

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: P196088

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196088
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-SL2-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9869.4 lumens
Efficiency: N/A
Efficacy: 116.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G2

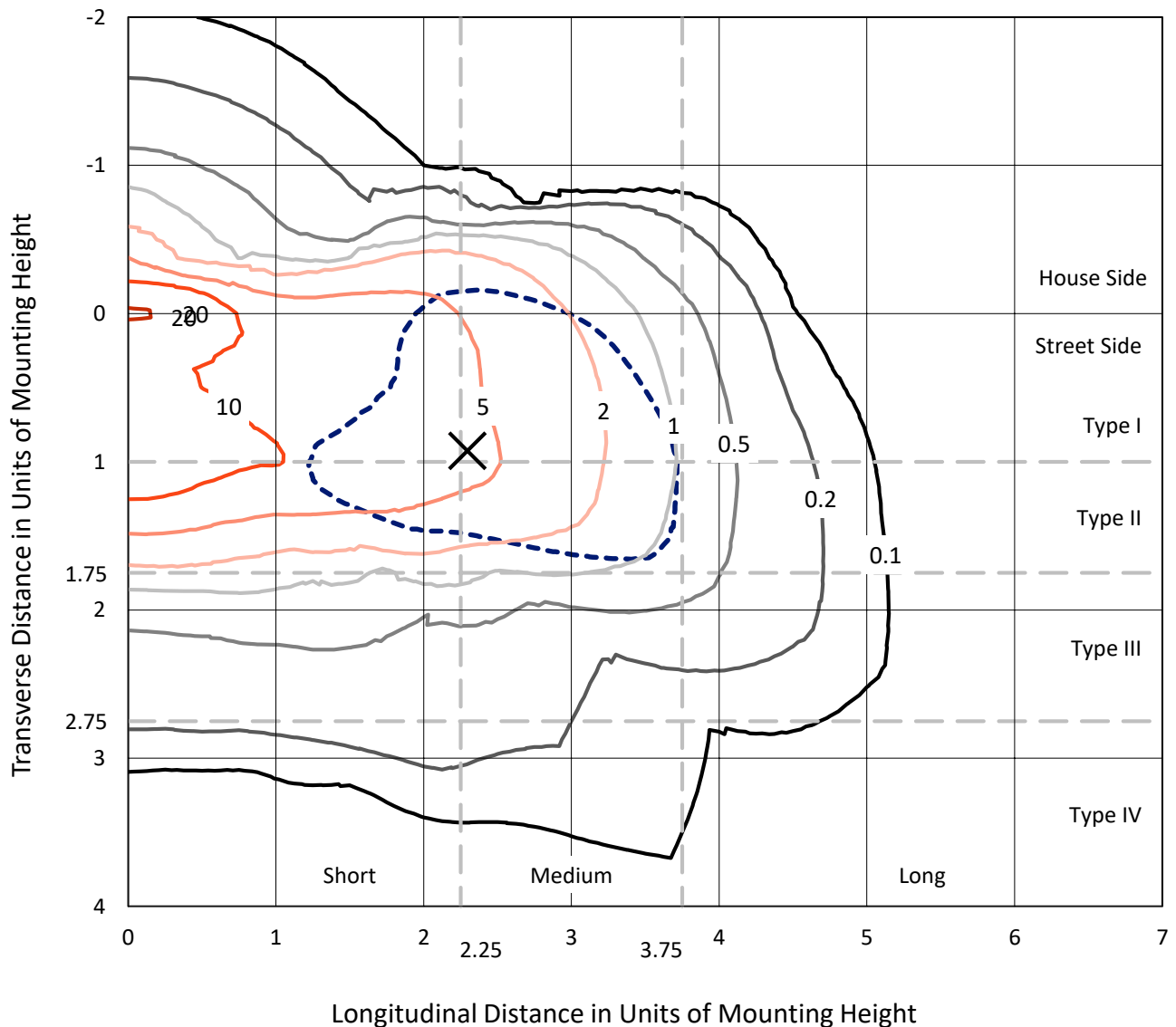
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

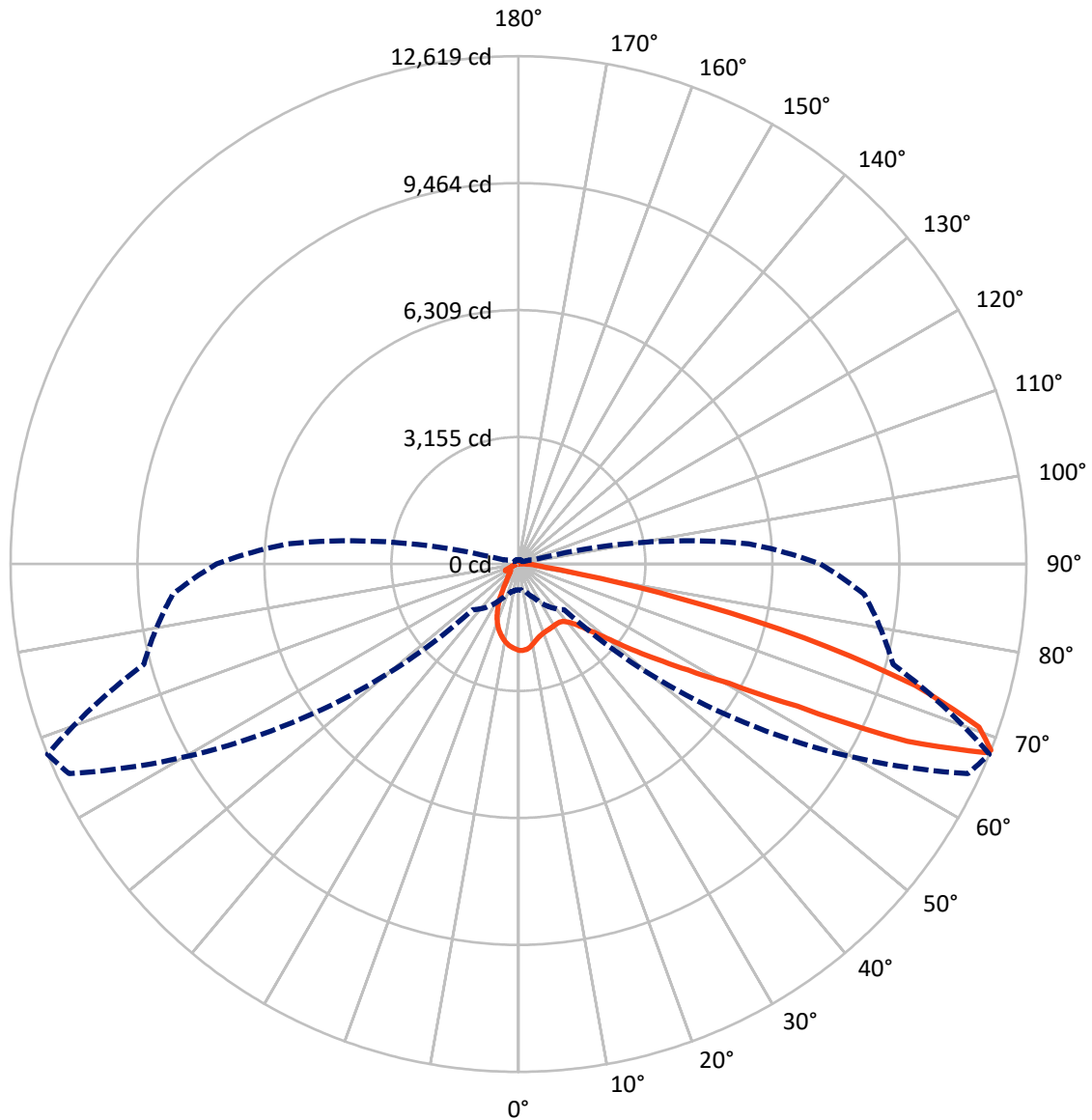
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.5 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1614.7	0.0	1614.7
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	8254.8	0.0	8254.8
	% Fixture	83.6	0.0	83.6
Total	Lumens	9869.4	0.0	9869.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.0	1.9
10°-20°	426.8	4.3
20°-30°	577.2	5.8
30°-40°	813.8	8.2
40°-50°	1338.2	13.6
50°-60°	2074.4	21.0
60°-70°	2689.6	27.3
70°-80°	1543.4	15.6
80°-90°	222.1	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°	9869.4	100.0
0°-180°	9869.4	100.0



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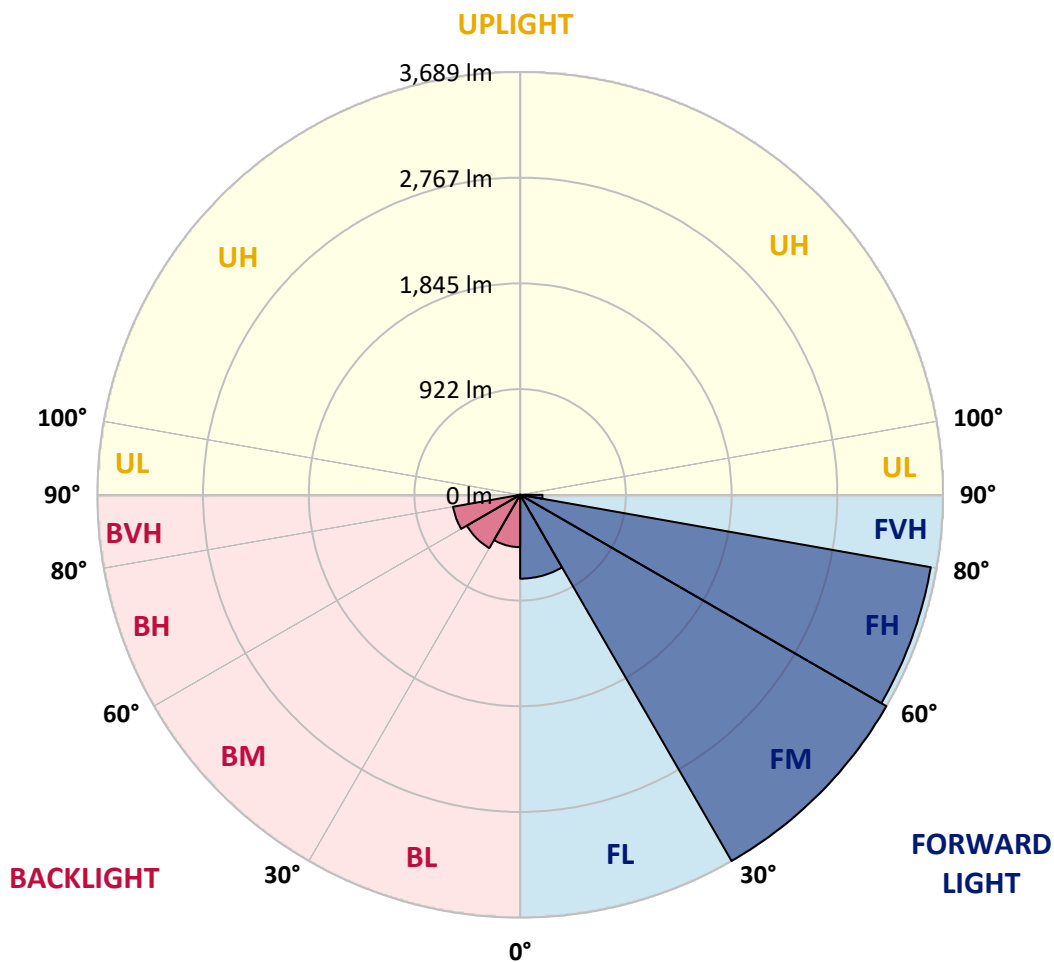
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	731.5	7.4			
FM	(30°-60°)	3689.4	37.4			
FH	(60°-80°)	3638.3	36.9			G2/5000
FVH	(80°-90°)	195.6	2.0			G2/225
BL	(0°-30°)	456.5	4.6	B1/500		
BM	(30°-60°)	537.1	5.4	B1/1000		
BH	(60°-80°)	594.7	6.0	B2/1000		G2/1000
BVH	(80°-90°)	26.5	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5
