	51	51	32
155°	36	38	36	36	36	18
165°	39	38	38	38	38	11
175°	38	38	38	38	39	4
180°	38	38	38	38	38	



TEST NUMBER: P381664

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	30173.8	30173.8	30173.8	30173.8	30173.8
2.5°	29834.2	29688.5	29678.1	29721.1	29607.9
5°	29977.3	29713.3	29701.5	29855.1	29767.9
7.5°	29886.3	29666.4	29702.9	29881.1	29799.1
10°	29555.8	29466.1	29567.6	29718.5	29483.0
12.5°	29351.6	29226.7	29226.7	29248.8	29237.1
15°	28708.9	28545.0	28489.1	28693.3	28476.1
17.5°	28101.4	27958.3	28202.9	28141.7	28050.7
20°	27492.6	27574.5	27804.8	27679.9	27653.9
22.5°	26662.6	26692.5	27003.4	27008.6	26734.1
25°	24780.1	24850.4	24974.0	25205.5	25180.8
27.5°	22563.3	22291.4	22279.7	22794.9	22633.6
30°	19887.3	19813.2	19754.6	20141.0	20163.1
32.5°	17694.0	17772.0	17690.1	17900.8	18097.2
35°	15968.9	15948.1	16066.5	16114.6	16360.5
37.5°	14501.5	14483.3	14530.1	14677.1	14744.7
40°	13205.7	13205.7	13230.5	13377.5	13354.1
42.5°	11999.8	12114.3	12107.8	12149.4	12152.0
45°	11025.4	11046.2	11120.4	11052.7	11133.4
47.5°	10129.0	10093.9	10188.9	10110.8	10182.4
50°	9292.5	9231.4	9322.5	9237.9	9343.3
52.5°	8510.7	8444.3	8564.0	8478.2	8554.9
55°	7825.1	7787.4	7843.3	7843.3	7844.6
57.5°	7175.9	7168.1	7169.4	7221.5	7212.4
60°	6561.9	6593.1	6593.1	6629.5	6576.2
62.5°	6020.7	6032.4	6072.7	6093.6	6048.0
65°	5521.2	5517.2	5542.0	5603.1	5566.7
67.5°	5046.3	5061.9	5080.1	5143.9	5074.9
70°	4644.3	4640.4	4658.6	4700.3	4670.3
72.5°	4254.0	4246.2	4260.5	4281.4	4280.1
75°	3857.3	3870.3	3845.6	3871.6	3872.9
77.5°	3512.5	3509.9	3508.6	3495.6	3521.6
80°	3205.5	3202.9	3219.8	3186.0	3193.8
82.5°	2949.2	2945.3	2964.8	2919.3	2927.1
85°	2704.6	2711.1	2694.2	2685.1	2717.6
87.5°	2453.6	2436.6	2418.4	2424.9	2430.1
90°	1770.6	1684.7	1541.6	1662.6	1732.8
92.5°	1464.8	1506.5	1450.5	1440.1	1493.5
95°	1323.0	1334.8	1367.3	1303.5	1297.0
97.5°	1242.4	1271.0	1261.9	1220.3	1219.0
100°	1111.0	1126.6	1118.8	1103.2	1104.5
102.5°	993.9	1027.7	991.3	983.5	995.2
105°	835.2	827.4	819.6	800.1	810.5
107.5°	580.2	588.0	571.1	567.2	584.1
110°	357.8	352.6	335.6	339.5	350.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	178.2	182.1	182.1	175.6	173.0
115°	80.7	79.4	79.4	75.5	78.1
117.5°	37.7	36.4	33.8	36.4	39.0
120°	29.9	31.2	28.6	29.9	32.5
122.5°	32.5	35.1	32.5	33.8	35.1
125°	36.4	37.7	36.4	36.4	37.7
127.5°	39.0	40.3	39.0	39.0	40.3
130°	41.6	42.9	41.6	42.9	42.9
132.5°	44.2	45.5	44.2	44.2	45.5
135°	46.8	48.1	46.8	46.8	48.1
137.5°	49.4	50.7	49.4	49.4	49.4
140°	52.0	52.0	50.7	52.0	50.7
142.5°	53.3	52.0	52.0	52.0	50.7
145°	52.0	50.7	52.0	50.7	50.7
147.5°	49.4	48.1	48.1	48.1	48.1
150°	44.2	44.2	42.9	44.2	44.2
152.5°	40.3	40.3	39.0	39.0	40.3
155°	36.4	37.7	36.4	36.4	36.4
157.5°	37.7	37.7	36.4	36.4	37.7
160°	37.7	37.7	36.4	36.4	37.7
162.5°	37.7	37.7	36.4	36.4	37.7
165°	39.0	37.7	37.7	37.7	37.7
167.5°	39.0	37.7	37.7	36.4	37.7
170°	39.0	39.0	37.7	36.4	37.7
172.5°	39.0	39.0	37.7	37.7	37.7
175°	37.7	37.7	37.7	37.7	39.0
177.5°	36.4	36.4	36.4	37.7	39.0
180°	37.7	37.7	37.7	37.7	37.7

(END OF REPORT)