

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: P294516

Luminaire Tested: **BMK-36-WCL-UNV-L840-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: P294516
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-36-WCL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE CLEAR LENS
Light Source: (528) 80 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36898.0 lumens
Efficiency: N/A
Efficacy: 151.8 lumens/watt
Spacing Criteria (0/90/45): 1.8 / 1.79 / 1.79
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

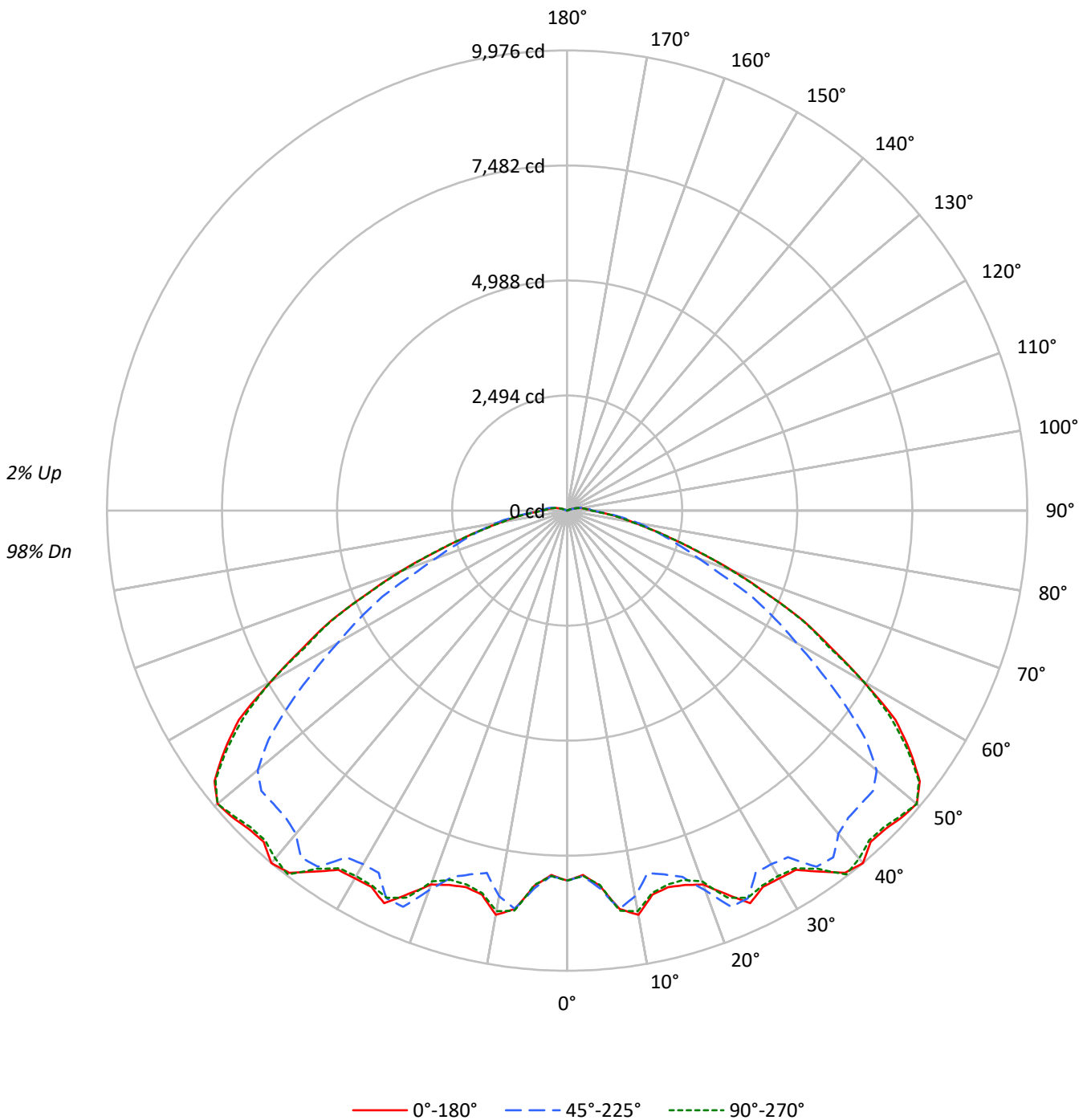
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83	80
2	97	88	81	75	94	86	80	74	82	77	72	79	74	70	75	71	68	66
3	88	77	68	61	85	75	67	60	72	65	59	68	63	58	66	61	56	54
4	80	67	58	51	77	66	57	50	63	55	49	60	54	48	58	52	47	45
5	73	59	50	43	71	58	49	42	56	48	42	53	46	41	51	45	40	38
6	67	53	43	37	65	52	43	36	50	42	36	48	41	35	46	40	35	33
7	62	47	38	32	60	46	38	32	45	37	31	43	36	31	41	35	30	28
8	57	43	34	28	55	42	34	28	41	33	27	39	32	27	38	31	27	25
9	53	39	30	25	51	38	30	24	37	29	24	36	29	24	35	28	24	22
10	50	36	27	22	48	35	27	22	34	27	22	33	26	21	32	26	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	61851	61851	61851
5°	62531	62984	62373
10°	68216	65067	67605
15°	65361	63168	64927
20°	67819	68888	67238
25°	75671	74718	74647
30°	76658	73680	76190
35°	82950	81872	82309
40°	91257	83688	90067
45°	95066	87640	94548
50°	103848	91965	103879
55°	104140	84629	103325
60°	94768	73398	94843
65°	82059	64206	81846
70°	64904	51462	64253
75°	48348	45364	48653
80°	38334	41542	37473
85°	33606	35488	32723



