

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: P294548

Luminaire Tested: **BMK-36-NFL-UNV-L735-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: P294548  
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-L735-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW FROSTED LENS  
Light Source: (528) 70 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 37817.0 lumens  
Efficiency: N/A  
Efficacy: 155.6 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

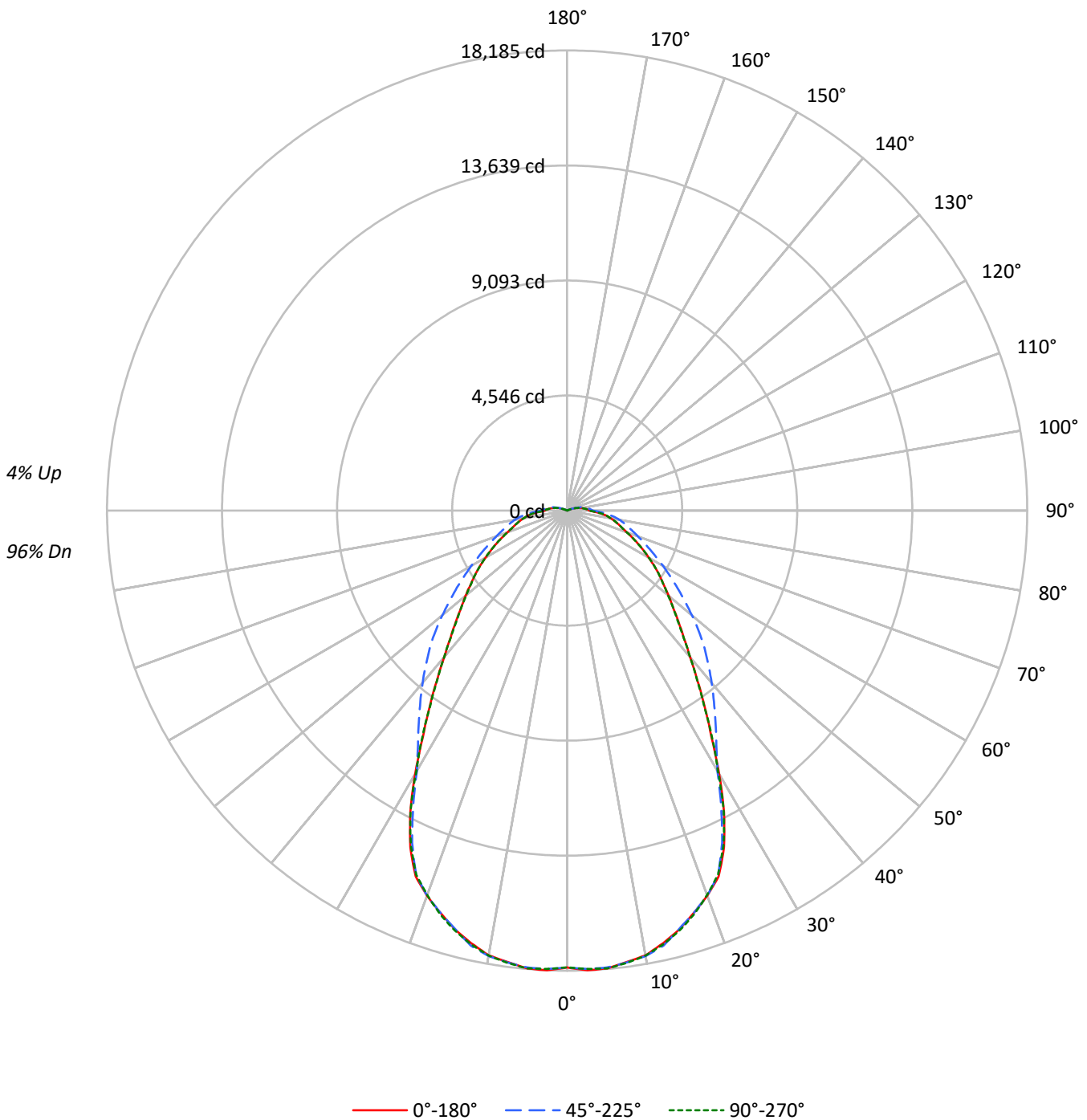
Input Watts (W): 243  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	139174	139174	139174
5°	139063	138820	139063
10°	136809	137061	136880
15°	132494	132343	132868
20°	127351	127245	127084
25°	118210	116762	117730
30°	100035	98821	99384
35°	82326	88792	82085
40°	69076	81324	69151
45°	60618	74740	60157
50°	55040	67535	54663
55°	51068	61056	51045
60°	47573	55917	47690
65°	44889	52123	44637
70°	42615	50475	42440
75°	43166	51480	43186
80°	46294	55647	46323
85°	50669	60313	51286



