

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: P195922

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195922
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-04-D-UNV-5MQ-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

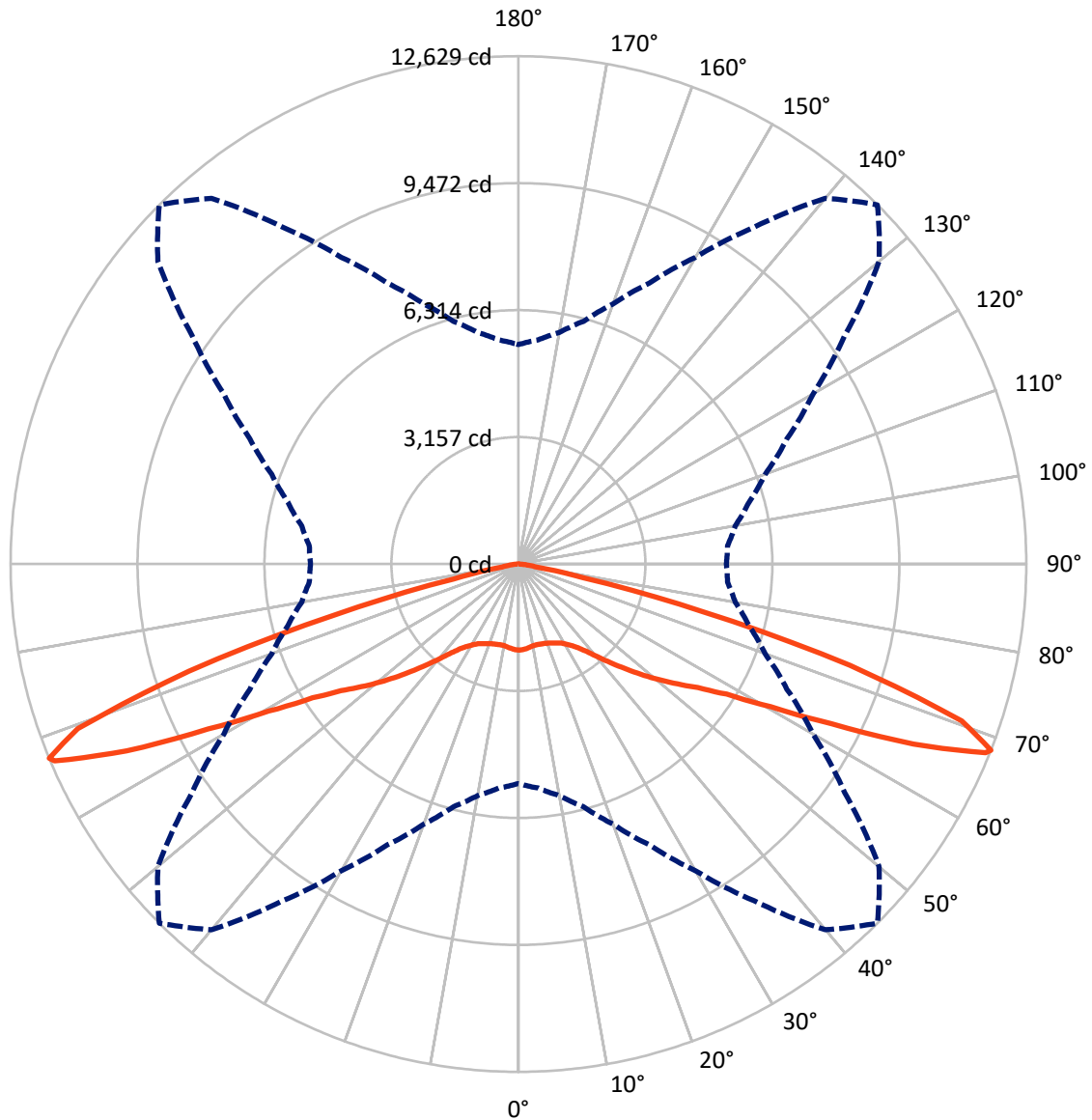
Lumens per Lamp: N/A
Luminaire Lumens: 21473.8 lumens
Efficiency: N/A
Efficacy: 125.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G3

Input Watts (W): 171
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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10736.9	0.0	10736.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10736.9	0.0	10736.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	21473.8	0.0	21473.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.4	0.9
10°-20°	581.3	2.7
20°-30°	988.3	4.6
30°-40°	1617.3	7.5
40°-50°	2890.4	13.5
50°-60°	4881.4	22.7
60°-70°	7569.2	35.2
70°-80°	2602.5	12.1
80°-90°	143.0	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°	21473.8	100.0
0°-180°	21473.8	100.0



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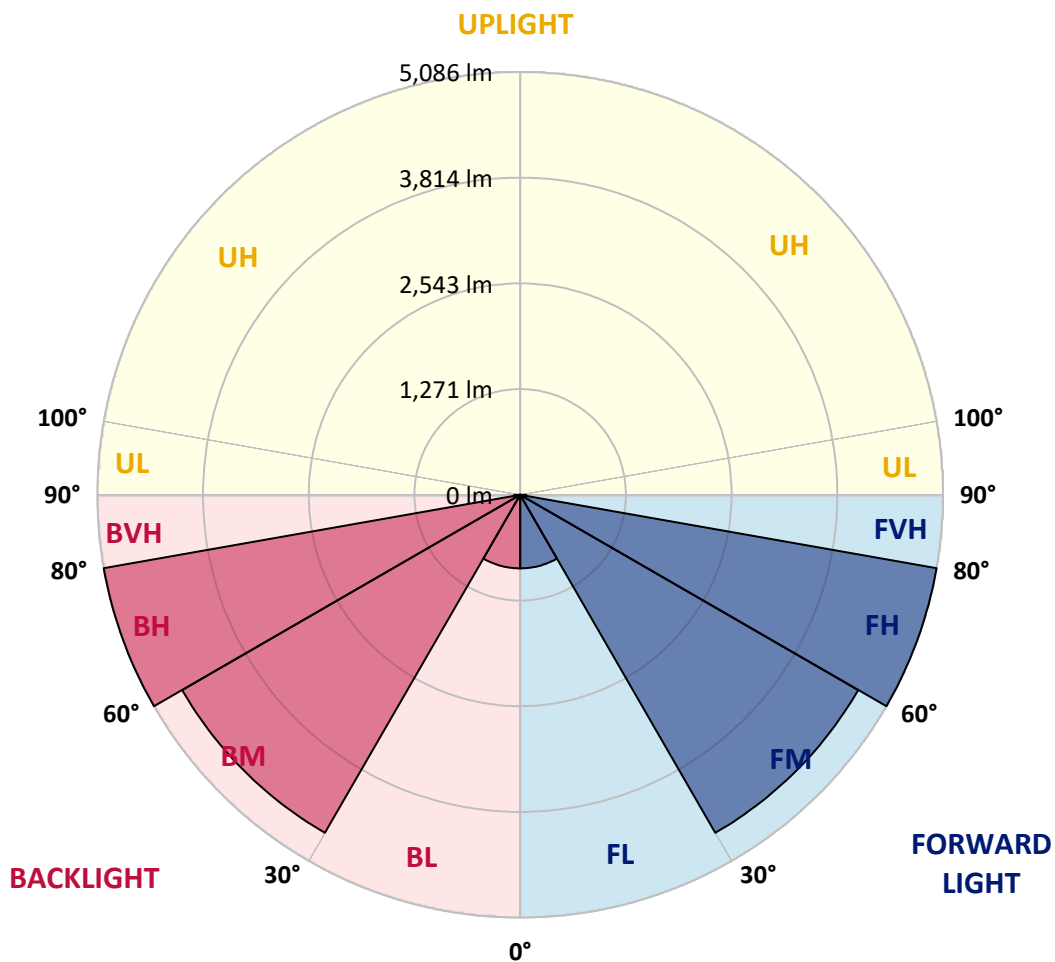
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	885.0	4.1			
FM	(30°-60°)	4694.5	21.9			
FH	(60°-80°)	5085.8	23.7			G3/7500
FVH	(80°-90°)	71.5	0.3			G1/100
BL	(0°-30°)	885.0	4.1	B2/1000		
BM	(30°-60°)	4694.5	21.9	B3/5000		
BH	(60°-80°)	5085.8	23.7	B5		G3/7500
BVH	(80°-90°)	71.5	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1
2.5°	2151.3	2151.3	2153.9	2152.6	2148.6	2144.7	2140.7	2136.8	2134.2	2131.5	2129.0
5°	2129.0	2129.0	2132.9	2130.2	2127.6	2123.6	2121.0	2117.1	2114.4	2111.8	2113.1
