

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: P197338

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197338
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

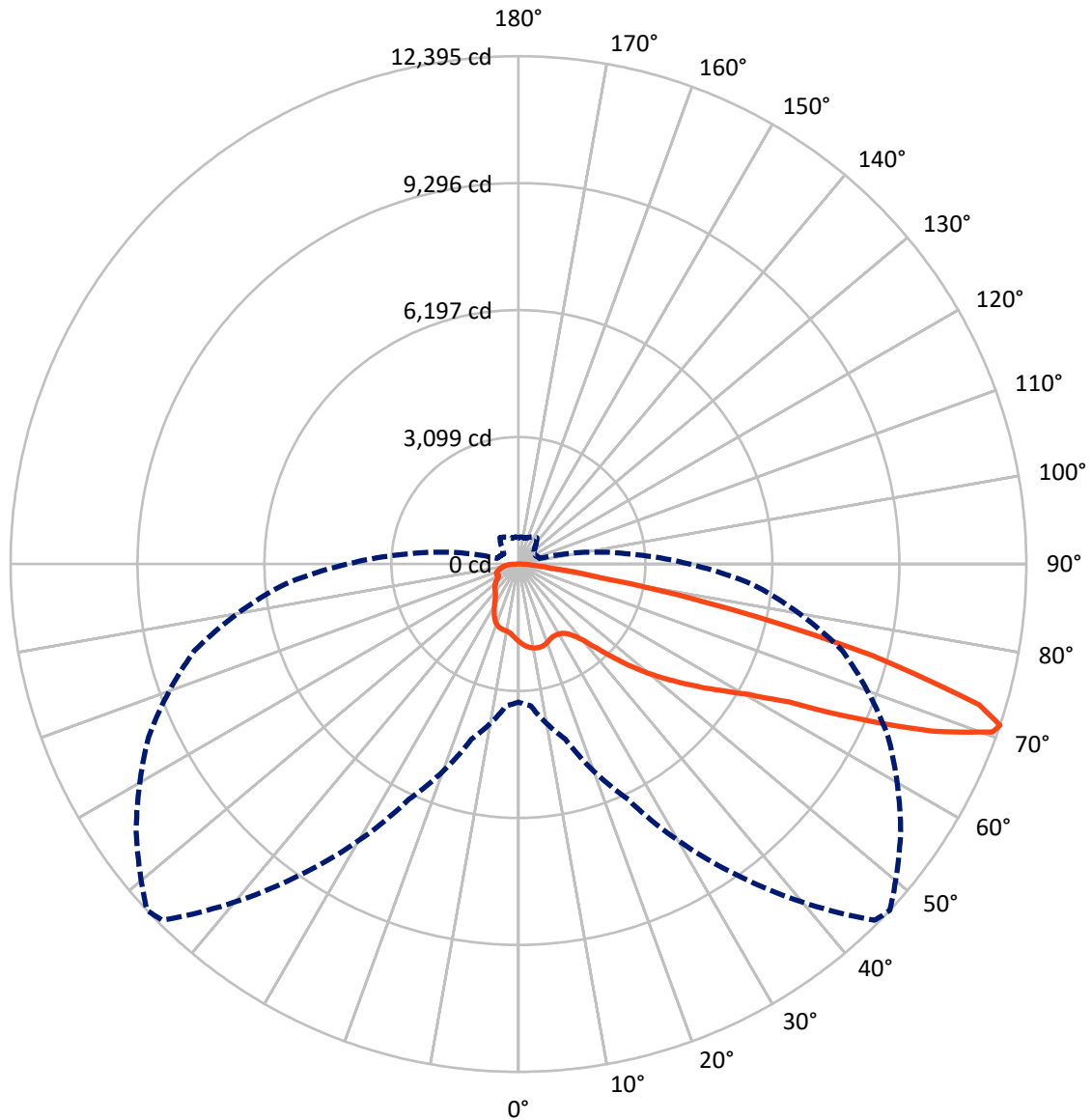
Lumens per Lamp: N/A
Luminaire Lumens: 15895 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

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 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3406.5	0.0	3406.5
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	12488.5	0.0	12488.5
	% Fixture	78.6	0.0	78.6
Total	Lumens	15895.0	0.0	15895.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.5	1.1
10°-20°	528.0	3.3
20°-30°	784.6	4.9
30°-40°	1126.5	7.1
40°-50°	1997.4	12.6
50°-60°	3417.8	21.5
60°-70°	4852.1	30.5
70°-80°	2657.4	16.7
80°-90°	350.8	2.2
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°	15895.0	100.0
0°-180°	15895.0	100.0

Coefficient of Utilization



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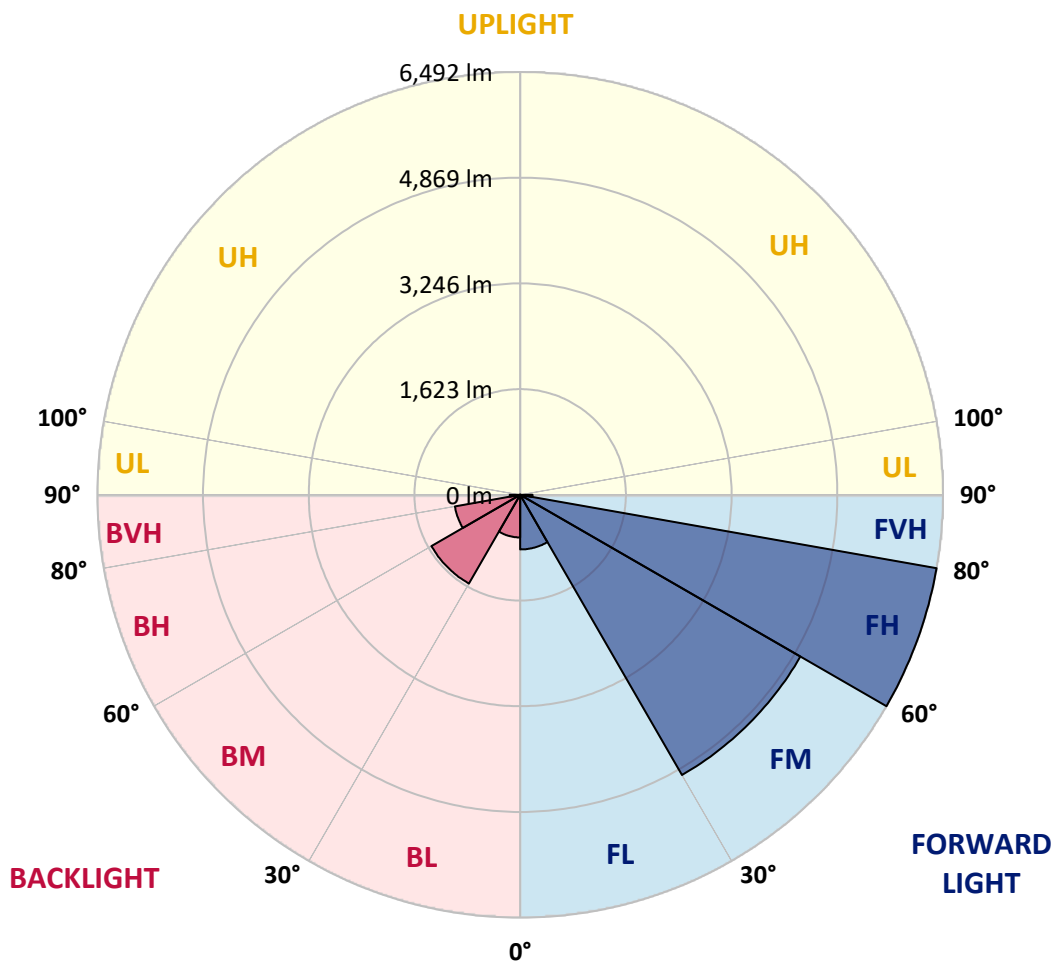
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	838.9	5.3			
FM (30°-60°)	4967.7	31.3			
FH (60°-80°)	6491.7	40.8			G3/7500
FVH (80°-90°)	190.3	1.2			G2/225
BL (0°-30°)	654.2	4.1	B2/1000		
BM (30°-60°)	1574.0	9.9	B2/2500		
BH (60°-80°)	1017.8	6.4	B3/2500		G3/2500
BVH (80°-90°)	160.5	1.0			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2
2.5°	2005.5	2001.4	2003.5	1996.3	1978.8	1960.2	1960.2	1940.7	1920.1	1899.5	1876.8
5°	2130.2	2124.0	2118.9	2096.2	2062.2	2024.1	2017.9	1978.8	1936.5	1894.3	1853.1
7.5°	2234.2	2228.0	2212.6	2171.4	2121.9	2065.3	2058.1	2006.6	1951.0	1892.2	1834.6
10°	2308.4	2304.3	2274.4	2221.9	2164.2	2097.2	2084.9	2032.3	1966.4	1893.3	1820.1
12.5°	2349.6	2343.4	2307.4	2245.6	2177.6	2109.6	2097.2	2046.8	1971.6	1891.2	1805.7
