

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: P195927

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195927
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19733.7 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 166
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

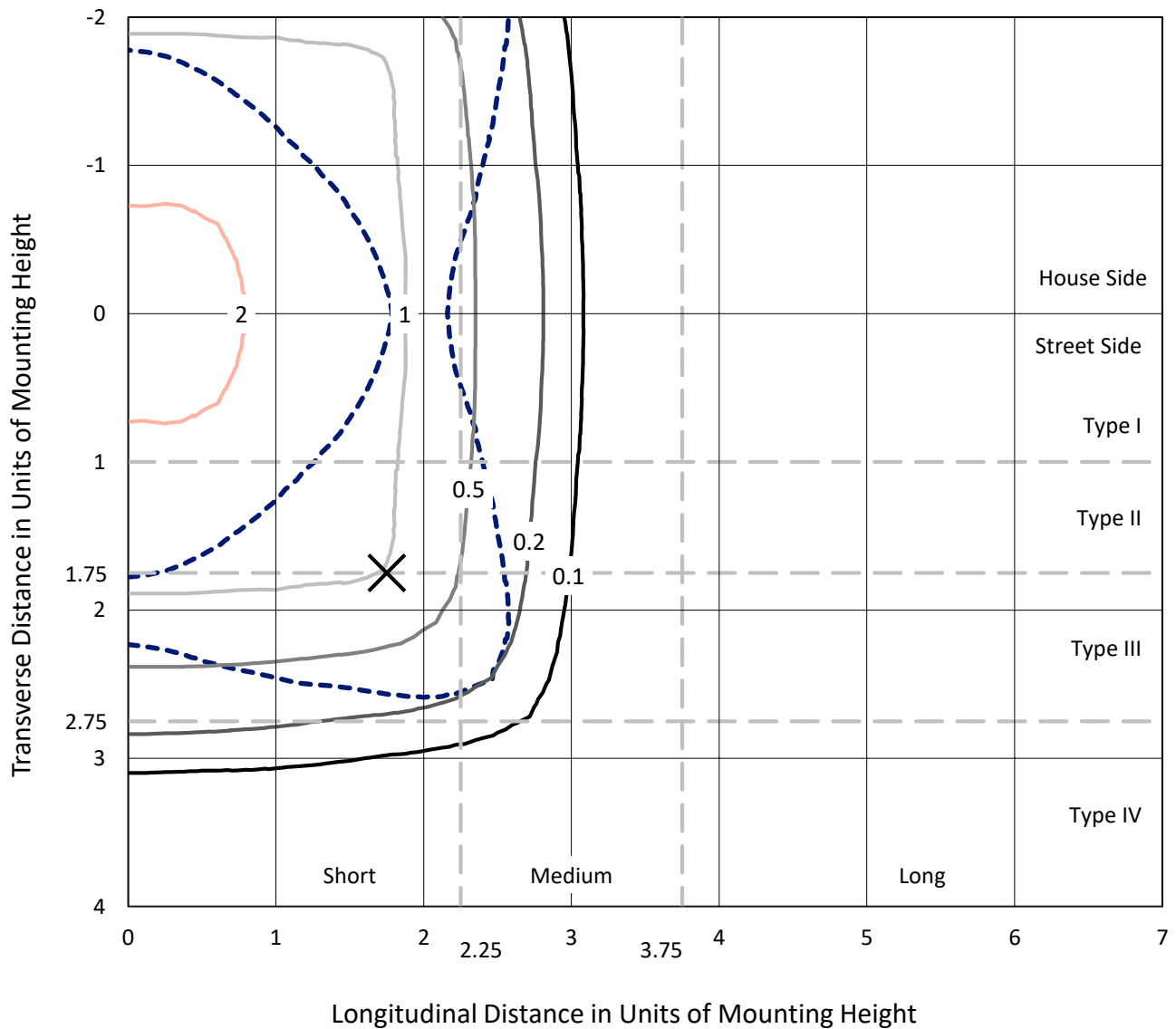


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

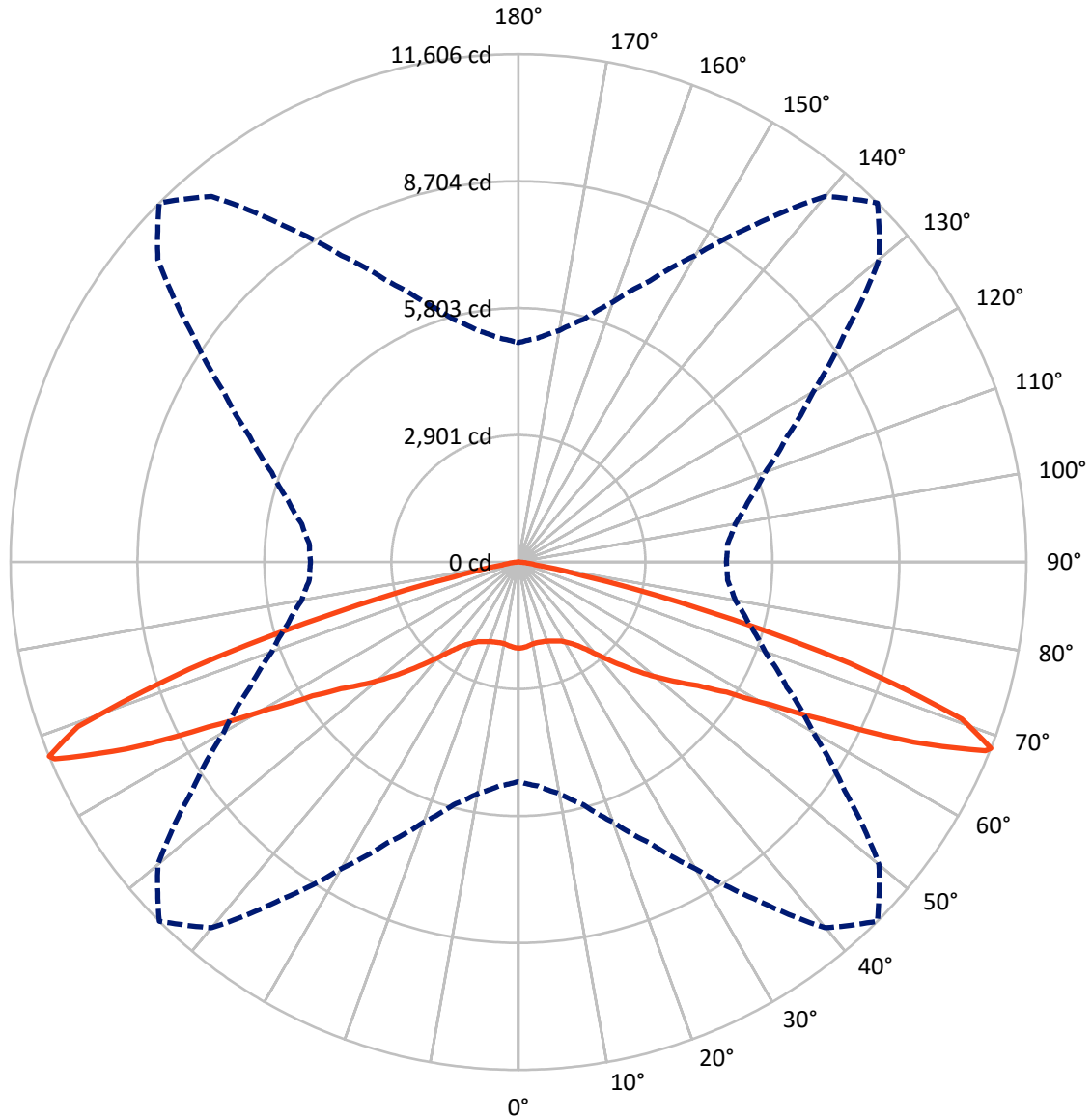


Based on 25 foot mounting height. Maximum calculated value = 3.1 fc
 Type V - Short - Full Cutoff

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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	9866.9	0.0	9866.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9866.9	0.0	9866.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	19733.7	0.0	19733.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.2	0.9
10°-20°	534.2	2.7
20°-30°	908.2	4.6
30°-40°	1486.3	7.5
40°-50°	2656.1	13.5
50°-60°	4485.8	22.7
60°-70°	6955.9	35.2
70°-80°	2391.6	12.1
80°-90°	131.4	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°	19733.7	100.0
0°-180°	19733.7	100.0



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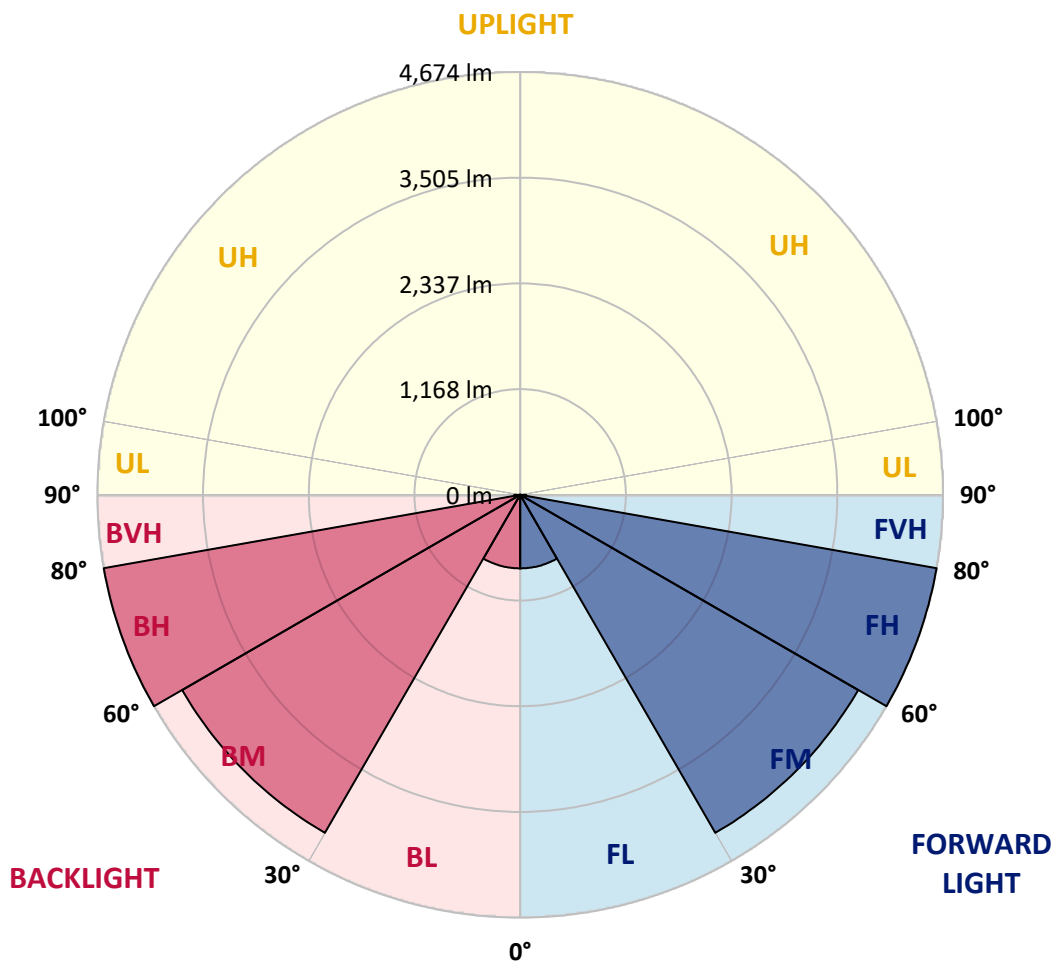
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	813.3	4.1			
FM	(30°-60°)	4314.1	21.9			
FH	(60°-80°)	4673.7	23.7			G2/5000
