

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: P196353

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196353
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15089.5 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

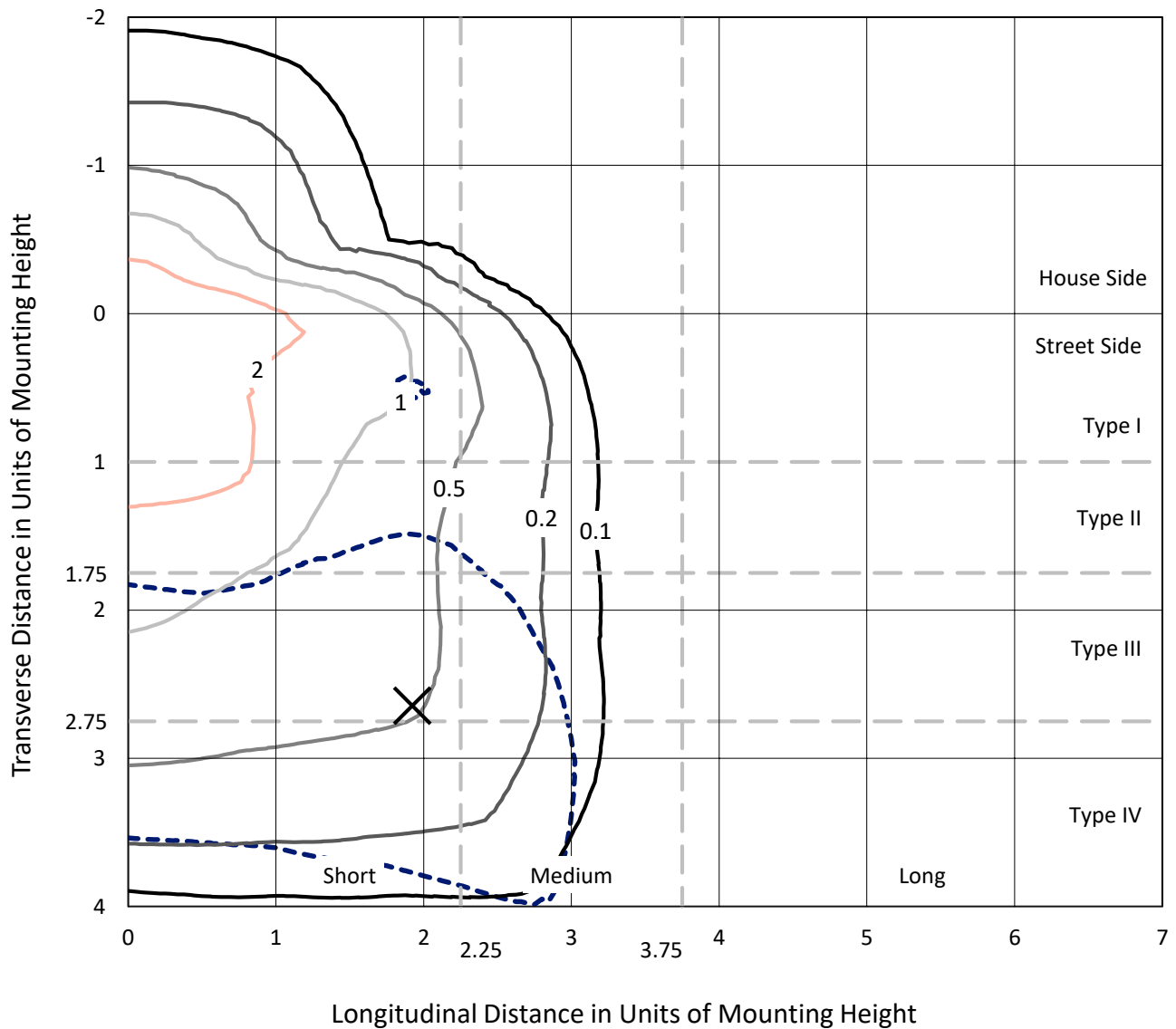
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

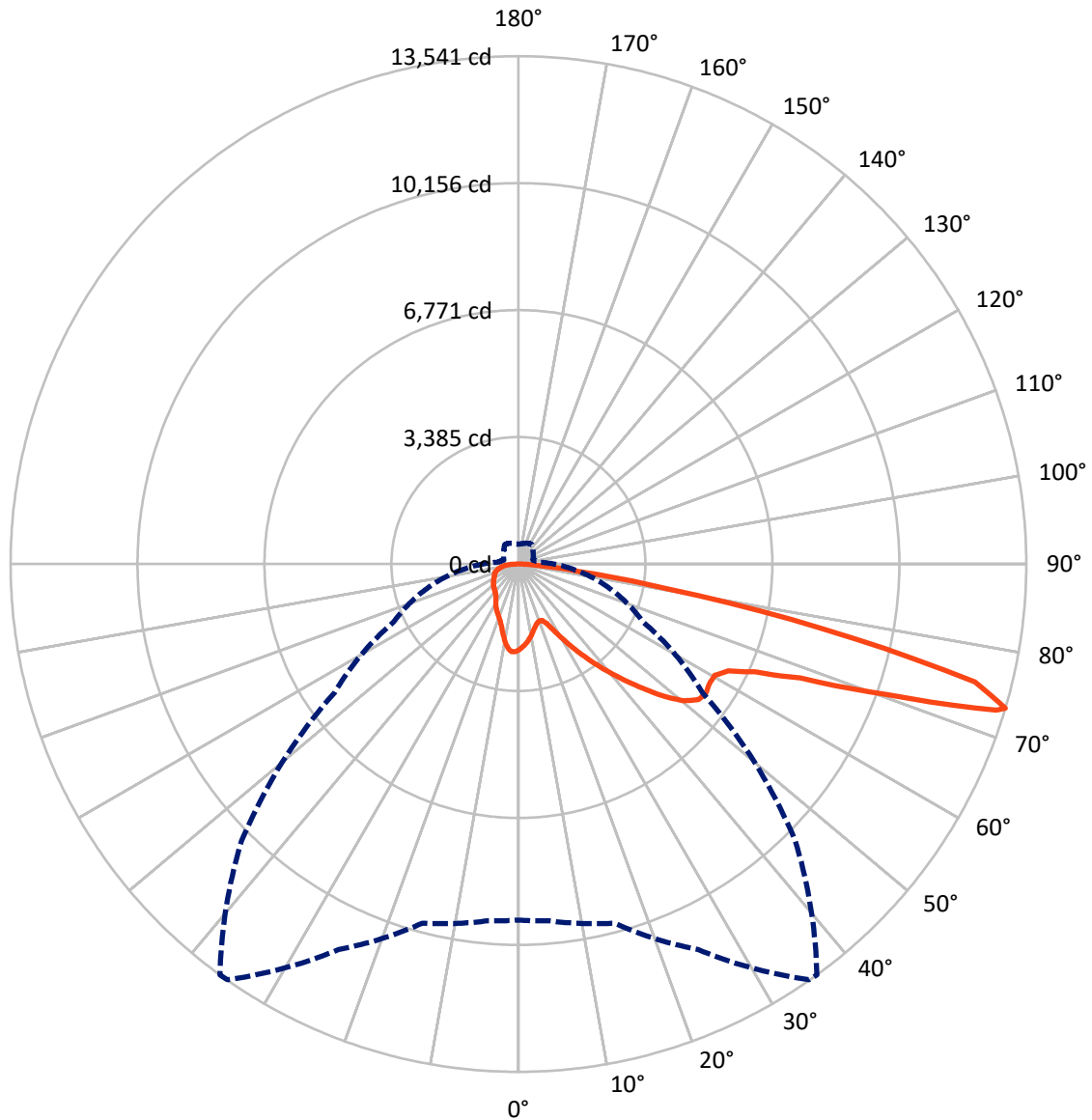
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2909.7	0.0	2909.7
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	12179.8	0.0	12179.8
	% Fixture	80.7	0.0	80.7
Total	Lumens	15089.5	0.0	15089.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.6	1.4
10°-20°	521.4	3.5
20°-30°	835.9	5.5
30°-40°	1382.7	9.2
40°-50°	2139.6	14.2
50°-60°	2864.3	19.0
60°-70°	3741.6	24.8
70°-80°	3056.2	20.3
80°-90°	340.2	2.3
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°	15089.5	100.0
0°-180°	15089.5	100.0



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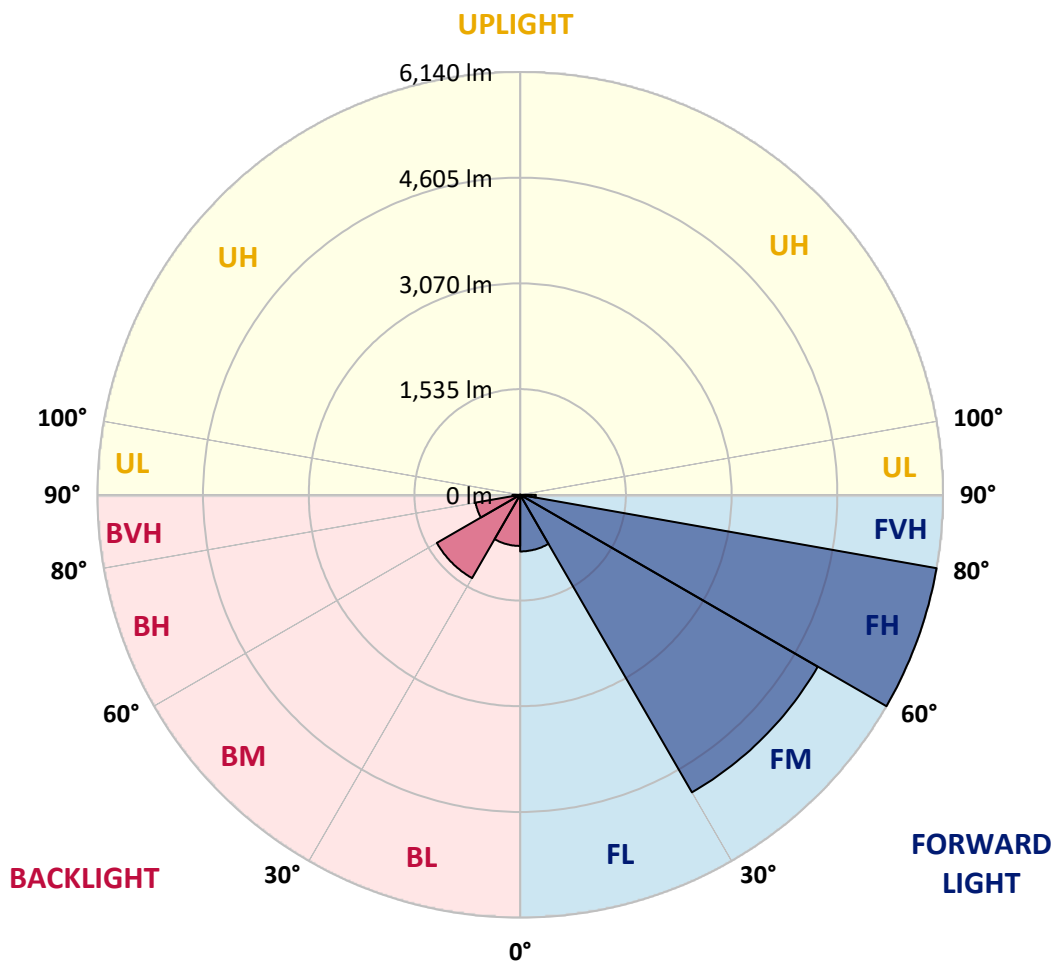
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	822.2	5.4			
FM (30°-60°)	4989.1	33.1			
FH (60°-80°)	6140.3	40.7			G3/7500
FVH (80°-90°)	228.1	1.5			G3/500
BL (0°-30°)	742.7	4.9	B2/1000		
BM (30°-60°)	1397.4	9.3	B2/2500		
BH (60°-80°)	657.5	4.4	B2/1000		G2/1000
BVH (80°-90°)	112.0	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6
2.5°	2198.4	2204.2	2205.1	2211.8	2211.8	2210.8	2213.8	2225.2	2231.0	2244.4	2255.9