7.5°	2100.0	2102.7	2105.2	2103.9	2098.7	2097.4	2093.5	2092.1	2089.5	2085.5	2086.8
10°	2075.1	2076.3	2078.9	2077.6	2076.3	2072.4	2071.1	2069.7	2068.4	2063.2	2061.9
12.5°	2050.0	2052.7	2055.3	2056.6	2055.3	2056.6	2057.9	2059.2	2057.9	2055.3	2055.3
15°	2030.4	2032.9	2036.9	2040.8	2042.1	2050.0	2055.3	2060.5	2064.5	2065.8	2061.9
17.5°	2019.8	2023.7	2029.0	2036.9	2043.4	2052.7	2061.9	2069.7	2076.3	2077.6	2073.7
20°	2018.5	2022.4	2030.4	2039.5	2051.3	2063.2	2077.6	2089.5	2096.0	2100.0	2096.0
22.5°	2027.7	2032.9	2043.4	2055.3	2069.7	2085.5	2103.9	2117.1	2130.2	2135.5	2131.5
25°	2054.0	2059.2	2071.1	2085.5	2101.3	2121.0	2139.4	2156.6	2169.7	2176.2	2171.0
27.5°	2109.2	2110.6	2123.6	2139.4	2157.8	2175.0	2198.6	2206.5	2217.0	2223.6	2217.0
30°	2186.8	2189.4	2201.3	2226.2	2243.3	2265.6	2278.8	2286.7	2298.6	2305.1	2297.2
32.5°	2305.1	2307.8	2318.3	2341.9	2357.7	2374.8	2390.6	2395.9	2407.7	2415.6	2406.4
35°	2472.2	2477.4	2486.6	2502.3	2515.5	2528.6	2540.5	2536.6	2544.5	2554.9	2545.8
37.5°	2700.9	2699.6	2702.2	2714.1	2727.2	2735.2	2753.6	2744.4	2752.2	2761.5	2756.1
40°	2967.9	2967.9	2966.6	2987.6	2992.8	3000.7	3020.5	3008.6	3019.1	3029.7	3020.5
42.5°	3271.6	3276.9	3283.5	3300.6	3315.0	3317.6	3326.8	3321.6	3334.7	3343.9	3334.7
45°	3621.5	3629.3	3637.2	3676.6	3683.2	3688.5	3695.0	3677.9	3692.4	3700.3	3697.7
47.5°	3984.3	3998.8	4015.9	4056.6	4083.0	4094.8	4100.1	4080.3	4081.7	4093.4	4094.8
50°	4394.6	4410.4	4427.4	4473.5	4498.5	4519.5	4526.1	4503.7	4506.4	4515.6	4518.2
52.5°	4773.3	4791.7	4828.5	4890.3	4925.8	4962.6	4965.3	4937.7	4949.5	4956.1	4950.9
55°	5129.7	5153.3	5202.0	5284.9	5349.3	5421.6	5454.5	5424.2	5424.2	5419.0	5416.3