FVH	(80°-90°)	65.7	0.3			G1/100
BL	(0°-30°)	813.3	4.1	B2/1000		
BM	(30°-60°)	4314.1	21.9	B3/5000		
BH	(60°-80°)	4673.7	23.7	B4/5000		G2/5000
BVH	(80°-90°)	65.7	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5
2.5°	1977.0	1977.0	1979.4	1978.2	1974.5	1970.9	1967.3	1963.7	1961.2	1958.8	1956.4
5°	1956.4	1956.4	1960.1	1957.6	1955.2	1951.6	1949.1	1945.6	1943.1	1940.7	1941.9
7.5°	1929.8	1932.3	1934.7	1933.5	1928.7	1927.4	1923.8	1922.5	1920.2	1916.5	1917.7
10°	1906.9	1908.1	1910.5	1909.3	1908.1	1904.4	1903.2	1902.1	1900.8	1896.0	1894.8
12.5°	1883.9	1886.3	1888.8	1890.0	1888.8	1890.0	1891.1	1892.4	1891.1	1888.8	1888.8
15°	1865.8	1868.2	1871.8	1875.5	1876.7	1883.9	1888.8	1893.6	1897.2	1898.4	1894.8
17.5°	1856.1	1859.7	1864.5	1871.8	1877.8	1886.3	1894.8	1902.1	1908.1	1909.3	1905.7
20°	1854.9	1858.5	1865.8	1874.3	1885.1	1896.0	1909.3	1920.2	1926.2	1929.8	1926.2
22.5°	1863.4	1868.2	1877.8	1888.8	1902.1	1916.5	1933.5	1945.6	1957.6	1962.4	1958.8
25°	1887.5	1892.4	1903.2	1916.5	1931.0	1949.1	1966.1	1981.8	1993.8	1999.9	1995.1
27.5°	1938.3	1939.5	1951.6	1966.1	1983.0	1998.7	2020.4	2027.7	2037.4	2043.4	2037.4
30°	2009.6	2012.0	2022.9	2045.8	2061.6	2082.1	2094.2	2101.4	2112.3	2118.3	2111.1
32.5°	2118.3	2120.8	2130.4	2152.2	2166.7	2182.4	2196.9	2201.7	2212.6	2219.8	2211.4
35°	2271.8	2276.7	2285.1	2299.6	2311.7	2323.7	2334.7	2331.0	2338.3	2348.0	2339.5