15°	2333.1	2330.0	2296.0	2233.2	2165.2	2106.5	2096.2	2044.7	1968.5	1884.0	1792.3
17.5°	2263.1	2270.3	2243.5	2181.7	2126.1	2084.9	2073.5	2025.1	1953.0	1866.5	1771.7
20°	2166.2	2174.5	2161.1	2098.3	2066.3	2039.5	2033.4	1994.2	1927.3	1840.7	1747.0
22.5°	2063.2	2070.4	2071.5	2012.8	2002.5	1992.2	1987.0	1959.2	1904.6	1825.3	1730.5
25°	1992.2	2000.4	2002.5	1951.0	1957.1	1960.2	1959.2	1939.6	1900.5	1825.3	1732.6
27.5°	1973.6	1977.7	1975.7	1928.3	1939.6	1957.1	1958.2	1954.0	1917.0	1845.9	1761.4
30°	2037.5	2039.5	2013.8	1942.7	1954.0	1976.7	1977.7	1975.7	1952.0	1899.5	1826.3
32.5°	2313.5	2311.5	2222.9	2039.5	2000.4	2008.6	2011.7	2030.3	2032.3	1988.0	1920.1
35°	2733.8	2732.8	2629.8	2316.6	2132.2	2089.0	2093.1	2121.9	2147.7	2117.8	2078.7
37.5°	3196.3	3199.4	3136.6	2712.2	2416.5	2236.3	2232.2	2253.8	2300.2	2310.5	2315.6
40°	3709.3	3724.7	3721.6	3166.4	2815.2	2487.6	2446.4	2421.7	2511.3	2568.0	2641.1
42.5°	4295.4	4291.3	4293.3	3665.0	3270.5	2883.2	2806.9	2691.6	2795.6	2893.5	3054.2
45°	4799.1	4815.6	4827.9	4195.5	3780.4	3335.4	3258.1	3048.0	3141.7	3288.0	3533.1
47.5°	5305.9	5277.1	5299.7	4785.7	4347.9	3851.4	3751.5	3468.3	3555.8	3761.8	4134.7
50°	5896.1	5882.7	5779.7	5556.2	5034.0	4374.7	4243.9	3907.1	4034.8	4309.8	4877.4
52.5°	6425.6	6353.5	6273.1	6161.9	5708.7	4904.2	4738.3	4363.4	4598.2	4939.2	5799.3
55°	6619.2	6570.8	6667.7	6811.9	6422.5	5443.9	5258.5	4895.9	5233.8	5659.2	6884.0
57.5°	6825.3	6841.7	7060.1	7351.6	7098.2	6019.7	5818.9	5526.3	5931.2	6464.7	8096.4
60°	6928.3	6994.2	7429.9	7976.9	7741.0	6651.2	6458.6	6250.5	6704.7	7354.7	9305.7
62.5°	6945.8	7034.4	7651.4	8196.3	8625.8	7618.4	7395.9	7170.3	7670.9	8338.4	10181.2
65°	6624.4	6760.4	7631.8	8466.2	9432.4	9234.6	9093.5	8700.0	8964.7	9204.7	10330.6
67.5°	5679.8	5828.1	6876.8	8354.9	10079.3	10911.6	10884.8	10303.8	9963.9	9539.5	9223.3
