

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: P195146

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7060-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195146
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-7060-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6813 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 66
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

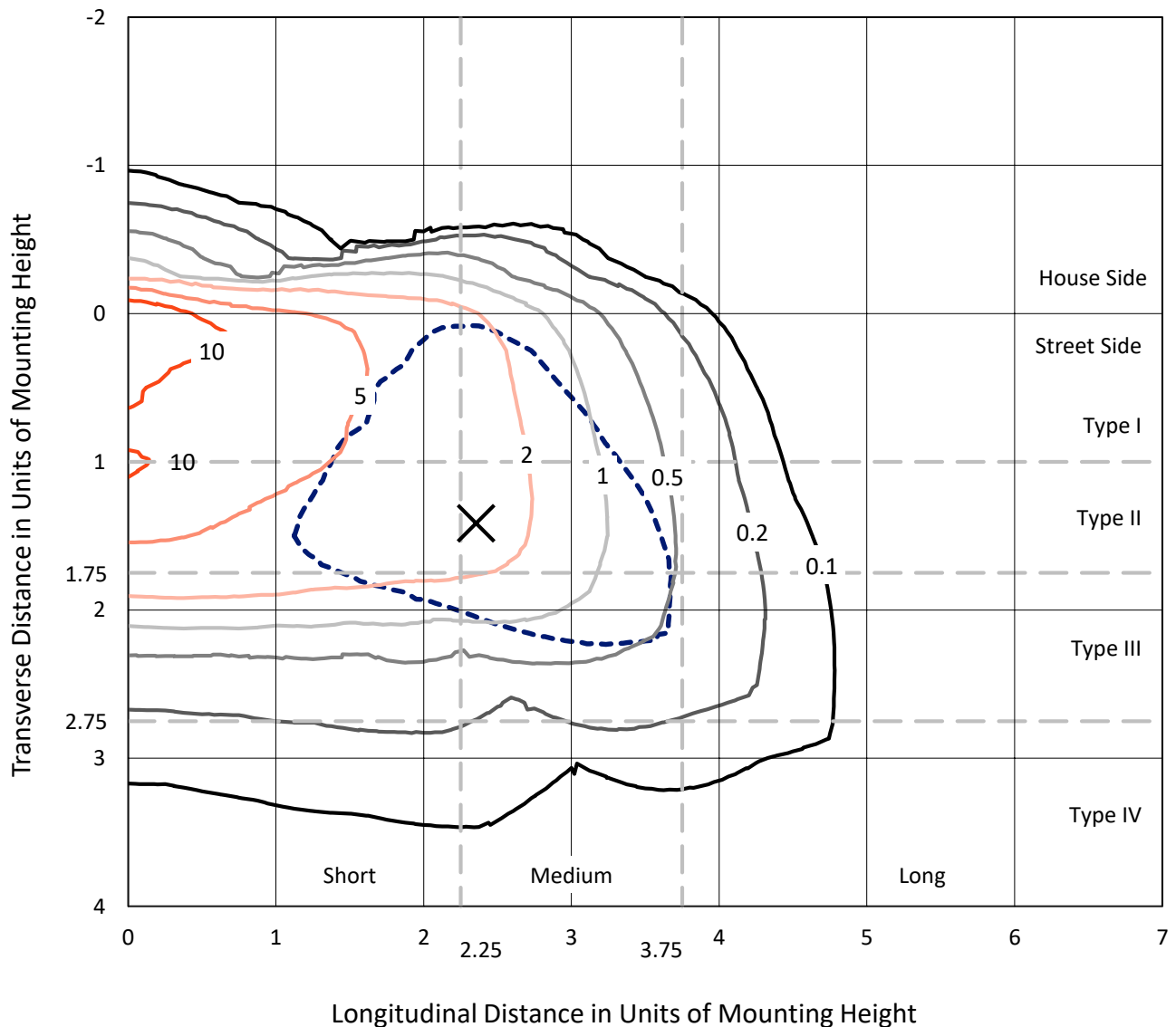


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Iso-Footcandle Lines of Horizontal Illumination

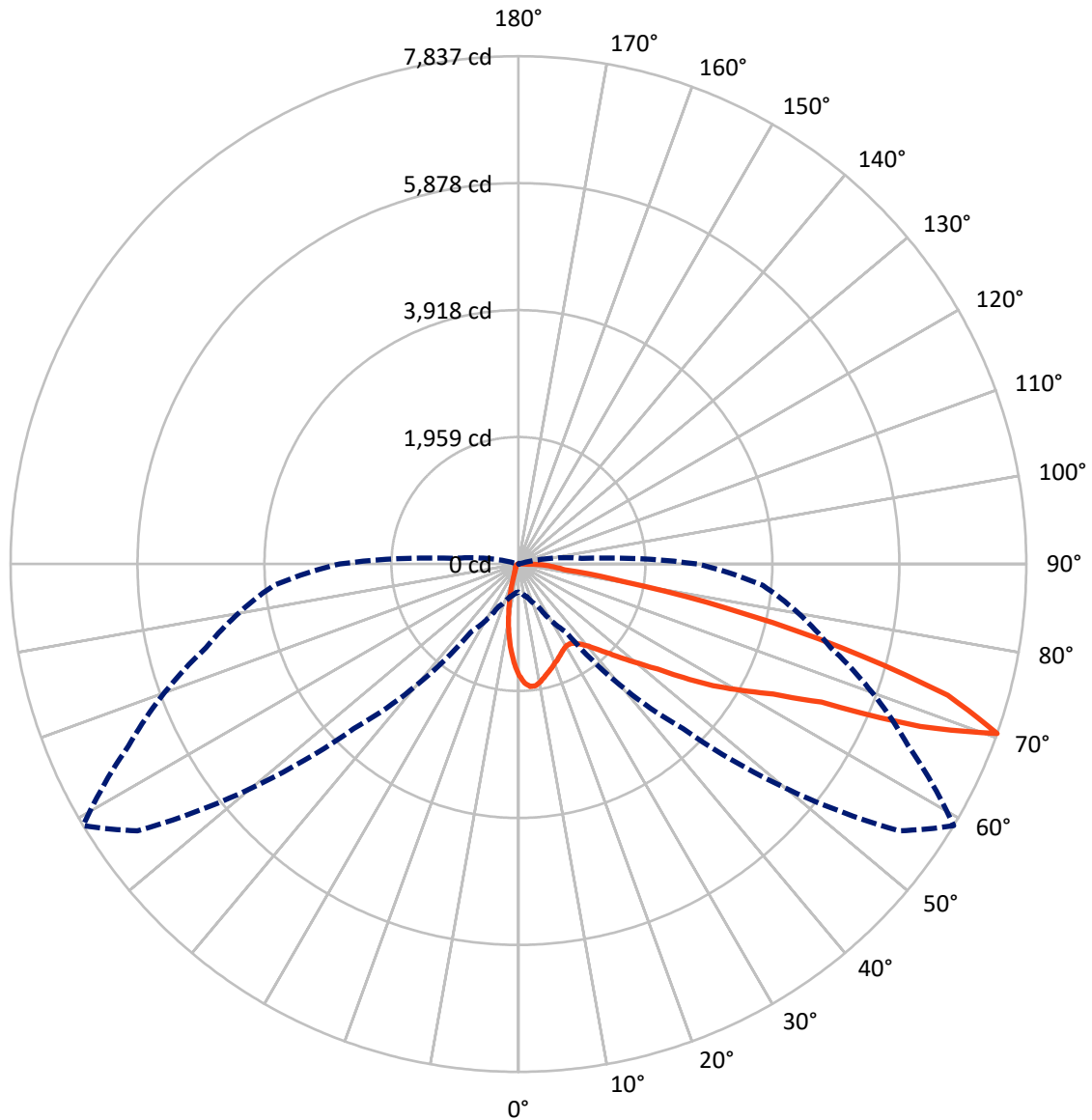
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.3 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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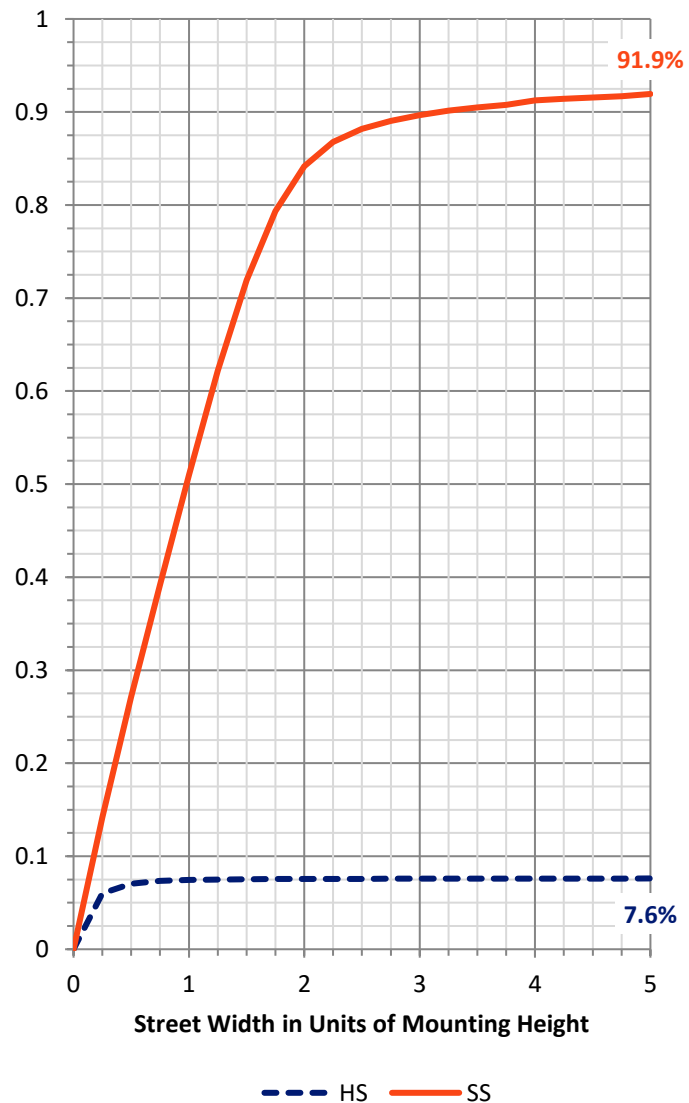
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	523.7	0.0	523.7
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	6289.3	0.0	6289.3
	% Fixture	92.3	0.0	92.3
Total	Lumens	6813.0	0.0	6813.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.7	2.1
10°-20°	297.1	4.4
20°-30°	402.2	5.9
30°-40°	580.5	8.5
40°-50°	964.0	14.1
50°-60°	1474.6	21.6
