

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: P294549

Luminaire Tested: **BMK-36-NFL-UNV-L740-CD-U**

Issue Date: 3/3/2020

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: P294549  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-36-NFL-UNV-L740-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW FROSTED LENS  
Light Source: (528) 70 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 38317.0 lumens  
Efficiency: N/A  
Efficacy: 157.7 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

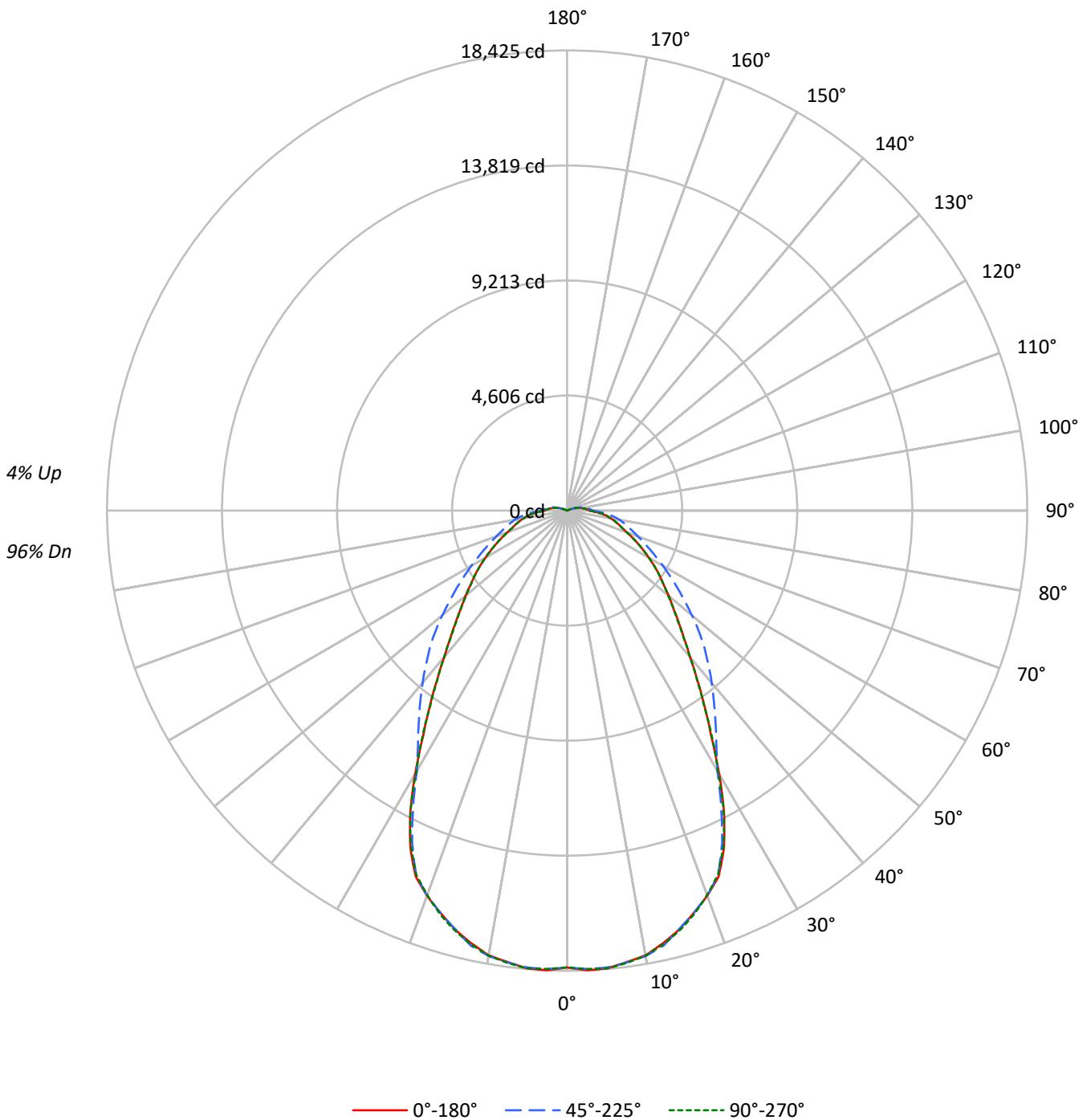
Input Watts (W): 243  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	99	99	99	96	
1	108	103	98	95	105	100	96	93	95	92	89	91	88	86	87	84	82	87	84	82	80	
2	99	91	84	78	96	88	82	77	84	79	75	80	76	72	77	73	70	77	73	70	68	
3	91	80	73	66	88	79	71	66	75	69	64	72	67	62	69	65	61	69	65	61	59	
4	84	72	64	57	81	71	63	57	68	61	56	65	59	55	62	58	53	62	58	53	51	
5	77	65	57	50	75	64	56	50	61	55	49	59	53	48	57	52	47	57	52	47	45	
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	52	47	43	41	
7	67	54	46	40	65	53	46	40	52	45	40	50	44	39	48	43	38	48	43	38	37	
8	63	50	42	37	61	49	42	36	48	41	36	46	40	35	45	39	35	45	39	35	33	
9	59	46	39	33	58	46	38	33	44	38	33	43	37	32	42	36	32	42	36	32	30	
10	56	43	36	31	54	42	35	30	41	35	30	40	34	30	39	34	30	39	34	30	28	