37.5°	2482.1	2480.9	2483.3	2494.2	2506.2	2513.5	2530.4	2522.0	2529.2	2537.6	2532.8
40°	2727.4	2727.4	2726.2	2745.5	2750.3	2757.6	2775.7	2764.8	2774.5	2784.2	2775.7
42.5°	3006.6	3011.4	3017.4	3033.2	3046.4	3048.8	3057.3	3052.5	3064.6	3072.9	3064.6
45°	3328.0	3335.2	3342.5	3378.7	3384.7	3389.5	3395.6	3379.9	3393.2	3400.5	3398.0
47.5°	3661.4	3674.7	3690.5	3727.9	3752.1	3763.0	3767.8	3749.7	3750.9	3761.8	3763.0
50°	4038.5	4053.0	4068.7	4111.0	4133.9	4153.3	4159.3	4138.8	4141.2	4149.7	4152.1
52.5°	4386.5	4403.5	4437.3	4494.0	4526.7	4560.5	4563.0	4537.6	4548.4	4554.5	4549.7
55°	4714.0	4735.8	4780.5	4856.6	4915.8	4982.3	5012.5	4984.7	4984.7	4979.8	4977.5
57.5°	5095.8	5120.1	5165.9	5254.2	5336.3	5431.8	5514.0	5541.7	5592.5	5609.5	5582.9
60°	5671.0	5696.4	5743.6	5859.6	5963.5	6102.5	6237.9	6347.8	6526.6	6623.3	6536.2
62.5°	6196.7	6235.4	6346.6	6549.5	6774.4	7031.8	7330.3	7542.9	7867.9	8029.9	7811.2
65°	6077.0	6155.6	6373.2	6692.1	7156.2	7714.5	8322.3	8906.0	9577.9	9922.2	9477.5
67.5°	5308.5	5375.0	5609.5	5980.4	6559.3	7329.0	8273.9	9482.3	10868.4	11513.7	10727.1
68°	5014.9	5139.4	5372.6	5741.1	6324.8	7081.3	8090.3	9395.4	10908.3	11605.6	10756.0
70°	3845.2	3889.9	4113.4	4444.5	5074.1	5816.1	6834.7	8322.3	10032.2	10750.0	9876.3
72.5°	1827.1	1853.7	1998.7	2325.0	2724.9	3329.2	4228.3	5631.1	7171.9	7918.7	7047.4