60°-70°	1834.0	26.9
70°-80°	1013.8	14.9
80°-90°	105.1	1.5
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°	6813.0	100.0
0°-180°	6813.0	100.0



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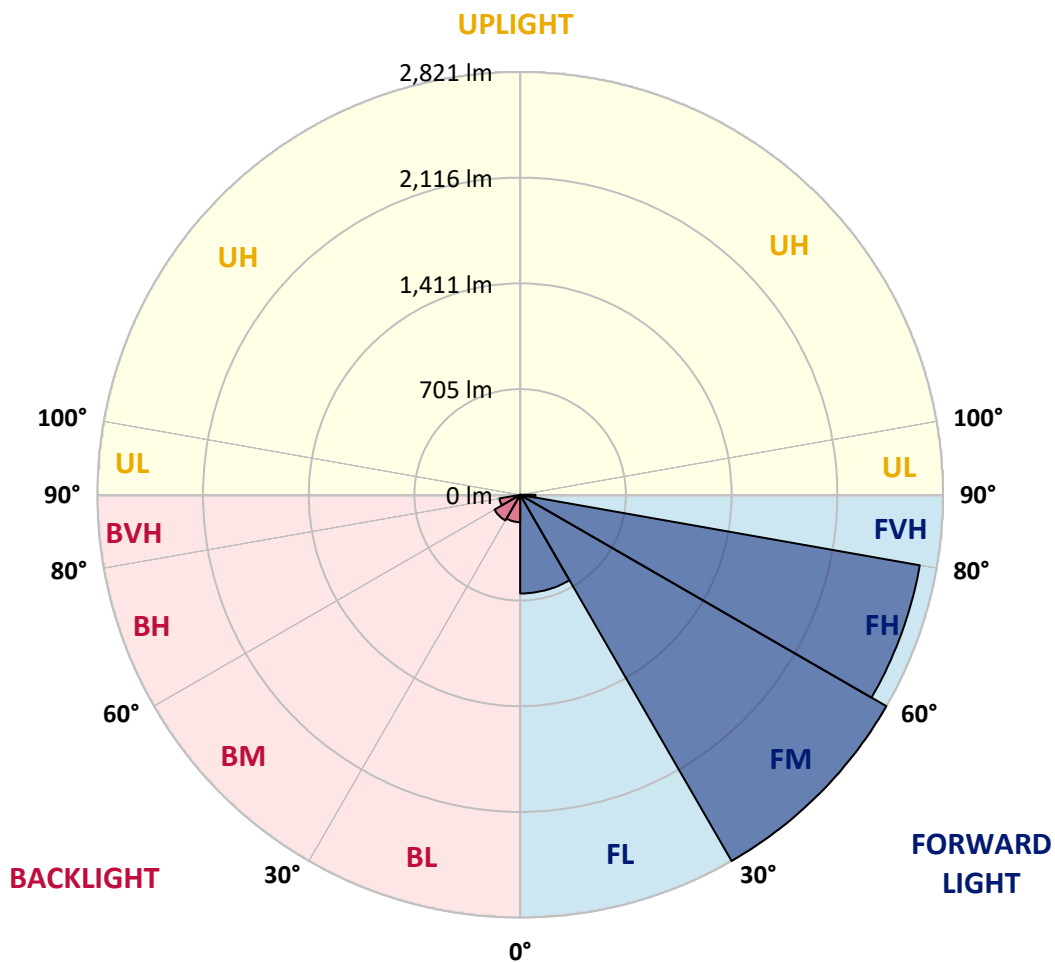
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	658.5	9.7			
FM	(30°-60°)	2821.3	41.4			
FH	(60°-80°)	2707.3	39.7			G2/5000
FVH	(80°-90°)	102.1	1.5			G2/225
BL	(0°-30°)	182.5	2.7	B1/500		
BM	(30°-60°)	197.7	2.9	B0/220		
BH	(60°-80°)	140.5	2.1	B1/500		G1/500
BVH	(80°-90°)	3.0	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8
2.5°	1947.4	1944.3	1931.4	1928.9	1914.5	1885.7	1852.3	1838.9	1811.7	1768.5	1720.7
5°	1979.7	1981.3	1982.3	1976.7	1974.6	1951.0	1914.0	1898.0	1861.5	1790.6	1703.2
7.5°	1858.4	1862.6	1875.4	1881.1	1905.7	1915.0	1907.3	1897.0	1868.2	1784.4	1661.6
10°	1730.5	1738.2	1752.1	1761.3	1791.6	1816.3	1847.7	1850.2	1844.1	1763.9	1614.8
12.5°	1620.5	1627.7	1643.1	1661.6	1692.4	1724.3	1771.1	1787.5	1808.1	1750.5	1581.4
15°	1525.9	1528.0	1542.9	1566.0	1606.6	1650.3	1705.8	1730.0	1770.0	1745.4	1555.7
17.5°	1443.2	1443.7	1453.5	1474.5	1523.9	1581.4	1646.2	1678.0	1728.9	1738.2	1533.1
