

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: P196550

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196550
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-7030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9610.5 lumens
Efficiency: N/A
Efficacy: 85.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

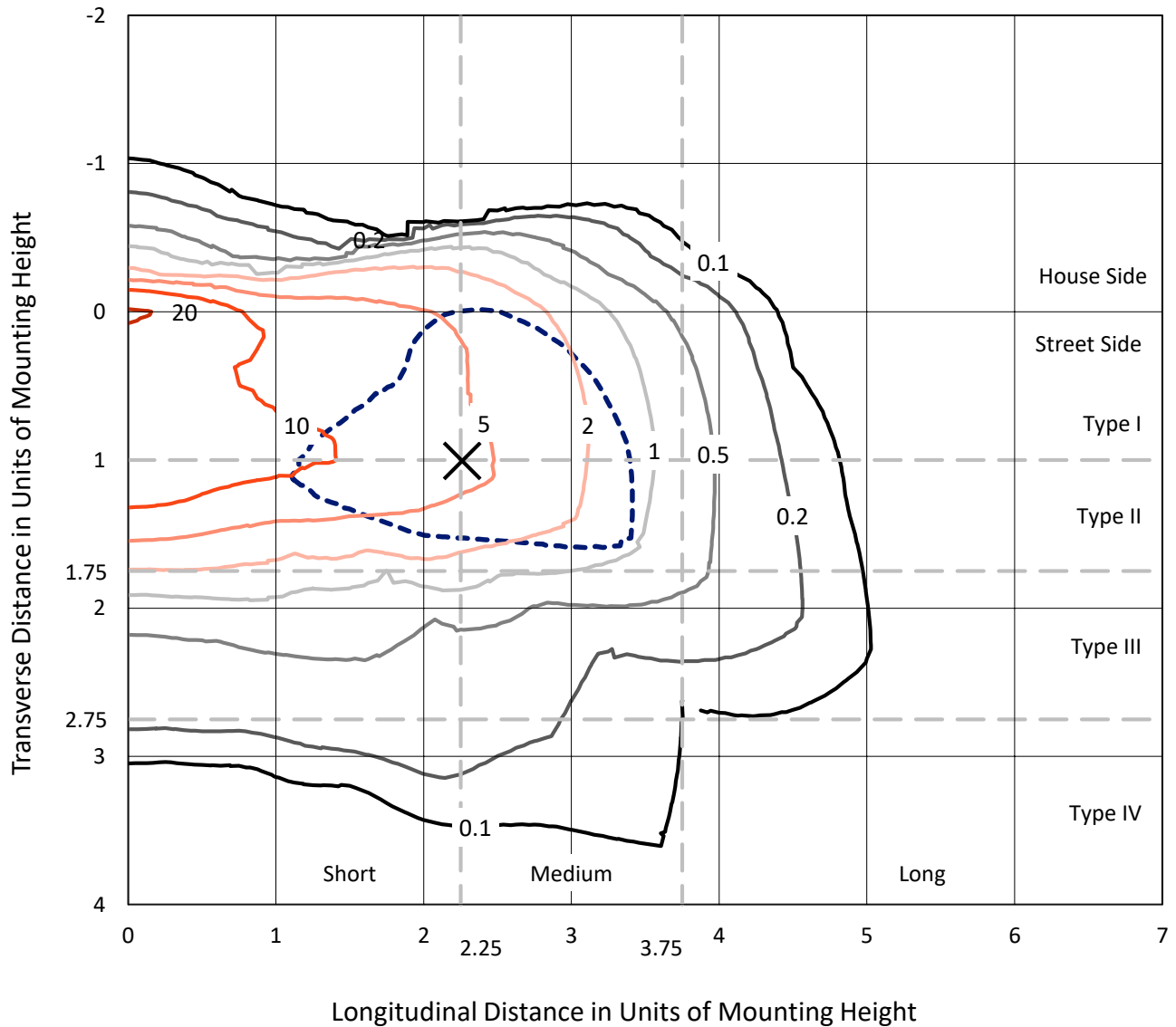
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

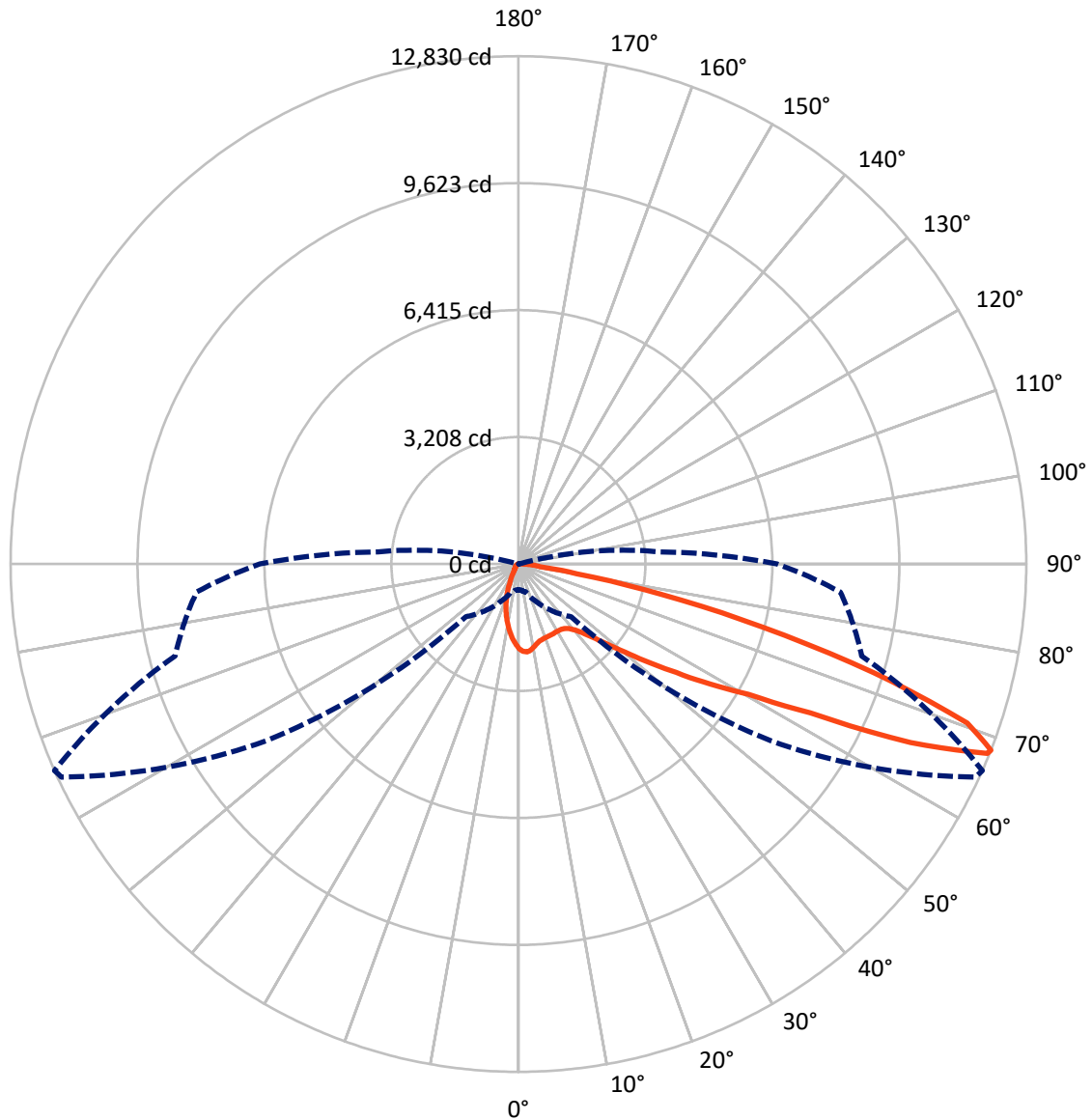
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.4 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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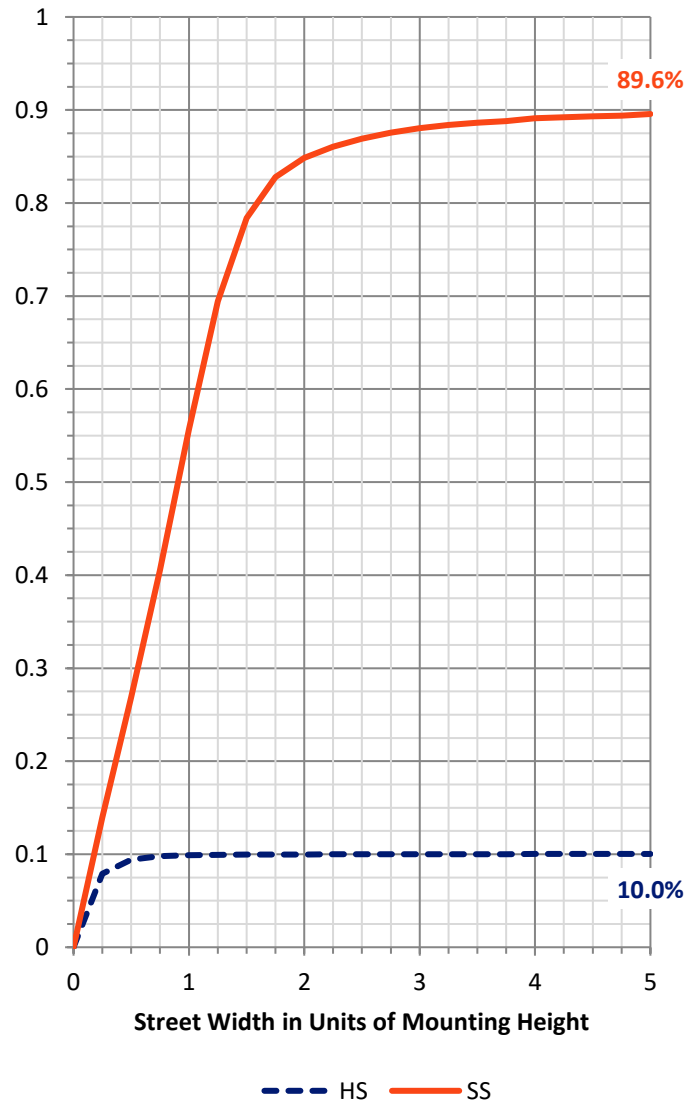
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	973.5	0.0	973.5
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	8637.0	0.0	8637.0
	% Fixture	89.9	0.0	89.9
Total	Lumens	9610.5	0.0	9610.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.5	1.8
10°-20°	377.7	3.9
20°-30°	547.3	5.7
30°-40°	837.8	8.7
40°-50°	1432.9	14.9
50°-60°	2241.5	23.3
60°-70°	2581.0	26.9
70°-80°	1291.6	13.4
80°-90°	125.1	1.3
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°	9610.5	100.0
0°-180°	9610.5	100.0