57.5°	5545.2	5571.5	5621.4	5717.5	5806.9	5910.7	6000.2	6030.4	6085.6	6104.0	6075.1
60°	6171.2	6198.8	6250.0	6376.3	6489.3	6640.6	6787.8	6907.5	7102.1	7207.3	7112.7
62.5°	6743.1	6785.2	6906.1	7127.1	7371.7	7651.8	7976.6	8208.0	8561.7	8737.9	8499.9
65°	6613.0	6698.4	6935.1	7282.3	7787.2	8394.7	9056.2	9691.2	10422.4	10797.1	10313.3
67.5°	5776.6	5848.9	6104.0	6507.7	7137.6	7975.2	9003.5	10318.5	11826.7	12529.0	11672.9
68°	5457.1	5592.6	5846.4	6247.4	6882.5	7705.7	8803.7	10223.9	11870.1	12628.9	11704.5
70°	4184.2	4232.9	4476.1	4836.4	5521.5	6328.9	7437.5	9056.2	10916.8	11698.0	10747.2
72.5°	1988.2	2017.2	2175.0	2530.0	2965.2	3622.7	4601.0	6127.7	7804.3	8616.9	7668.9
75°	728.4	735.1	771.9	856.0	1019.1	1266.3	1735.7	2685.1	3975.1	4740.5	3990.9
77.5°	393.2	394.4	409.0	429.9	458.9	491.8	562.8	754.8	1217.6	1656.9	1286.1
80°	247.2	245.9	260.3	277.4	297.2	312.9	319.6	341.9	385.2	451.0	414.2
82.5°	126.2	138.1	170.9	189.3	218.3	223.5	217.0	215.6	228.8	247.2	255.1
85°	69.7	61.8	90.7	121.0	131.4	135.4	136.8	128.9	126.2	123.6	130.2
87.5°	35.5	32.8	39.5	60.5	64.4	52.6	53.9	46.0	31.6	31.6	32.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1
2.5°	2126.3	2127.6	2125.0	2125.0	2125.0	2126.3	2125.0	2123.6
5°	2109.2	2111.8	2111.8	2113.1	2114.4	2114.4	2114.4	2114.4
7.5°	2084.3	2085.5	2088.1	2088.1	2088.1	2088.1	2088.1	2088.1
10°	2060.5	2057.9	2056.6	2054.0	2054.0	2050.0	2051.3	2052.7
12.5°	2048.7	2043.4	2040.8	2036.9	2034.2	2030.4	2030.4	2031.6
15°	2054.0	2046.1	2038.2	2035.6	2032.9	2030.4	2027.7	2029.0
17.5°	2064.5	2055.3	2046.1	2040.8	2035.6	2031.6	2030.4	2031.6
20°	2086.8	2073.7	2059.2	2050.0	2039.5	2036.9	2032.9	2036.9
22.5°	2117.1	2101.3	2082.9	2065.8	2054.0	2048.7	2043.4	2047.4