20°	1388.7	1388.2	1388.7	1400.0	1443.7	1512.0	1590.7	1624.1	1689.4	1729.4	1510.0
22.5°	1370.2	1367.6	1355.8	1351.7	1379.4	1439.6	1533.6	1577.3	1653.9	1726.9	1493.0
25°	1392.8	1391.3	1366.1	1342.4	1345.0	1382.5	1475.6	1529.0	1626.1	1736.1	1488.9
27.5°	1465.8	1462.7	1424.2	1377.9	1348.6	1355.3	1432.4	1488.4	1604.0	1758.7	1494.6
30°	1561.4	1561.9	1520.8	1464.8	1395.9	1357.9	1409.3	1462.2	1589.1	1792.7	1506.9
32.5°	1667.8	1667.3	1638.0	1573.2	1485.3	1405.1	1419.5	1464.2	1591.2	1842.5	1530.5
35°	1777.8	1772.1	1762.3	1705.3	1602.5	1487.9	1466.3	1499.2	1612.8	1908.3	1570.6
37.5°	1904.7	1902.6	1912.4	1852.3	1747.4	1609.7	1548.5	1570.6	1667.3	2005.4	1635.4
40°	2106.7	2095.4	2100.0	2018.3	1910.9	1773.6	1663.7	1669.3	1754.1	2133.9	1737.7
42.5°	2491.6	2445.9	2360.1	2206.9	2090.8	1955.6	1814.2	1804.5	1876.9	2289.7	1872.3
45°	2951.6	2899.2	2682.8	2415.1	2270.6	2150.9	2000.3	1974.1	2028.0	2475.2	2046.0
47.5°	3335.5	3279.0	2992.2	2632.5	2453.6	2352.4	2206.4	2175.6	2209.0	2690.5	2254.7
50°	3466.6	3435.2	3183.4	2813.4	2638.1	2578.5	2464.9	2413.5	2421.7	2922.8	2498.3
52.5°	3406.5	3395.7	3227.1	2937.2	2808.7	2828.3	2748.1	2694.1	2684.9	3176.7	2767.6