2.5°	2090.1	2106.9	2106.9	2119.1	2130.1	2139.1	2146.9	2146.9	2146.9	2141.6	2137.1
5°	1870.3	1892.9	1896.0	1927.0	1967.6	2017.3	2072.7	2121.7	2131.4	2149.4	2156.5
7.5°	1717.5	1724.6	1736.9	1758.1	1799.4	1860.6	1947.6	2057.3	2083.6	2140.4	2170.1
10°	1609.2	1614.9	1625.3	1646.5	1684.0	1739.4	1825.1	1967.6	2011.4	2112.1	2170.7
12.5°	1529.9	1534.4	1544.0	1563.4	1601.4	1651.0	1738.7	1887.0	1941.2	2083.6	2179.7
15°	1467.9	1475.7	1483.5	1502.2	1540.9	1588.5	1677.5	1828.4	1887.0	2061.1	2196.5
17.5°	1443.5	1447.4	1448.6	1458.3	1493.1	1541.5	1630.5	1787.1	1847.8	2043.0	2209.4
20°	1458.9	1459.6	1446.8	1440.2	1460.3	1504.8	1591.1	1756.2	1818.1	2027.0	2214.6
22.5°	1526.7	1526.7	1493.1	1464.8	1451.3	1479.0	1564.7	1734.9	1801.9	2014.7	2214.6
25°	1655.5	1649.8	1597.5	1541.5	1481.5	1469.9	1547.9	1721.3	1789.7	2008.3	2206.2
27.5°	1825.1	1820.0	1753.5	1670.4	1562.1	1489.2	1542.1	1710.4	1777.5	1998.5	2188.1
30°	2031.5	2027.0	1951.5	1842.5	1682.7	1550.5	1555.7	1702.7	1767.8	1982.5	2157.8
32.5°	2237.1	2234.5	2174.6	2063.1	1849.0	1654.3	1591.1	1701.4	1762.6	1963.1	2121.1
35°	2444.0	2444.0	2407.3	2313.2	2072.7	1810.3	1665.3	1725.2	1772.3	1952.8	2089.5
37.5°	2749.7	2737.4	2669.1	2571.7	2354.4	2012.8	1785.2	1775.5	1809.7	1970.2	2079.1
40°	3222.9	3187.4	3016.6	2852.8	2661.9	2272.0	1960.6	1872.8	1893.5	2029.5	2103.7
42.5°	3718.0	3661.9	3435.6	3173.9	2979.9	2591.7	2190.6	2030.8	2030.1	2144.3	2181.6