25°	2153.9	2136.8	2118.4	2098.7	2085.5	2081.6	2075.1	2075.1
27.5°	2205.2	2190.8	2175.0	2156.6	2143.4	2139.4	2129.0	2129.0
30°	2286.7	2272.3	2257.8	2242.0	2228.9	2224.9	2211.7	2211.7
32.5°	2394.5	2378.8	2369.6	2356.4	2345.9	2339.3	2323.5	2322.2
35°	2539.2	2524.7	2523.4	2514.2	2503.7	2505.0	2489.2	2486.6
37.5°	2746.9	2735.2	2739.1	2731.2	2722.0	2729.8	2720.6	2720.6
40°	3012.6	3008.6	3012.6	3007.3	3008.6	3009.9	3002.1	3004.7
42.5°	3333.4	3323.0	3346.6	3343.9	3340.0	3350.6	3332.2	3319.0
45°	3703.0	3699.0	3722.6	3726.6	3718.7	3725.3	3692.4	3691.1
47.5°	4104.0	4104.0	4125.0	4122.4	4114.5	4115.8	4076.4	4051.4
50°	4522.2	4519.5	4540.6	4535.4	4524.8	4523.5	4482.7	4457.7
52.5°	4957.4	4957.4	4987.7	4973.2	4948.2	4936.4	4886.4	4853.5
55°	5438.7	5432.1	5441.3	5394.0	5345.3	5309.8	5248.0	5223.0
57.5°	6047.5	5971.3	5905.5	5845.0	5776.6	5734.6	5662.2	5635.9
60°	6911.5	6707.6	6619.5	6498.5	6385.5	6328.9	6232.9	6181.6
62.5°	8108.0	7770.1	7530.8	7263.9	7006.1	6824.6	6678.7	6614.3
65°	9491.4	8755.0	8146.2	7574.2	7088.9	6703.7	6489.3	6422.3
67.5°	10017.3	8665.6	7614.9	6794.4	6205.3	5746.4	5490.0	5436.1
68°	9905.6	8460.5	7369.0	6528.8	5937.1	5474.2	5219.1	5170.4
70°	8737.9	7137.6	5985.7	5149.4	4597.1	4156.6	3976.4	3898.9
72.5°	5956.7	4583.9	3516.2	2812.7	2399.8	2121.0	1955.4	1898.8
75°	2741.7	1852.8	1237.4	924.4	785.0	718.0	666.7	653.6
77.5°	799.5	581.2	499.7	462.9	435.3	411.5	394.4	393.2
80°	380.0	356.4	345.9	322.1	297.2	274.9	259.0	261.7
82.5°	255.1	248.6	248.6	224.8	185.4	159.1	131.4	118.4
85°	135.4	140.7	148.6	140.7	122.2	90.7	59.1	64.4
87.5°	46.0	52.6	55.2	53.9	48.7	36.8	27.6	27.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)