55°	3279.5	3274.4	3192.1	3006.1	2959.3	3057.0	3145.4	3098.6	3011.2	3446.6	2990.2
57.5°	3098.1	3117.6	3176.7	3138.7	3144.3	3298.5	3514.4	3538.6	3408.0	3661.4	3155.1
60°	2613.4	2665.9	2936.7	3281.1	3544.7	3700.4	3909.6	3954.9	3744.1	3808.4	3345.8
62.5°	1931.9	2007.0	2393.0	3025.6	3765.2	4464.7	4435.4	4415.3	4064.8	4005.2	3692.7
65°	1134.8	1222.7	1549.0	2364.2	3432.7	4956.0	5417.0	5139.5	4553.6	4414.3	4245.2
67.5°	565.3	565.9	713.4	1247.9	2536.9	4613.2	6849.9	6689.6	5592.8	5017.2	4463.1
70°	434.8	446.6	527.8	725.2	1282.8	3593.0	7178.3	7836.7	6637.2	4990.5	3786.8
72.5°	368.5	376.2	469.8	631.1	959.0	1972.5	6214.2	6927.0	6333.4	4216.5	2791.3
75°	265.2	271.4	415.8	572.5	883.0	978.6	4262.7	5137.5	4752.0	2966.0	1536.2
77.5°	65.8	65.3	144.9	464.6	789.9	815.1	2445.9	3294.4	2726.5	1214.5	394.7
80°	29.3	28.3	32.9	97.7	734.9	769.4	1075.7	1663.7	1045.9	196.8	120.8
82.5°	20.6	19.5	20.6	36.0	245.7	713.9	650.1	721.1	382.9	67.3	51.4
85°	6.7	6.2	11.3	30.3	68.9	411.7	634.2	538.6	284.7	28.8	34.4
87.5°	1.0	1.0	4.1	16.4	20.0	137.2	372.1	373.1	128.0	17.0	15.4
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°	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8	1722.8