5°	2090.1	2096.7	2099.6	2111.2	2125.5	2126.5	2137.0	2159.0	2180.2	2209.9	2234.8
7.5°	1968.3	1975.9	1983.6	2007.6	2028.7	2030.6	2050.7	2086.2	2114.0	2150.4	2195.5
10°	1850.3	1852.3	1859.9	1890.6	1918.4	1921.3	1950.1	1990.4	2027.7	2078.5	2129.4
12.5°	1753.5	1759.3	1757.3	1780.3	1804.4	1806.2	1844.6	1895.4	1950.1	2007.6	2068.0
15°	1720.0	1719.0	1698.9	1697.9	1708.4	1710.4	1747.8	1807.2	1868.6	1939.5	2017.2
17.5°	1743.0	1735.3	1682.5	1650.0	1643.3	1645.2	1673.0	1738.2	1803.4	1884.9	1977.9
20°	1869.5	1839.8	1716.1	1637.5	1615.4	1615.4	1631.8	1684.5	1756.4	1851.3	1968.3
22.5°	2169.6	2123.6	1859.9	1720.0	1642.3	1634.7	1622.2	1662.5	1742.0	1856.1	2007.6
25°	2547.4	2525.4	2123.6	1939.5	1779.4	1754.5	1672.0	1686.4	1771.8	1907.9	2115.0
27.5°	2897.3	2858.9	2469.7	2258.8	2032.5	1994.1	1819.7	1761.2	1842.6	2003.8	2270.3
30°	3101.5	3075.6	2825.4	2624.1	2354.6	2305.7	2055.5	1908.8	1969.3	2161.9	2490.8
32.5°	3324.0	3308.6	3182.1	2998.9	2703.7	2647.1	2360.5	2149.5	2162.9	2371.9	2756.3
35°	3539.6	3559.8	3487.9	3353.6	3079.5	3026.7	2769.7	2464.0	2401.7	2607.8	3040.1
37.5°	3798.5	3803.3	3758.2	3671.0	3474.5	3431.3	3219.4	2799.5	2661.4	2858.9	3314.4
40°	4315.3	4239.5	4063.2	3994.1	3877.1	3850.3	3608.7	3107.3	2903.0	3116.8	3573.2
42.5°	4874.3	4756.3	4480.2	4367.1	4320.0	4295.2	3932.7	3312.4	3129.3	3374.7	3827.3
45°	5324.9	5228.9	4958.5	4818.6	4824.3	4784.1	4215.6	3495.5	3374.7	3633.6	4111.0
47.5°	5768.7	5608.6	5305.6	5285.5	5352.6	5293.2	4485.9	3678.6	3630.8	3915.4	4394.8