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	805.8	2.2
10°-20°	2370.4	6.4
20°-30°	4144.8	11.2
30°-40°	5902.3	16.0
40°-50°	7305.4	19.8
50°-60°	7267.0	19.7
60°-70°	4925.6	13.3
70°-80°	2442.5	6.6
80°-90°	1018.8	2.8
90°-100°	479.4	1.3
100°-110°	208.4	0.6
110°-120°	27.0	0.1
120°-130°	0.7	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°	7321.0	19.8
0°-40°	13223.3	35.8
0°-60°	27795.6	75.3
0°-90°	36182.5	98.1
90°-120°	714.8	1.9
90°-150°	715.5	1.9
90°-180°	716.0	1.9
0°-180°	36898.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8023	8023	8023	8023	8023	
5°	8165	8132	8224	8168	8144	811
15°	8452	8147	8168	8162	8395	2425
25°	9391	8830	9273	8794	9264	4231
35°	9551	9580	9427	9604	9477	6023
45°	9761	9462	8998	9427	9708	7605
55°	9069	8233	7370	8171	8998	8008
65°	5650	4911	4421	4932	5635	5533
75°	2346	2196	2202	2219	2361	2587
85°	898	875	949	872	875	847
90°	538	573	547	567	529	305
95°	411	440	458	434	408	316
105°	198	189	183	192	198	210
115°	15	18	21	18	15	27
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°	8023.1	8023.1	8023.1	8023.1	8023.1
2.5°	7904.9	7937.4	7925.5	7913.7	7925.5
5°	8164.9	8132.4	8224.0	8167.9	8144.2
7.5°	8711.6	8631.8	8705.7	8634.8	8747.1
10°	8897.8	8764.8	8487.0	8732.3	8818.0
12.5°	8528.4	8398.4	8046.7	8422.0	8492.9
15°	8451.5	8147.2	8167.9	8161.9	8395.4
17.5°	8507.7	8144.2	8327.4	8150.1	8395.4
20°	8625.9	8463.4	8761.8	8469.3	8552.0
22.5°	8998.2	8856.4	9296.7	8850.5	9081.0
25°	9391.3	8829.8	9273.1	8794.3	9264.2
27.5°	9196.2	8883.0	8853.4	8847.5	9163.7
30°	9205.1	8980.5	8847.5	9004.1	9148.9
32.5°	9234.6	9160.8	8912.5	9193.3	9193.3
35°	9550.8	9580.4	9426.7	9604.0	9477.0
37.5°	9896.6	9577.4	9477.0	9586.3	9943.9
40°	9976.4	9414.9	9148.9	9403.1	9846.3
42.5°	9740.0	9488.8	9027.8	9459.2	9692.7
45°	9760.7	9462.2	8998.2	9426.7	9707.5
47.5°	9843.4	9642.4	8995.3	9612.9	9799.1
50°	9890.7	9284.9	8758.9	9281.9	9893.6
52.5°	9636.5	8841.6	8159.0	8829.8	9607.0
55°	9069.2	8232.9	7370.0	8170.8	8998.2
57.5°	8436.8	7532.5	6530.7	7482.3	8300.8
60°	7417.3	6654.9	5744.7	6643.0	7423.2
62.5°	6459.8	5930.9	5079.8	5913.1	6391.9
65°	5650.1	4911.4	4420.8	4932.0	5635.4
67.5°	4657.2	4083.9	3602.3	4086.9	4630.6
70°	3823.9	3422.0	3031.9	3395.4	3785.5
72.5°	2999.4	2771.9	2582.7	2763.0	3008.3
75°	2346.3	2195.6	2201.5	2219.3	2361.1
77.5°	1835.1	1758.3	1876.5	1767.1	1820.3
80°	1448.0	1406.6	1569.2	1406.6	1415.5
82.5°	1152.5	1114.1	1244.1	1117.0	1149.5
85°	898.3	874.7	948.6	871.8	874.7
87.5°	673.8	685.6	694.4	688.5	656.0
90°	537.8	573.3	546.7	567.4	529.0
92.5°	472.8	502.4	502.4	511.2	461.0
95°	410.8	440.3	458.0	434.4	407.8
97.5°	357.6	387.1	407.8	387.1	357.6
100°	307.3	328.0	348.7	322.1	301.4
102.5°	257.1	266.0	271.9	266.0	254.1
105°	198.0	189.1	183.2	192.1	198.0
107.5°	138.9	130.0	109.3	130.0	144.8
110°	82.7	76.8	65.0	76.8	88.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	41.4	38.4	38.4	41.4	44.3
115°	14.8	17.7	20.7	17.7	14.8
117.5°	5.9	8.9	8.9	8.9	5.9
120°	5.9	5.9	5.9	5.9	5.9
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)