

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: P270558

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270558
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-T4W-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13800.6 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

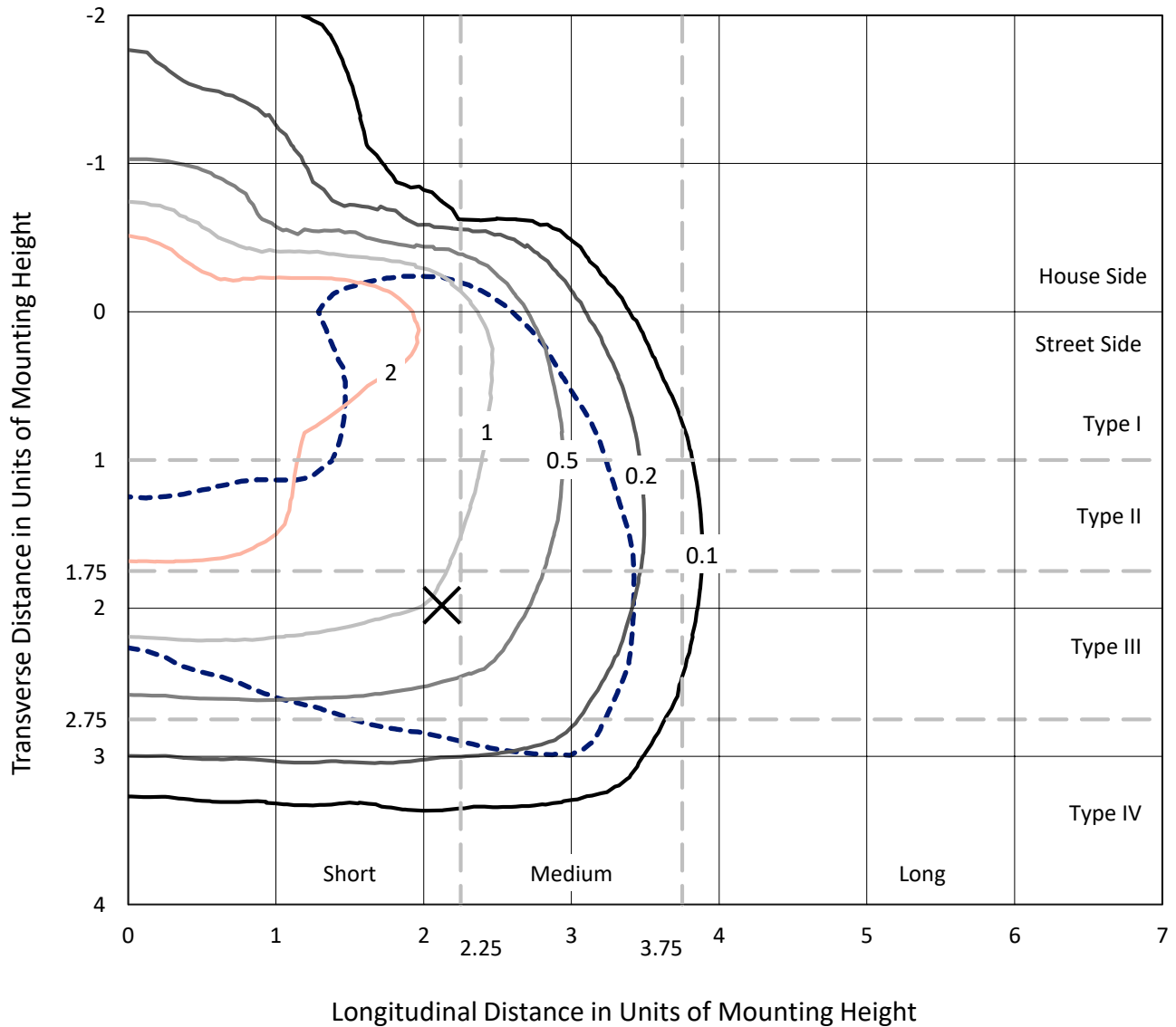
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

