

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: LUMARK

Report Number: P195453

Luminaire Tested: **NAV-AF-03-D-UNV-5MQ-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195453
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-5MQ-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

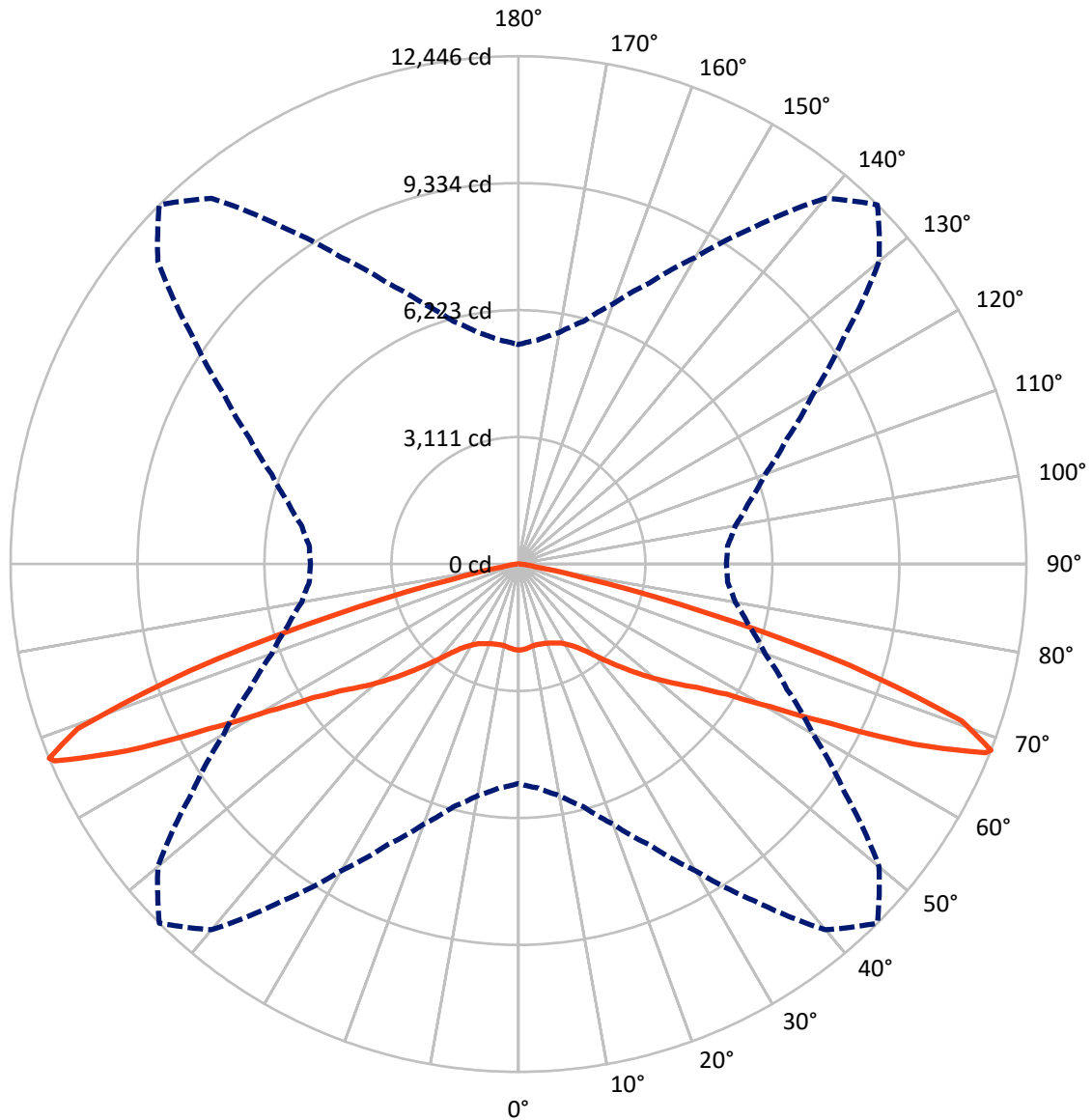
Lumens per Lamp: N/A
Luminaire Lumens: 21162 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G3

Input Watts (W): 191
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



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

REPORT NUMBER: P195453

CATALOG NUMBER: NAV-AF-03-D-UNV-5MQ-7050-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10581.0	0.0	10581.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10581.0	0.0	10581.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	21162.0	0.0	21162.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.5	0.9
10°-20°	572.9	2.7
20°-30°	973.9	4.6
30°-40°	1593.8	7.5
40°-50°	2848.4	13.5
50°-60°	4810.5	22.7
60°-70°	7459.3	35.2
70°-80°	2564.7	12.1
80°-90°	140.9	0.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	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°-90°	21162.0	100.0
0°-180°	21162.0	100.0