Coefficient of Utilization



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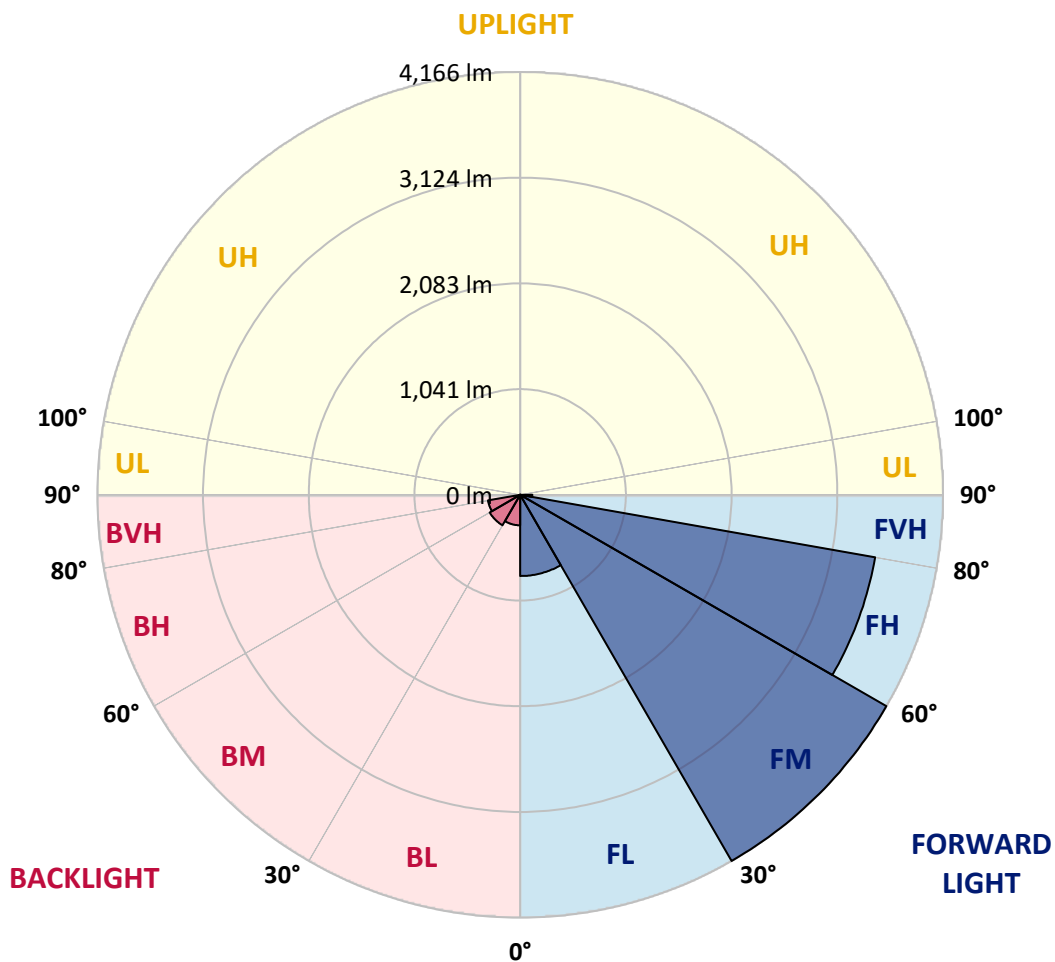
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	800.0	8.3			
FM (30°-60°)	4165.6	43.3			
FH (60°-80°)	3551.0	36.9			G2/5000
FVH (80°-90°)	120.4	1.3			G2/225
BL (0°-30°)	300.4	3.1	B1/500		
BM (30°-60°)	346.6	3.6	B1/1000		
BH (60°-80°)	321.6	3.3	B1/500		G1/500
BVH (80°-90°)	4.8	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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2
2.5°	2252.1	2253.6	2252.8	2255.0	2253.6	2242.2	2230.1	2204.6	2206.7	2173.6	2136.6
5°	2093.6	2106.4	2119.2	2132.0	2163.0	2190.1	2222.6	2230.1	2230.1	2201.5	2147.2
7.5°	1932.1	1932.9	1947.2	1964.6	2006.1	2055.8	2131.3	2199.2	2200.7	2208.2	2148.7
10°	1810.7	1814.5	1824.3	1843.1	1884.6	1933.7	2018.1	2124.5	2132.8	2188.7	2133.7
12.5°	1716.4	1721.0	1731.4	1753.3	1791.1	1841.6	1930.6	2052.1	2063.4	2169.8	2129.0
15°	1644.0	1650.0	1658.2	1680.2	1721.0	1774.5	1871.8	2003.9	2017.4	2162.2	2143.3
17.5°	1613.8	1613.8	1613.0	1628.1	1668.8	1723.1	1824.9	1978.1	1995.5	2168.2	2167.4
20°	1626.6	1624.3	1608.6	1604.7	1629.6	1683.9	1788.0	1961.5	1981.2	2179.6	2196.9