50°	5797.5	5651.7	5529.0	5690.1	5805.1	5731.3	4731.4	3918.3	3896.3	4256.8	4761.1
52.5°	5447.5	5426.4	5613.4	5884.7	6075.5	6009.3	4931.7	4164.7	4167.6	4683.5	5206.9
55°	5320.1	5293.2	5517.5	5851.2	6109.1	6069.8	5081.3	4442.8	4468.7	5201.2	5685.4
57.5°	5534.8	5467.7	5511.8	5787.9	6030.5	6007.5	5236.6	4751.5	4798.5	5797.5	6127.3
60°	6201.1	6064.1	5830.1	5881.9	6033.4	6019.9	5459.1	5095.7	5174.3	6418.7	6407.3
62.5°	7199.1	7043.8	6567.3	6337.3	6303.7	6277.8	5826.2	5518.5	5557.8	6867.5	6244.3
65°	8294.0	8127.2	7560.6	7183.8	6986.3	6930.7	6418.7	6028.6	5782.1	6866.5	5609.6
67.5°	9523.2	9346.7	8782.0	8422.5	8208.7	8113.7	7380.4	6440.8	5709.3	6285.5	4488.8
70°	10781.9	10614.1	10355.3	10480.9	10574.9	10430.1	8895.2	6577.9	5185.8	4927.9	3014.2
72.5°	10113.7	10100.3	10296.8	11487.5	13298.7	13327.4	10408.0	6190.6	4006.6	2928.9	1606.9
73°	9493.4	9550.0	9914.3	11339.0	13531.6	13541.2	10437.8	5990.2	3678.6	2523.4	1411.3
75°	4918.3	5301.9	6653.7	9194.3	12529.7	12574.8	9201.0	4534.8	2192.6	1401.6	951.0
77.5°	1317.3	1300.1	2143.7	4479.2	8353.5	8294.0	5813.7	2195.5	1050.8	879.1	667.3
80°	451.5	457.4	729.6	1638.5	3899.2	4038.2	2523.4	957.8	691.2	612.6	472.7
82.5°	230.1	237.7	381.6	697.0	1630.8	1596.3	812.0	563.7	463.1	371.9	264.6
85°	122.8	126.5	210.0	361.4	598.2	605.0	285.7	301.1	294.3	210.9	130.4
87.5°	60.4	62.3	100.7	159.2	221.5	213.8	99.7	130.4	144.7	118.9	71.9