70°	4168.7	4288.2	5295.6	7142.5	9797.0	12228.0	12275.4	11343.2	10243.0	8828.7	6858.2
71°	3371.4	3474.4	4424.2	6341.1	9247.0	12296.0	12394.9	11389.5	9952.6	8187.0	5741.6
72.5°	2098.3	2155.9	2937.8	4785.7	7962.5	11595.5	11762.4	10796.2	9037.8	6920.0	4058.5
75°	792.1	814.8	1089.8	2110.6	4752.8	8711.3	8913.2	8159.2	6349.4	3950.3	1698.6
77.5°	425.4	436.8	540.8	877.6	1904.6	4993.8	5253.4	4653.9	3045.9	1382.4	694.3
80°	285.3	292.5	373.9	520.2	875.6	1901.5	2117.8	1868.6	1140.3	789.0	494.4
82.5°	184.4	188.5	254.4	342.0	565.5	668.5	763.3	797.3	711.8	565.5	298.7
85°	121.5	124.6	167.9	218.4	350.2	329.6	337.9	441.9	485.2	372.9	152.5
87.5°	70.0	72.1	100.9	112.3	157.6	123.6	133.9	210.1	288.4	243.1	87.6
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2	1890.2
2.5°	1866.5	1858.2	1839.7	1828.4	1823.2	1821.2	1819.1	1823.2	1823.2	1821.2	1817.0
5°	1832.5	1817.0	1786.1	1764.5	1753.2	1750.1	1754.2	1759.4	1762.5	1762.5	1759.4
7.5°	1807.8	1785.1	1743.9	1714.0	1696.5	1691.4	1702.7	1721.2	1733.6	1739.8	1740.8
10°	1787.2	1756.3	1710.9	1680.0	1665.6	1663.6	1678.0	1701.7	1727.4	1738.8	1740.8
12.5°	1768.6	1733.6	1684.2	1655.3	1645.0	1650.2	1669.7	1691.4	1721.2	1737.7	1738.8
15°	1751.1	1715.1	1662.5	1632.7	1630.6	1638.8	1657.4	1674.9	1697.6	1718.2	1718.2
17.5°	1730.5	1691.4	1636.8	1609.0	1609.0	1616.2	1628.5	1637.8	1652.2	1671.8	1670.8
20°	1705.8	1665.6	1610.0	1581.2	1575.0	1570.9	1570.9	1572.9	1585.3	1602.8	1605.9
22.5°	1687.3	1646.1	1587.3	1552.3	1524.5	1497.7	1486.4	1482.3	1493.6	1510.1	1514.2
25°	1687.3	1646.1	1580.1	1521.4	1453.4	1401.9	1380.3	1374.1	1385.4	1400.9	1407.1
27.5°	1715.1	1673.9	1596.6	1493.6	1369.0	1286.6	1260.8	1255.7	1266.0	1278.3	1284.5
30°	1780.0	1739.8	1644.0	1461.7	1275.2	1167.1	1138.2	1133.1	1138.2	1143.4	1150.6