22.5°	1694.5	1689.9	1654.5	1625.1	1617.6	1653.7	1763.1	1950.3	1973.7	2203.0	2236.2
25°	1838.7	1824.9	1776.0	1709.6	1650.0	1646.2	1745.8	1944.2	1969.1	2230.1	2279.1
27.5°	2025.6	2022.0	1943.5	1854.4	1739.7	1671.1	1740.5	1939.7	1964.6	2249.7	2313.9
30°	2258.1	2259.6	2169.1	2052.9	1879.4	1741.3	1757.1	1937.3	1963.1	2251.3	2329.0
32.5°	2498.0	2499.6	2424.0	2299.6	2070.3	1862.0	1803.9	1948.0	1971.4	2245.3	2328.2
35°	2728.9	2731.1	2685.8	2585.5	2325.1	2029.5	1892.2	1984.1	2000.7	2249.0	2326.6
37.5°	3020.8	3029.9	2974.0	2880.5	2645.0	2275.5	2036.3	2057.4	2070.9	2279.9	2338.0
40°	3518.7	3506.6	3346.7	3188.3	2992.2	2574.9	2244.5	2183.3	2187.9	2359.9	2381.0
42.5°	4098.9	4083.8	3810.0	3536.8	3349.1	2936.4	2510.8	2376.5	2375.8	2494.2	2474.6
45°	4598.4	4589.3	4301.1	3936.7	3744.4	3335.3	2839.0	2654.9	2645.8	2726.6	2645.0
47.5°	4952.9	4945.4	4727.3	4362.1	4201.4	3774.5	3248.6	3034.3	3015.5	3030.7	2921.9
50°	4987.6	4979.4	4903.1	4668.5	4735.7	4418.8	3754.9	3531.6	3507.4	3484.1	3340.7
52.5°	4663.1	4662.4	4702.4	4687.3	5109.8	5247.9	4375.9	4146.4	4117.8	4058.2	3915.6
55°	4000.1	3996.2	4147.9	4368.1	5101.6	6103.4	5322.6	4878.2	4840.5	4721.3	4534.3
57.5°	2922.6	2903.1	3220.0	3687.0	4743.2	6477.7	6826.2	5787.4	5724.7	5346.7	5058.6