45°	4142.8	4113.8	3868.9	3536.9	3342.8	2951.4	2481.5	2265.5	2242.3	2322.2	2331.9
47.5°	4389.8	4370.5	4222.8	3921.1	3773.5	3376.4	2850.2	2591.0	2547.2	2594.9	2580.1
50°	4321.5	4340.2	4297.6	4143.5	4236.3	3973.2	3320.2	3037.1	2954.0	3001.7	2965.6
52.5°	3961.7	4012.0	4050.0	4079.6	4502.6	4772.1	3910.7	3594.2	3525.2	3516.8	3482.0
55°	3313.7	3393.7	3513.6	3731.5	4431.0	5413.6	4942.3	4268.0	4167.4	4114.5	4128.0
57.5°	2255.2	2376.4	2634.9	3049.4	4059.1	5686.9	6467.6	5138.3	4968.1	4779.8	4823.6
60°	1242.4	1343.5	1651.0	2068.8	3209.9	5646.3	7819.5	6552.7	6017.0	5518.0	5608.2
62.5°	803.9	825.8	1054.8	1413.2	1970.2	4984.8	8570.7	8916.9	7781.6	6491.5	6618.5
65°	646.0	661.4	773.7	1139.9	1372.6	3206.7	8604.1	11369.3	10620.8	7814.4	7818.3
67.5°	631.2	638.2	703.4	958.7	1287.5	1745.9	7437.3	12336.4	12509.8	9375.9	8620.9
68°	640.2	648.6	714.3	929.0	1286.9	1609.2	6873.8	12321.5	12618.7	9637.0	8620.9
70°	564.8	575.1	728.5	961.3	1232.0	1383.5	4707.0	11667.2	12145.5	10237.2	8179.9
72.5°	295.2	286.9	360.4	758.8	1386.7	1441.5	2486.6	9747.2	10305.5	9481.0	7067.3
75°	230.2	209.5	201.8	299.8	1219.8	1495.0	1444.1	6927.9	7349.6	6834.4	4723.7
77.5°	216.7	191.5	176.7	177.3	537.0	1555.7	1168.2	4077.1	4077.1	3260.2	1507.3
80°	174.1	150.9	141.2	161.2	259.2	1433.8	1219.2	1858.0	1584.7	842.6	415.2
82.5°	114.8	102.5	103.1	130.8	196.6	957.4	1411.9	917.4	689.2	373.3	244.4
85°	72.8	62.5	69.7	91.6	147.0	426.8	1397.8	637.6	456.4	209.5	121.8