2.5°	1696.6	1666.2	1623.6	1580.9	1542.4	1502.8	1470.9	1456.0	1449.3	1440.1	1420.0
5°	1657.5	1602.5	1509.0	1417.0	1331.1	1248.9	1178.5	1138.4	1095.2	1093.2	1072.1
7.5°	1594.8	1516.7	1369.2	1226.3	1095.2	969.8	861.9	792.0	744.2	714.4	693.8
10°	1524.9	1424.7	1229.4	1028.4	850.1	682.5	543.8	453.3	398.3	370.6	354.6
12.5°	1469.4	1343.5	1091.6	838.8	615.2	423.0	294.0	228.2	198.9	187.6	182.5
15°	1421.6	1268.9	962.6	669.2	410.6	243.1	170.1	148.5	143.9	143.9	143.4
17.5°	1373.3	1197.0	837.2	502.6	258.5	159.3	134.1	131.1	131.6	133.1	133.1
20°	1327.5	1128.6	716.4	358.2	169.6	127.5	121.8	120.8	122.3	124.4	123.9
22.5°	1290.5	1068.5	603.4	246.2	130.5	115.6	112.0	110.5	111.5	113.1	112.6
25°	1264.3	1017.1	499.6	171.7	113.6	105.4	101.2	99.2	98.2	99.2	98.7
27.5°	1248.4	973.9	401.9	129.0	101.8	95.1	89.9	85.8	83.3	83.3	82.2
30°	1238.1	933.3	315.1	106.9	92.0	84.8	77.6	72.0	67.8	66.8	66.3
32.5°	1237.6	898.4	235.4	94.6	82.7	74.5	65.8	58.6	54.0	52.9	52.4
35°	1250.4	870.1	173.2	85.3	74.5	64.8	55.0	47.3	43.2	43.2	42.7
37.5°	1283.8	853.7	131.1	78.1	67.8	56.5	46.3	39.1	35.5	36.5	36.5
40°	1346.0	850.6	106.9	72.5	62.2	49.3	37.5	31.9	30.3	31.9	31.9