75°	669.4	675.5	709.3	786.6	936.5	1163.7	1595.1	2467.6	3653.1	4356.3	3667.5
77.5°	361.3	362.5	375.8	395.2	421.8	451.9	517.2	693.7	1119.0	1522.6	1181.8
80°	227.2	226.0	239.3	255.0	273.1	287.6	293.7	314.1	354.0	414.5	380.6
82.5°	116.0	126.8	157.1	174.0	200.6	205.4	199.4	198.1	210.2	227.2	234.5
85°	64.0	56.8	83.4	111.2	120.8	124.5	125.7	118.5	116.0	113.5	119.6
87.5°	32.6	30.2	36.2	55.5	59.2	48.4	49.5	42.2	29.1	29.1	30.2
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°	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5
2.5°	1954.0	1955.2	1952.8	1952.8	1952.8	1954.0	1952.8	1951.6
5°	1938.3	1940.7	1940.7	1941.9	1943.1	1943.1	1943.1	1943.1
7.5°	1915.4	1916.5	1919.0	1919.0	1919.0	1919.0	1919.0	1919.0
10°	1893.6	1891.1	1890.0	1887.5	1887.5	1883.9	1885.1	1886.3
12.5°	1882.7	1877.8	1875.5	1871.8	1869.4	1865.8	1865.8	1867.0
15°	1887.5	1880.3	1873.0	1870.6	1868.2	1865.8	1863.4	1864.5
17.5°	1897.2	1888.8	1880.3	1875.5	1870.6	1867.0	1865.8	1867.0
20°	1917.7	1905.7	1892.4	1883.9	1874.3	1871.8	1868.2	1871.8
22.5°	1945.6	1931.0	1914.1	1898.4	1887.5	1882.7	1877.8	1881.5
25°	1979.4	1963.7	1946.8	1928.7	1916.5	1912.9	1906.9	1906.9
27.5°	2026.5	2013.2	1998.7	1981.8	1969.7	1966.1	1956.4	1956.4
30°	2101.4	2088.1	2074.9	2060.3	2048.3	2044.7	2032.5	2032.5
32.5°	2200.5	2186.0	2177.6	2165.5	2155.8	2149.7	2135.3	2134.1
35°	2333.5	2320.2	2318.9	2310.4	2300.8	2302.0	2287.5	2285.1