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1719.3	4.5
10°-20°	4816.5	12.7
20°-30°	6584.4	17.4
30°-40°	6184.6	16.4
40°-50°	5332.4	14.1
50°-60°	4375.2	11.6
60°-70°	3371.1	8.9
70°-80°	2470.1	6.5
80°-90°	1582.9	4.2
90°-100°	855.9	2.3
100°-110°	443.2	1.2
110°-120°	80.1	0.2
120°-130°	1.2	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°	13120.3	34.7
0°-40°	19304.8	51.0
0°-60°	29012.4	76.7
0°-90°	36436.5	96.3
90°-120°	1379.3	3.6
90°-150°	1380.5	3.7
90°-180°	1381.0	3.7
0°-180°	37817.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	18053	18053	18053	18053	18053	
5°	18158	18146	18126	18118	18158	###
15°	17132	17093	17113	17102	17180	4818
25°	14671	14510	14491	14453	14611	6636
35°	9479	9819	10223	9797	9451	5965
45°	6224	6833	7674	6811	6176	4839
55°	4447	4861	5317	4857	4445	3985
65°	3091	3436	3589	3429	3073	3067
75°	2095	2357	2498	2350	2096	2224
85°	1354	1452	1612	1447	1371	1185
90°	879	948	1014	959	878	505
95°	744	765	864	764	744	574
105°	402	407	474	409	404	419
115°	45	60	77	61	46	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°	18053.2	18053.2	18053.2	18053.2	18053.2
2.5°	18184.6	18150.7	18132.3	18111.7	18129.2
5°	18157.9	18145.6	18126.1	18117.9	18157.9
7.5°	17997.7	17986.4	18012.1	17969.0	18029.6
10°	17844.7	17807.8	17877.6	17732.8	17854.0
12.5°	17509.0	17534.6	17608.6	17505.9	17553.1
15°	17132.1	17093.1	17112.6	17102.3	17180.4
17.5°	16661.8	16637.1	16659.7	16633.0	16715.2
20°	16197.7	16166.8	16184.3	16168.9	16163.8
22.5°	15647.3	15548.7	15588.7	15478.9	15575.4
25°	14670.7	14509.5	14491.0	14453.0	14611.2
27.5°	13427.2	13267.0	13176.6	13215.7	13407.7
30°	12012.2	12002.9	11866.4	11955.7	11934.1
32.5°	10607.4	10877.5	10965.8	10872.4	10670.1
35°	9478.9	9818.8	10223.4	9797.2	9451.2
37.5°	8454.1	8936.7	9527.2	8892.6	8427.4
40°	7551.5	8138.9	8890.5	8098.8	7559.7
42.5°	6822.4	7442.7	8254.9	7432.4	6814.2
45°	6223.8	6832.7	7673.7	6811.1	6176.5
47.5°	5675.4	6288.5	7061.7	6277.2	5674.4
50°	5242.1	5744.2	6432.2	5743.2	5206.2
52.5°	4808.8	5283.2	5840.8	5292.4	4790.3
55°	4447.3	4861.1	5317.1	4857.0	4445.3
57.5°	4084.8	4480.2	4821.1	4475.0	4090.0
60°	3723.4	4107.4	4376.5	4096.1	3732.6
62.5°	3392.7	3767.5	3950.3	3748.0	3401.0
65°	3090.8	3435.9	3588.9	3428.7	3073.4
67.5°	2791.0	3130.9	3269.5	3134.0	2781.8
70°	2510.7	2858.8	2973.8	2854.7	2500.4
72.5°	2280.7	2608.2	2722.2	2599.0	2280.7
75°	2094.8	2356.6	2498.3	2349.5	2095.8
77.5°	1915.1	2128.7	2299.1	2122.5	1929.5
80°	1748.7	1914.1	2102.0	1895.6	1749.8
82.5°	1574.2	1682.0	1868.9	1673.8	1582.4
85°	1354.4	1452.0	1612.2	1446.8	1370.9
87.5°	1097.7	1209.6	1300.0	1209.6	1112.1
90°	879.0	947.8	1013.5	959.1	878.0
92.5°	832.8	855.4	940.6	858.5	834.8
95°	744.5	765.0	863.6	764.0	744.5
97.5°	661.3	680.8	780.4	677.7	657.2
100°	573.0	590.4	685.9	595.6	569.9
102.5°	492.9	506.2	587.4	507.3	491.9
105°	401.5	406.6	474.4	408.7	403.6
107.5°	297.8	303.9	338.9	308.1	302.9
110°	199.2	204.3	228.0	208.5	204.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	113.0	119.1	148.9	120.1	110.9
115°	45.2	59.6	77.0	60.6	46.2
117.5°	12.3	22.6	27.7	22.6	13.3
120°	10.3	11.3	10.3	11.3	9.2
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)