42.5°	1441.1	867.0	95.1	68.4	57.0	42.1	31.4	27.2	26.7	28.3	28.3
45°	1565.0	899.4	88.4	64.8	51.4	34.9	26.2	23.6	23.1	25.2	25.2
47.5°	1715.1	943.1	82.2	60.6	45.7	28.8	22.1	20.0	20.0	22.1	22.6
50°	1892.9	1002.2	76.1	56.5	41.1	24.2	18.5	17.0	17.5	19.5	20.0
52.5°	2097.4	1074.7	70.4	52.9	36.0	19.5	15.4	14.4	14.9	17.0	17.5
55°	2273.7	1137.9	63.7	49.3	29.3	15.9	12.8	12.3	12.8	15.4	15.4
57.5°	2427.4	1198.5	57.6	43.7	23.1	12.8	10.3	10.3	11.3	13.9	14.4
60°	2631.4	1294.1	52.4	37.0	17.5	9.8	8.2	8.7	10.3	12.3	12.8
62.5°	2992.7	1456.5	45.7	30.8	12.8	7.7	6.7	7.2	9.3	11.8	12.3
65°	3445.0	1610.2	38.0	25.7	9.8	5.7	5.1	6.7	9.3	11.8	12.3
67.5°	3398.8	1400.5	29.8	20.6	7.2	4.6	4.1	6.2	8.7	11.8	12.3
70°	2756.3	981.6	22.1	13.9	5.7	4.1	4.1	6.2	8.7	11.3	11.8
72.5°	1911.9	546.3	17.0	9.3	5.1	4.1	3.6	5.7	8.2	11.3	11.8
75°	909.7	167.5	13.4	6.7	4.6	3.6	3.1	5.7	8.2	11.3	11.8
77.5°	174.7	42.7	10.8	5.7	4.1	3.6	3.1	5.1	8.2	10.8	11.3
80°	59.1	19.0	8.7	5.1	4.1	3.6	3.1	5.1	7.7	10.3	10.8
82.5°	32.4	10.8	7.7	4.6	4.1	3.1	2.6	4.6	7.2	10.3	10.8
85°	25.2	7.7	6.2	4.6	4.1	3.1	2.6	4.6	7.2	9.8	10.3
87.5°	12.8	5.7	5.1	4.6	4.1	3.1	2.6	4.1	6.7	9.3	10.3
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)