37.5°	2524.3	2513.5	2517.1	2509.9	2501.4	2508.7	2500.2	2500.2
40°	2768.5	2764.8	2768.5	2763.6	2764.8	2766.1	2758.8	2761.3
42.5°	3063.3	3053.6	3075.4	3072.9	3069.4	3079.0	3062.1	3050.0
45°	3402.8	3399.3	3421.1	3424.6	3417.4	3423.4	3393.2	3392.0
47.5°	3771.4	3771.4	3790.7	3788.4	3781.1	3782.4	3746.0	3723.1
50°	4155.7	4153.3	4172.6	4167.8	4158.1	4157.0	4119.4	4096.5
52.5°	4555.7	4555.7	4583.5	4570.2	4547.2	4536.4	4490.4	4460.3
55°	4997.9	4991.9	5000.4	4956.9	4912.2	4879.6	4822.8	4799.8
57.5°	5557.5	5487.4	5427.0	5371.4	5308.5	5269.8	5203.4	5179.2
60°	6351.4	6164.1	6083.2	5972.0	5868.1	5816.1	5727.9	5680.8
62.5°	7451.1	7140.5	6920.6	6675.3	6438.5	6271.6	6137.5	6078.3
65°	8722.3	8045.6	7486.1	6960.5	6514.6	6160.5	5963.5	5901.9
67.5°	9205.6	7963.5	6997.9	6243.9	5702.4	5280.8	5045.1	4995.6
68°	9102.9	7774.9	6771.9	5999.7	5456.0	5030.6	4796.2	4751.5
70°	8029.9	6559.3	5500.7	4732.2	4224.6	3819.8	3654.2	3582.9
72.5°	5474.1	4212.5	3231.3	2584.8	2205.4	1949.1	1796.9	1744.9
75°	2519.5	1702.6	1137.1	849.6	721.4	659.8	612.6	600.6
77.5°	734.7	534.1	459.2	425.3	400.0	378.2	362.5	361.3
80°	349.2	327.4	317.8	296.0	273.1	252.6	238.0	240.5
82.5°	234.5	228.4	228.4	206.6	170.4	146.2	120.8	108.7
85°	124.5	129.3	136.6	129.3	112.4	83.4	54.4	59.2
87.5°	42.2	48.4	50.7	49.5	44.7	33.9	25.4	25.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)