87.5°	36.7	28.3	34.8	47.7	89.6	122.4	1150.8	569.3	338.5	87.1	66.4
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°	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5	2147.5
2.5°	2137.1	2123.0	2115.9	2104.3	2090.1	2076.0	2066.3	2061.8	2059.2	2060.4	2059.8
5°	2152.7	2134.0	2103.7	2060.4	2016.0	1968.9	1932.8	1905.0	1887.7	1882.5	1881.2
7.5°	2164.3	2137.1	2080.5	2001.8	1925.7	1843.2	1773.0	1716.8	1678.8	1661.4	1660.8
10°	2162.3	2127.5	2037.9	1921.8	1810.3	1689.1	1578.8	1484.7	1416.4	1383.5	1382.2
12.5°	2164.3	2116.6	1985.6	1828.4	1668.5	1495.0	1331.3	1185.0	1083.1	1034.7	1032.8
15°	2172.0	2104.9	1932.1	1724.0	1502.8	1257.8	1023.8	840.0	747.2	715.7	715.7
17.5°	2171.3	2085.6	1870.3	1602.8	1306.2	978.0	698.9	585.4	576.3	605.4	609.9
20°	2158.4	2054.7	1790.4	1458.9	1075.3	676.9	473.8	457.8	530.0	609.9	618.9
22.5°	2138.5	2014.7	1698.1	1292.0	806.5	441.0	365.5	390.1	488.0	587.3	601.5
25°	2110.8	1966.3	1592.4	1097.9	536.4	317.2	304.9	335.2	404.3	470.7	481.0
27.5°	2070.1	1905.0	1477.0	887.7	342.4	261.1	265.7	286.9	316.5	344.9	350.7
30°	2019.2	1833.5	1351.3	655.0	259.8	233.3	241.1	254.0	266.9	285.0	288.8
32.5°	1967.6	1760.7	1220.4	450.0	226.9	218.6	226.3	233.3	244.4	256.6	259.2
35°	1921.2	1693.0	1085.7	313.9	212.8	208.9	212.8	217.3	228.2	240.5	241.7
37.5°	1887.7	1637.5	945.1	248.2	204.4	200.5	202.4	204.4	217.3	235.3	237.2
40°	1883.2	1600.8	802.6	223.1	197.9	192.7	191.5	192.7	209.5	230.2	232.1