REPORT NUMBER: P195453

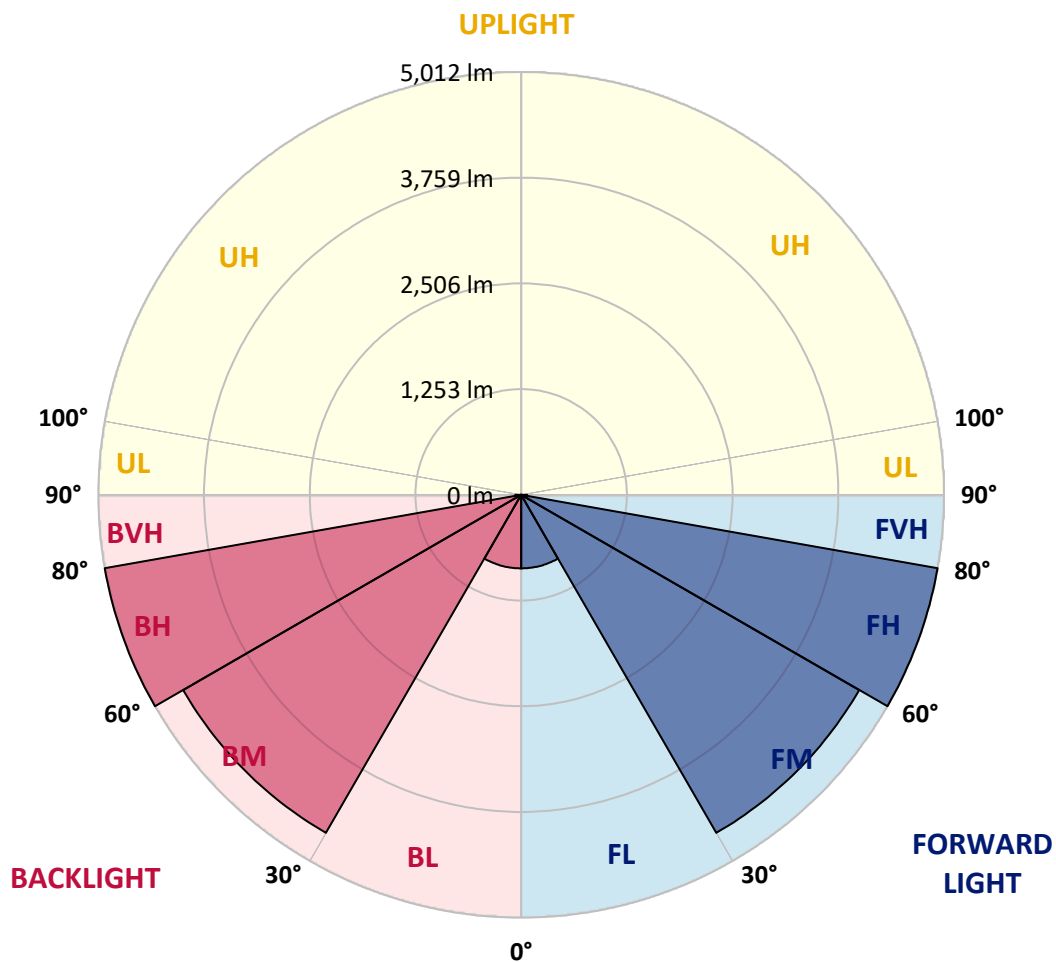
CATALOG NUMBER: NAV-AF-03-D-UNV-5MQ-7050-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	872.2	4.1			
FM	(30°-60°)	4626.4	21.9			
FH	(60°-80°)	5012.0	23.7			G3/7500
FVH	(80°-90°)	70.5	0.3			G1/100
BL	(0°-30°)	872.2	4.1	B2/1000		
BM	(30°-60°)	4626.4	21.9	B3/5000		
BH	(60°-80°)	5012.0	23.7	B5		G3/7500
BVH	(80°-90°)	70.5	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G3