32.5°	1888.1	1854.1	1721.2	1432.8	1180.5	1058.9	1023.9	1015.7	1017.7	1018.7	1024.9
35°	2064.3	2048.8	1824.3	1398.8	1090.8	970.3	934.3	917.8	916.8	921.9	929.1
37.5°	2334.1	2343.4	1957.1	1349.4	1016.7	907.5	871.4	855.0	846.7	857.0	865.3
40°	2715.3	2736.9	2110.6	1282.4	955.9	870.4	832.3	816.8	805.5	802.4	806.5
42.5°	3210.7	3204.6	2267.2	1196.9	890.0	845.7	805.5	789.0	770.5	746.8	741.7
45°	3797.9	3709.3	2398.0	1091.9	814.8	822.0	780.8	758.1	729.3	694.3	690.1
47.5°	4491.1	4247.0	2478.4	979.6	744.7	791.1	753.0	718.0	675.7	653.1	650.0
50°	5326.5	4876.4	2535.0	865.3	681.9	752.0	713.8	667.5	626.3	620.1	619.1
52.5°	6315.4	5619.0	2605.1	762.3	632.5	701.5	674.7	627.3	594.4	597.4	597.4
55°	7367.1	6387.5	2607.1	680.9	589.2	642.8	645.9	607.7	582.0	592.3	595.4
57.5°	8326.1	7059.1	2402.1	623.2	548.0	596.4	636.6	615.0	595.4	631.4	634.5
60°	9162.5	7576.2	1961.3	575.8	514.0	578.9	657.2	659.2	655.1	753.0	760.2
62.5°	9468.4	7581.3	1392.7	535.6	495.5	589.2	700.4	703.5	703.5	794.2	807.6
65°	9039.9	6949.9	927.1	511.9	483.1	611.9	735.5	722.1	690.1	753.0	738.6
67.5°	7529.8	5409.9	677.8	496.5	465.6	612.9	766.4	732.4	677.8	731.4	706.6
70°	5175.1	3442.5	567.6	482.1	445.0	586.1	782.9	729.3	659.2	681.9	648.9
71°	4165.6	2747.2	538.7	476.9	436.8	570.7	784.9	725.2	650.0	664.4	634.5
72.5°	2744.1	1692.4	503.7	465.6	424.4	543.9	779.8	715.9	637.6	638.6	619.1
75°	1082.6	701.5	453.2	439.8	389.4	500.6	757.1	696.3	613.9	593.3	585.1
77.5°	547.0	458.4	398.6	403.8	348.2	456.3	725.2	664.4	581.0	553.1	547.0
80°	399.7	348.2	341.0	350.2	301.8	413.1	685.0	621.1	538.7	567.6	555.2
82.5°	243.1	212.2	266.8	289.5	252.4	368.8	637.6	570.7	485.2	447.1	432.6
85°	115.4	124.6	192.6	213.2	186.4	294.6	583.0	515.0	423.4	365.7	371.9
87.5°	56.7	69.0	110.2	127.7	122.6	216.3	439.8	399.7	333.7	275.0	268.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)