60°	1613.8	1621.3	2028.7	2581.7	3894.4	6403.6	8209.8	6847.4	6682.9	5886.3	5595.7
62.5°	904.5	923.5	1226.8	1677.9	2482.9	5804.0	8952.2	8671.6	8275.6	6515.3	6274.8
65°	684.3	695.6	848.0	1294.6	1565.4	4055.9	9070.7	11222.3	10880.6	7469.0	7355.9
67.5°	644.3	653.4	728.0	1073.6	1426.0	2103.3	8178.9	12731.2	12774.3	8769.7	8193.3
68°	648.8	660.2	734.9	1032.8	1423.6	1881.6	7798.7	12738.9	12830.1	8979.4	8164.6
70°	596.0	599.1	777.1	1013.3	1379.8	1482.5	5641.7	11865.9	12029.7	9229.1	7411.7
72.5°	227.8	228.6	348.5	877.5	1445.5	1490.8	2842.0	9378.5	9386.8	8031.8	5778.2
75°	118.4	99.5	109.4	274.6	1380.6	1453.0	1426.0	6403.6	6363.7	5432.1	3540.6
77.5°	81.5	69.4	73.2	95.0	574.1	1452.3	1029.8	3682.5	3674.2	2310.9	1010.2
80°	46.0	40.0	43.7	80.0	201.5	1363.3	959.7	1582.8	1491.5	405.9	163.7
82.5°	23.4	19.6	23.4	67.2	125.2	857.8	933.3	620.9	553.0	96.5	106.4
85°	6.0	6.0	11.4	46.8	77.7	281.5	836.7	448.2	402.8	42.3	75.5
87.5°	1.5	0.8	4.5	17.4	27.9	61.0	464.1	249.7	215.0	21.9	43.7
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°	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2	2141.2
2.5°	2121.5	2100.4	2058.9	2012.1	1978.9	1942.7	1921.6	1895.9	1876.3	1858.9	1871.8