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°	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6	2285.6
2.5°	2270.3	2270.3	2282.7	2303.9	2319.2	2333.6	2343.2	2358.5	2367.1	2366.2	2365.2
5°	2255.0	2264.5	2289.5	2315.3	2332.6	2344.1	2344.1	2350.8	2350.8	2348.0	2344.1
7.5°	2219.5	2235.8	2272.2	2295.2	2300.0	2287.5	2262.7	2243.4	2219.5	2207.0	2202.2
10°	2162.9	2184.0	2230.0	2240.6	2215.6	2171.5	2111.2	2059.4	2013.4	1992.3	1985.5
12.5°	2107.3	2135.1	2178.3	2161.9	2102.5	2016.2	1923.2	1852.3	1800.5	1780.3	1773.7
15°	2061.2	2094.8	2128.4	2077.6	1974.0	1854.2	1751.6	1685.4	1646.1	1630.8	1627.0
17.5°	2030.6	2069.9	2081.4	1986.5	1842.6	1708.4	1617.4	1574.2	1557.0	1550.3	1548.3
20°	2032.5	2076.6	2048.9	1898.3	1716.1	1581.0	1520.5	1508.1	1508.1	1508.1	1507.1
22.5°	2085.3	2123.6	2035.4	1815.8	1594.4	1473.6	1447.7	1458.2	1465.9	1465.9	1465.0
25°	2194.5	2215.6	2045.0	1736.3	1480.3	1380.6	1381.5	1401.6	1408.4	1408.4	1406.5
27.5°	2361.4	2344.1	2062.3	1648.1	1368.1	1296.2	1309.7	1327.9	1332.6	1329.7	1328.8
30°	2570.4	2501.3	2076.6	1544.6	1262.6	1217.6	1229.1	1239.6	1235.8	1229.1	1228.2
32.5°	2804.3	2661.4	2068.0	1428.6	1169.6	1136.1	1142.8	1148.6	1142.8	1126.5	1126.5
35°	3036.3	2806.3	2021.0	1302.0	1095.8	1057.5	1056.5	1074.7	1073.8	1054.6	1055.6
37.5°	3239.6	2920.3	1929.9	1185.9	1032.6	999.9	1003.8	1015.3	1021.0	995.1	992.3
40°	3417.0	2998.9	1801.4	1087.2	981.7	983.7	973.1	954.9	948.2	936.7	934.8
42.5°	3583.8	3053.6	1665.4	1004.7	955.8	977.9	942.4	899.3	881.1	891.6	898.4