Type V Short





REPORT NUMBER: P195453

CATALOG NUMBER: NAV-AF-03-D-UNV-5MQ-7050-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0
2.5°	2120.0	2120.0	2122.6	2121.3	2117.5	2113.6	2109.7	2105.8	2103.2	2100.6	2098.0
5°	2098.0	2098.0	2101.9	2099.3	2096.7	2092.8	2090.2	2086.4	2083.8	2081.2	2082.5
7.5°	2069.5	2072.1	2074.7	2073.4	2068.2	2066.9	2063.0	2061.7	2059.1	2055.3	2056.5
10°	2044.9	2046.2	2048.8	2047.5	2046.2	2042.3	2041.0	2039.7	2038.4	2033.2	2031.9
12.5°	2020.3	2022.9	2025.4	2026.7	2025.4	2026.7	2028.0	2029.3	2028.0	2025.4	2025.4
15°	2000.8	2003.4	2007.3	2011.2	2012.5	2020.3	2025.4	2030.6	2034.5	2035.8	2031.9
17.5°	1990.5	1994.3	1999.5	2007.3	2013.8	2022.9	2031.9	2039.7	2046.2	2047.5	2043.6
20°	1989.2	1993.0	2000.8	2009.9	2021.6	2033.2	2047.5	2059.1	2065.6	2069.5	2065.6
22.5°	1998.2	2003.4	2013.8	2025.4	2039.7	2055.3	2073.4	2086.4	2099.3	2104.5	2100.6
25°	2024.1	2029.3	2041.0	2055.3	2070.8	2090.2	2108.4	2125.2	2138.2	2144.7	2139.5
27.5°	2078.6	2079.9	2092.8	2108.4	2126.5	2143.4	2166.7	2174.5	2184.8	2191.3	2184.8
30°	2155.0	2157.6	2169.3	2193.9	2210.8	2232.8	2245.7	2253.5	2265.2	2271.7	2263.9
32.5°	2271.7	2274.3	2284.6	2307.9	2323.5	2340.3	2355.9	2361.1	2372.7	2380.5	2371.4
35°	2436.2	2441.4	2450.5	2466.0	2479.0	2492.0	2503.6	2499.7	2507.5	2517.9	2508.8
37.5°	2661.7	2660.4	2663.0	2674.7	2687.6	2695.4	2713.6	2704.5	2712.3	2721.3	2716.1
40°	2924.8	2924.8	2923.5	2944.2	2949.4	2957.2	2976.6	2965.0	2975.3	2985.7	2976.6
42.5°	3224.1	3229.3	3235.8	3252.6	3266.9	3269.5	3278.6	3273.4	3286.3	3295.4	3286.3
45°	3568.8	3576.6	3584.4	3623.3	3629.7	3634.9	3641.4	3624.5	3638.8	3646.6	3644.0
47.5°	3926.5	3940.7	3957.6	3997.8	4023.7	4035.3	4040.5	4021.1	4022.4	4034.0	4035.3
50°	4330.8	4346.3	4363.2	4408.6	4433.2	4453.9	4460.4	4438.4	4440.9	4450.0	4452.6
52.5°	4704.0	4722.2	4758.4	4819.3	4854.3	4890.6	4893.2	4866.0	4877.7	4884.1	4879.0
55°	5055.2	5078.5	5126.5	5208.1	5271.6	5342.9	5375.3	5345.5	5345.5	5340.3	5337.7
57.5°	5464.7	5490.6	5539.8	5634.4	5722.6	5824.9	5913.1	5942.9	5997.3	6015.4	5986.9
60°	6081.5	6108.7	6159.3	6283.7	6395.1	6544.1	6689.3	6807.2	6999.0	7102.7	7009.4
62.5°	6645.2	6686.7	6805.9	7023.6	7264.6	7540.7	7860.7	8088.8	8437.4	8611.1	8376.5
65°	6516.9	6601.2	6834.4	7176.5	7674.1	8272.8	8924.7	9550.6	10271.1	10640.4	10163.5
67.5°	5692.8	5764.0	6015.4	6413.3	7034.0	7859.5	8872.8	10168.7	11655.1	12347.1	11503.4
68°	5377.9	5511.3	5761.4	6156.7	6782.6	7593.8	8675.9	10075.4	11697.8	12445.5	11534.5
70°	4123.5	4171.4	4411.1	4766.2	5441.4	6237.0	7329.4	8924.7	10758.3	11528.1	10591.1
72.5°	1959.4	1987.9	2143.4	2493.3	2922.2	3570.1	4534.2	6038.8	7691.0	8491.8	7557.5
75°	717.9	724.4	760.7	843.6	1004.3	1247.9	1710.5	2646.2	3917.4	4671.6	3933.0
77.5°	387.5	388.8	403.0	423.7	452.3	484.7	554.6	743.8	1200.0	1632.8	1267.4
80°	243.6	242.3	256.6	273.4	292.9	308.4	314.9	336.9	379.7	444.5	408.2
82.5°	124.4	136.1	168.5	186.6	215.1	220.3	213.8	212.5	225.5	243.6	251.4
85°	68.7	60.9	89.4	119.2	129.6	133.5	134.8	127.0	124.4	121.8	128.3
87.5°	35.0	32.4	38.9	59.6	63.5	51.8	53.1	45.4	31.1	31.1	32.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P195453