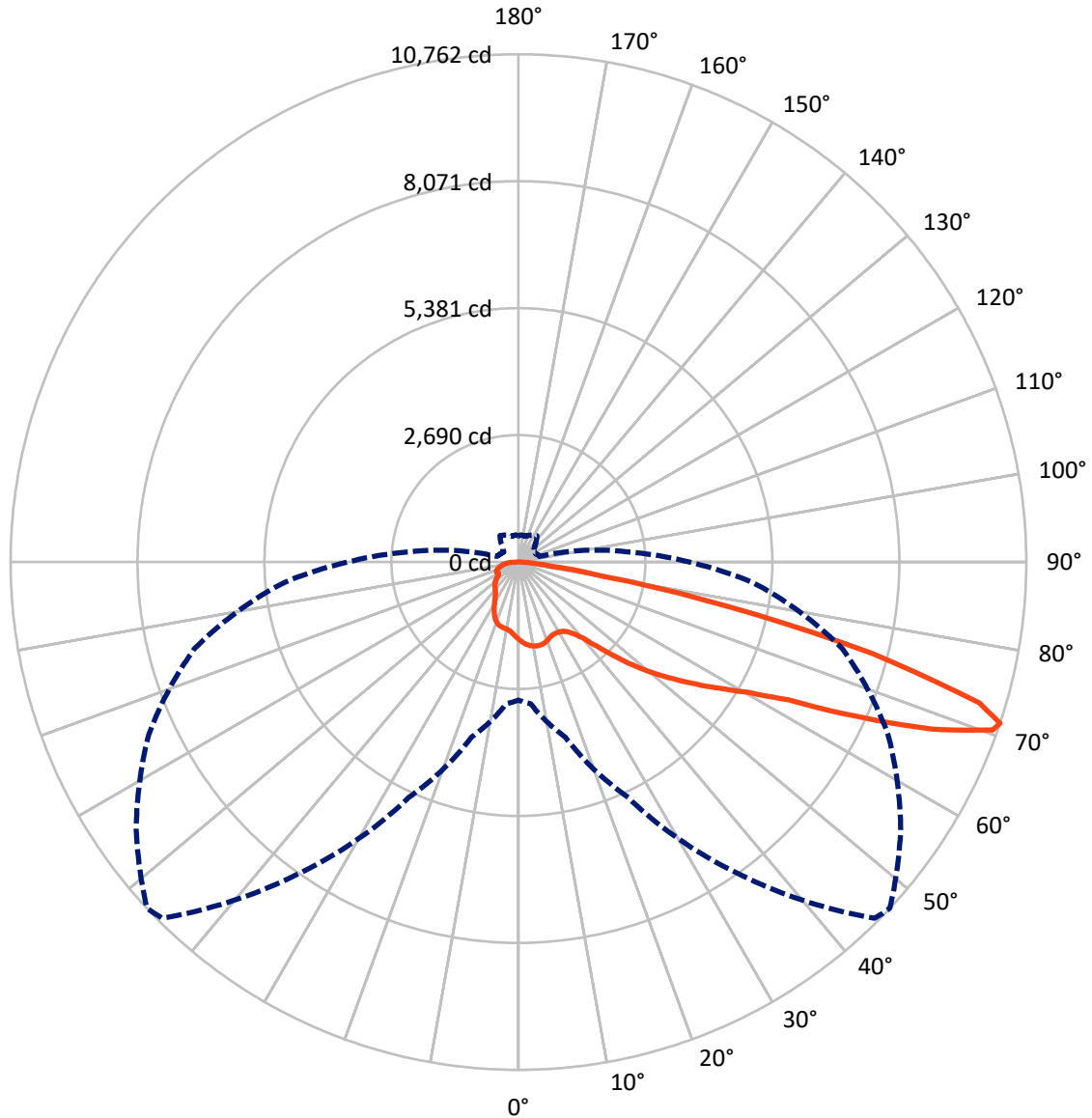
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.7 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2957.7	0.0	2957.7
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	10843.0	0.0	10843.0
	% Fixture	78.6	0.0	78.6
Total	Lumens	13800.6	0.0	13800.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.7	1.1
10°-20°	458.4	3.3
20°-30°	681.2	4.9
30°-40°	978.1	7.1
40°-50°	1734.2	12.6
50°-60°	2967.4	21.5
60°-70°	4212.8	30.5
70°-80°	2307.3	16.7
80°-90°	304.6	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°	13800.6	100.0
0°-180°	13800.6	100.0