45°	3747.7	3114.9	1534.0	936.7	923.2	960.7	911.8	863.8	842.7	847.5	854.3
47.5°	3948.1	3200.3	1375.8	863.8	873.4	929.0	892.6	840.8	809.2	790.0	784.3
50°	4211.7	3324.0	1170.7	785.2	820.7	894.5	876.3	807.2	772.7	734.4	724.8
52.5°	4541.5	3440.9	963.5	721.9	777.5	864.8	849.5	778.5	736.3	690.3	682.6
55°	4870.4	3457.2	785.2	667.3	728.6	824.5	816.8	755.4	696.0	658.7	651.0
57.5°	5100.4	3302.8	665.3	621.2	681.7	774.7	787.2	727.7	662.5	633.7	628.9
60°	5104.3	2933.7	592.5	590.5	646.2	731.5	756.5	695.1	641.4	622.3	618.4
62.5°	4698.7	2364.2	545.5	567.5	620.3	696.0	733.5	676.9	636.6	628.9	625.1
65°	3938.5	1746.8	508.1	546.5	596.4	666.4	714.2	671.2	634.6	631.8	628.9
67.5°	2907.8	1197.5	476.5	519.7	569.5	635.7	696.0	662.5	623.2	634.6	630.9
70°	1829.2	799.5	446.7	489.0	534.0	600.2	672.1	647.1	608.8	602.1	589.6
72.5°	1032.6	578.1	411.3	449.7	487.9	553.2	639.4	621.2	576.2	549.3	536.8
73°	932.8	547.5	402.6	440.1	477.4	543.6	631.8	613.6	566.6	536.8	525.4
75°	682.6	447.7	363.4	400.8	433.3	499.5	595.4	575.2	524.5	489.0	481.3
77.5°	494.7	345.1	312.5	346.1	374.9	438.1	540.7	517.7	467.9	448.7	441.0
80°	356.6	261.8	258.9	291.4	316.4	380.6	482.2	458.3	410.3	466.9	454.4
82.5°	212.9	167.8	189.9	226.3	252.2	319.3	419.0	391.2	345.1	349.0	297.2
85°	101.6	94.9	117.9	148.6	166.8	218.6	349.0	326.9	276.1	226.3	221.5
87.5°	45.0	43.2	56.6	66.2	89.2	131.3	238.8	211.9	200.4	119.9	93.9
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)