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

	0°	45°	90°
0°	141014	141014	141014
5°	140902	140655	140902
10°	138618	138874	138690
15°	134246	134093	134624
20°	129034	128928	128764
25°	119773	118306	119286
30°	101357	100127	100699
35°	83414	89966	83171
40°	69990	82400	70066
45°	61420	75728	60953
50°	55768	68429	55385
55°	51743	61863	51719
60°	48201	56655	48321
65°	45483	52812	45226
70°	43179	51142	43002
75°	43736	52162	43757
80°	46908	56383	46935
85°	51338	61110	51963



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1742.0	4.5
10°-20°	4880.2	12.7
20°-30°	6671.5	17.4
30°-40°	6266.3	16.4
40°-50°	5402.9	14.1
50°-60°	4433.1	11.6
60°-70°	3415.7	8.9
70°-80°	2502.7	6.5
80°-90°	1603.8	4.2
90°-100°	867.2	2.3
100°-110°	449.1	1.2
110°-120°	81.2	0.2
120°-130°	1.3	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	13293.7	34.7
0°-40°	19560.1	51.0
0°-60°	29396.0	76.7
0°-90°	36918.3	96.3
90°-120°	1397.5	3.6
90°-150°	1398.7	3.7
90°-180°	1399.0	3.7
0°-180°	38317.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	18292	18292	18292	18292	18292	
5°	18398	18386	18366	18357	18398	###
15°	17359	17319	17339	17328	17408	4882
25°	14865	14701	14683	14644	14804	6724
35°	9604	9949	10359	9927	9576	6043
45°	6306	6923	7775	6901	6258	4903
55°	4506	4925	5387	4921	4504	4038
65°	3132	3481	3636	3474	3114	3108
75°	2122	2388	2531	2380	2124	2253
85°	1372	1471	1634	1466	1389	1200
90°	891	960	1027	972	890	512
95°	754	775	875	774	754	582
105°	407	412	481	414	409	424
115°	46	60	78	61	47	70
125°	0	0	0	0	0	1
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	18291.9	18291.9	18291.9	18291.9	18291.9
2.5°	18425.1	18390.7	18372.0	18351.2	18368.9
5°	18398.0	18385.5	18365.7	18357.4	18398.0
7.5°	18235.7	18224.2	18250.3	18206.6	18267.9
10°	18080.7	18043.2	18114.0	17967.3	18090.0
12.5°	17740.4	17766.5	17841.4	17737.3	17785.2
15°	17358.6	17319.1	17338.8	17328.4	17407.5
17.5°	16882.1	16857.1	16880.0	16853.0	16936.2
20°	16411.8	16380.6	16398.3	16382.7	16377.5
22.5°	15854.1	15754.3	15794.8	15683.5	15781.3
25°	14864.7	14701.3	14682.6	14644.1	14804.3
27.5°	13604.7	13442.4	13350.9	13390.4	13585.0
30°	12171.0	12161.6	12023.3	12113.8	12091.9
32.5°	10747.7	11021.3	11110.8	11016.1	10811.2
35°	9604.2	9948.6	10358.6	9926.8	9576.2
37.5°	8565.9	9054.9	9653.2	9010.2	8538.8
40°	7651.4	8246.5	9008.1	8205.9	7659.7
42.5°	6912.6	7541.1	8364.1	7530.7	6904.3
45°	6306.1	6923.1	7775.2	6901.2	6258.2
47.5°	5750.5	6371.6	7155.1	6360.2	5749.4
50°	5311.4	5820.2	6517.3	5819.1	5275.0
52.5°	4872.4	5353.0	5918.0	5362.4	4853.6
55°	4506.1	4925.4	5387.4	4921.3	4504.0
57.5°	4138.8	4539.4	4884.8	4534.2	4144.1
60°	3772.6	4161.7	4434.3	4150.3	3782.0
62.5°	3437.6	3817.4	4002.6	3797.6	3445.9
65°	3131.7	3481.3	3636.3	3474.0	3114.0
67.5°	2827.9	3172.3	3312.7	3175.4	2818.5
70°	2543.9	2896.6	3013.1	2892.4	2533.5
72.5°	2310.8	2642.7	2758.2	2633.3	2310.8
75°	2122.5	2387.8	2531.4	2380.5	2123.5
77.5°	1940.4	2156.8	2329.5	2150.6	1955.0
80°	1771.9	1939.4	2129.8	1920.6	1772.9
82.5°	1595.0	1704.2	1893.6	1695.9	1603.3
85°	1372.3	1471.2	1633.5	1466.0	1389.0
87.5°	1112.2	1225.6	1317.2	1225.6	1126.8
90°	890.6	960.3	1026.9	971.8	889.6
92.5°	843.8	866.7	953.0	869.8	845.9
95°	754.3	775.1	875.0	774.1	754.3
97.5°	670.0	689.8	790.7	686.7	665.9
100°	580.6	598.2	695.0	603.5	577.4
102.5°	499.4	512.9	595.1	514.0	498.4
105°	406.8	412.0	480.7	414.1	408.9
107.5°	301.7	308.0	343.3	312.1	306.9
110°	201.8	207.0	231.0	211.2	207.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	114.4	120.7	150.9	121.7	112.4
115°	45.8	60.3	78.0	61.4	46.8
117.5°	12.5	22.9	28.1	22.9	13.5
120°	10.4	11.4	10.4	11.4	9.4
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)