42.5°	1927.0	1602.8	663.4	212.8	192.7	187.0	181.8	184.3	199.2	215.3	216.7
45°	2030.8	1647.9	542.9	208.3	188.2	183.7	176.0	177.3	184.3	192.7	194.1
47.5°	2213.9	1746.5	450.6	205.6	184.3	180.6	170.8	166.9	167.7	172.2	172.2
50°	2506.6	1911.6	394.6	203.1	181.2	174.1	163.1	155.4	153.4	156.0	156.6
52.5°	2943.0	2194.5	367.4	197.9	175.3	165.7	153.4	145.7	142.5	145.1	145.1
55°	3533.0	2646.5	354.6	190.9	168.3	155.4	144.4	138.0	135.3	137.3	137.3
57.5°	4205.4	3233.9	376.5	181.2	159.3	144.4	136.7	132.2	130.2	132.2	132.8
60°	5004.2	4002.3	527.3	168.9	149.6	134.7	130.2	127.7	126.3	128.3	128.3
62.5°	6066.0	5024.8	816.2	159.3	139.2	125.7	124.4	123.2	121.8	123.8	123.8
65°	7212.3	5955.1	840.0	153.4	130.2	117.9	118.7	118.7	117.3	119.3	119.3
67.5°	7577.2	5874.5	469.3	146.4	119.3	110.3	112.8	112.8	112.2	114.2	113.4
68°	7499.8	5746.8	408.8	144.4	117.3	108.3	110.9	111.5	110.9	112.8	112.2
70°	6923.4	5045.4	268.8	133.5	108.9	101.9	105.8	106.4	105.8	108.3	107.6
72.5°	5715.2	3784.4	198.6	116.7	98.6	93.5	97.4	98.0	98.6	101.2	100.6
75°	3629.6	2090.1	156.6	99.3	88.3	83.8	87.7	89.6	90.9	94.7	92.9
77.5°	994.1	634.4	127.1	84.5	76.1	74.2	76.7	79.3	80.6	85.1	81.8
80°	348.1	280.5	105.8	71.6	63.2	62.5	65.2	67.7	68.9	72.8	68.9
82.5°	211.4	183.1	84.5	56.1	49.6	49.0	52.2	54.8	56.1	56.1	53.5
85°	110.3	96.7	61.9	39.3	34.2	32.2	38.1	41.2	41.9	41.2	39.3
87.5°	61.9	54.8	32.8	18.7	15.4	16.2	19.9	24.4	26.4	25.8	24.4
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)