5°	2113.9	2073.2	1981.2	1877.8	1791.1	1708.0	1646.2	1587.3	1542.8	1514.9	1526.3
7.5°	2094.4	2034.0	1884.6	1723.1	1581.3	1447.8	1339.2	1241.8	1166.4	1125.6	1138.5
10°	2061.1	1975.9	1775.3	1551.2	1352.7	1164.1	1002.7	857.8	748.4	697.1	709.2
12.5°	2037.0	1924.6	1662.1	1385.2	1124.2	856.3	642.0	476.1	390.8	339.5	344.0
15°	2026.4	1884.6	1556.4	1210.1	874.4	550.0	347.0	251.2	221.8	211.2	212.0
17.5°	2028.0	1852.9	1456.1	1028.3	622.4	316.1	212.7	191.6	187.1	184.8	184.8
20°	2031.6	1821.3	1352.0	838.9	398.4	203.7	177.3	170.6	168.3	165.2	166.0
22.5°	2043.0	1797.1	1247.0	648.8	245.2	166.0	156.9	150.9	147.1	142.6	143.3
25°	2060.4	1779.0	1143.7	467.0	172.7	144.9	136.6	128.3	121.5	116.2	116.9
27.5°	2070.9	1753.3	1033.6	318.4	143.3	126.7	115.4	104.2	96.5	92.0	91.3
30°	2063.4	1711.9	908.4	209.0	126.7	109.4	95.8	83.0	75.5	71.7	71.7
32.5°	2043.0	1658.2	770.3	152.4	112.4	94.3	77.7	66.4	61.0	58.9	59.6
35°	2019.6	1602.4	623.3	129.0	101.1	80.0	63.4	54.3	52.0	51.4	51.4
37.5°	2006.9	1554.1	482.1	116.9	90.5	66.4	52.0	46.8	44.5	44.5	44.5
40°	2021.2	1517.2	356.8	107.8	80.0	55.0	43.7	40.0	39.3	39.3	39.3
42.5°	2082.3	1504.4	261.0	100.3	69.4	46.0	37.7	34.8	34.0	34.8	34.8