CATALOG NUMBER: NAV-AF-03-D-UNV-5MQ-7050-1200

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0	2111.0
2.5°	2095.4	2096.7	2094.1	2094.1	2094.1	2095.4	2094.1	2092.8
5°	2078.6	2081.2	2081.2	2082.5	2083.8	2083.8	2083.8	2083.8
7.5°	2054.0	2055.3	2057.8	2057.8	2057.8	2057.8	2057.8	2057.8
10°	2030.6	2028.0	2026.7	2024.1	2024.1	2020.3	2021.6	2022.9
12.5°	2019.0	2013.8	2011.2	2007.3	2004.7	2000.8	2000.8	2002.1
15°	2024.1	2016.4	2008.6	2006.0	2003.4	2000.8	1998.2	1999.5
17.5°	2034.5	2025.4	2016.4	2011.2	2006.0	2002.1	2000.8	2002.1
20°	2056.5	2043.6	2029.3	2020.3	2009.9	2007.3	2003.4	2007.3
22.5°	2086.4	2070.8	2052.7	2035.8	2024.1	2019.0	2013.8	2017.7
25°	2122.6	2105.8	2087.6	2068.2	2055.3	2051.4	2044.9	2044.9
27.5°	2173.2	2158.9	2143.4	2125.2	2112.3	2108.4	2098.0	2098.0
30°	2253.5	2239.3	2225.0	2209.5	2196.5	2192.6	2179.7	2179.7
32.5°	2359.8	2344.2	2335.2	2322.2	2311.8	2305.4	2289.8	2288.5
35°	2502.3	2488.1	2486.8	2477.7	2467.3	2468.6	2453.1	2450.5
37.5°	2707.1	2695.4	2699.3	2691.5	2682.5	2690.2	2681.2	2681.2
40°	2968.8	2965.0	2968.8	2963.7	2965.0	2966.2	2958.5	2961.1
42.5°	3285.0	3274.7	3298.0	3295.4	3291.5	3301.9	3283.7	3270.8
45°	3649.2	3645.3	3668.6	3672.5	3664.7	3671.2	3638.8	3637.5
47.5°	4044.4	4044.4	4065.1	4062.6	4054.8	4056.1	4017.2	3992.6
50°	4456.5	4453.9	4474.6	4469.5	4459.1	4457.8	4417.6	4393.0
52.5°	4885.4	4885.4	4915.2	4901.0	4876.4	4864.7	4815.5	4783.1
55°	5359.7	5353.2	5362.3	5315.7	5267.7	5232.7	5171.8	5147.2
57.5°	5959.7	5884.5	5819.8	5760.1	5692.8	5651.3	5580.0	5554.1
60°	6811.1	6610.2	6523.4	6404.2	6292.7	6237.0	6142.4	6091.9
62.5°	7990.3	7657.3	7421.4	7158.4	6904.4	6725.6	6581.7	6518.2
65°	9353.6	8627.9	8027.9	7464.2	6986.0	6606.3	6395.1	6329.0
67.5°	9871.9	8539.8	7504.4	6695.8	6115.2	5663.0	5410.3	5357.1
68°	9761.8	8337.6	7262.1	6434.0	5850.9	5394.7	5143.3	5095.4
70°	8611.1	7034.0	5898.8	5074.6	4530.4	4096.2	3918.7	3842.3
72.5°	5870.3	4517.4	3465.2	2771.9	2365.0	2090.2	1927.0	1871.2
75°	2701.9	1825.9	1219.4	911.0	773.6	707.5	657.0	644.0
77.5°	787.9	572.8	492.4	456.1	428.9	405.6	388.8	387.5
80°	374.5	351.2	340.8	317.5	292.9	270.8	255.3	257.9
82.5°	251.4	244.9	244.9	221.6	182.7	156.8	129.6	116.6
85°	133.5	138.7	146.4	138.7	120.5	89.4	58.3	63.5
87.5°	45.4	51.8	54.4	53.1	47.9	36.3	27.2	27.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)