45°	2201.5	1532.3	197.6	92.8	59.6	37.7	32.4	30.1	30.1	30.9	30.9
47.5°	2403.7	1603.9	162.2	85.2	49.8	31.6	27.9	26.4	26.4	27.2	27.2
50°	2717.5	1736.7	145.7	76.9	41.5	27.2	23.4	22.6	22.6	23.4	24.1
52.5°	3194.3	1989.5	137.3	68.7	34.0	22.6	19.6	18.9	19.6	20.3	20.3
55°	3724.6	2313.1	127.5	60.3	28.6	18.9	15.9	15.9	16.6	18.1	18.1
57.5°	4218.8	2625.5	118.4	49.8	24.9	15.1	12.8	12.8	14.3	15.9	15.9
60°	4741.0	2931.8	106.4	40.0	21.1	12.0	10.6	10.6	12.8	14.3	15.1
62.5°	5385.9	3287.8	90.5	31.6	16.6	9.1	7.5	9.9	12.0	14.3	14.3
65°	6318.5	3730.7	70.9	24.9	12.8	6.8	6.0	9.1	11.4	13.5	14.3
67.5°	6657.2	3674.2	53.5	20.3	9.9	5.3	5.3	8.3	11.4	13.5	13.5
68°	6533.4	3550.4	51.4	19.6	9.1	5.3	5.3	8.3	11.4	13.5	13.5
70°	5693.1	2902.4	42.3	15.1	7.5	4.5	4.5	7.5	11.4	12.8	13.5
72.5°	4262.6	1928.3	36.2	9.9	6.8	4.5	3.9	7.5	10.6	12.8	12.8
75°	2445.1	800.5	30.9	7.5	6.0	3.9	3.9	6.8	10.6	12.8	12.8
77.5°	691.1	187.1	24.9	6.0	5.3	3.9	3.1	6.8	9.9	12.0	12.0
80°	126.7	55.8	19.6	5.3	4.5	3.9	3.1	6.8	9.9	12.0	12.0
82.5°	83.7	26.4	14.3	5.3	4.5	3.9	3.1	6.0	9.1	11.4	11.4
85°	62.6	18.9	9.1	5.3	4.5	3.9	3.1	6.0	9.1	11.4	11.4
87.5°	34.8	8.3	6.8	6.0	5.3	3.9	3.1	5.3	8.3	10.6	10.6
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)