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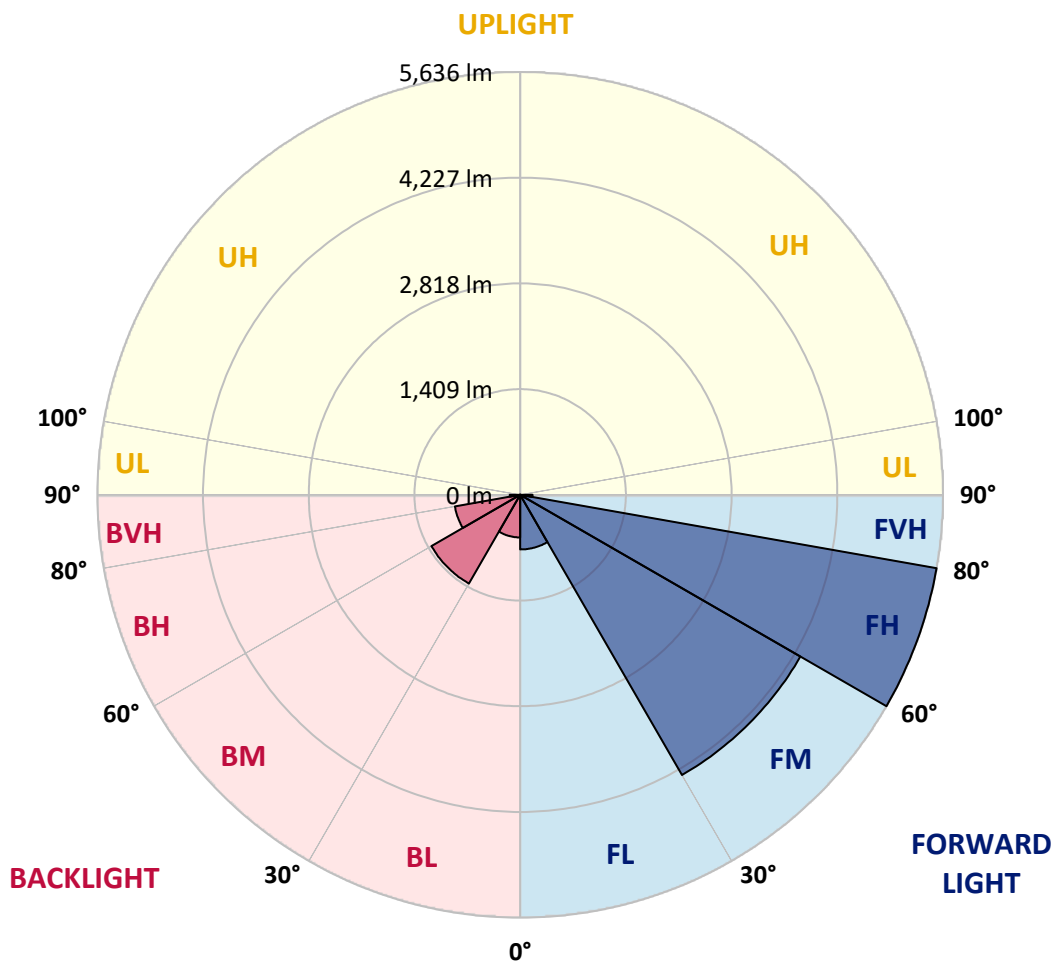
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	728.3	5.3			
FM (30°-60°)	4313.1	31.3			
FH (60°-80°)	5636.3	40.8			G3/7500
FVH (80°-90°)	165.2	1.2			G2/225
BL (0°-30°)	568.0	4.1	B2/1000		
BM (30°-60°)	1366.6	9.9	B2/2500		
BH (60°-80°)	883.7	6.4	B2/1000		G2/1000
BVH (80°-90°)	139.4	1.0			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°	45°	47°	55°	65°	75°	85°
0°	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2
2.5°	1741.3	1737.7	1739.5	1733.2	1718.1	1702.0	1702.0	1685.0	1667.1	1649.2	1629.4
5°	1849.5	1844.1	1839.6	1820.0	1790.5	1757.4	1752.1	1718.1	1681.4	1644.6	1609.0
7.5°	1939.8	1934.5	1921.0	1885.4	1842.3	1793.1	1786.9	1742.3	1693.9	1642.9	1592.9
10°	2004.2	2000.6	1974.7	1929.1	1879.1	1820.9	1810.2	1764.5	1707.3	1643.8	1580.3
12.5°	2040.1	2034.7	2003.3	1949.7	1890.7	1831.6	1820.9	1777.0	1711.8	1642.0	1567.8
15°	2025.7	2023.1	1993.5	1938.9	1880.0	1828.9	1820.0	1775.3	1709.0	1635.8	1556.1
17.5°	1965.0	1971.2	1947.9	1894.3	1845.9	1810.2	1800.4	1758.3	1695.7	1620.5	1538.3
20°	1880.8	1888.0	1876.3	1821.9	1794.1	1770.7	1765.3	1731.5	1673.4	1598.2	1516.8
22.5°	1791.4	1797.7	1798.5	1747.6	1738.6	1729.6	1725.1	1701.0	1653.6	1584.8	1502.4
25°	1729.6	1736.9	1738.6	1693.9	1699.2	1702.0	1701.0	1684.1	1650.0	1584.8	1504.3
27.5°	1713.5	1717.1	1715.4	1674.3	1684.1	1699.2	1700.1	1696.5	1664.4	1602.7	1529.4
30°	1769.0	1770.7	1748.5	1686.7	1696.5	1716.2	1717.1	1715.4	1694.8	1649.2	1585.7
32.5°	2008.7	2007.0	1930.0	1770.7	1736.9	1744.0	1746.7	1762.7	1764.5	1726.2	1667.1
35°	2373.6	2372.8	2283.2	2011.3	1851.2	1813.8	1817.4	1842.3	1864.7	1838.8	1804.8
37.5°	2775.1	2777.7	2723.3	2354.7	2098.1	1941.6	1938.1	1956.8	1997.1	2006.1	2010.4
40°	3220.6	3234.0	3231.3	2749.3	2444.3	2159.9	2124.0	2102.7	2180.5	2229.7	2293.2
42.5°	3729.5	3725.8	3727.6	3182.1	2839.5	2503.2	2437.1	2336.9	2427.3	2512.2	2651.7
45°	4166.8	4181.2	4191.9	3642.6	3282.2	2895.9	2828.9	2646.3	2727.8	2854.8	3067.6
47.5°	4606.8	4581.7	4601.4	4155.1	3775.0	3344.0	3257.3	3011.3	3087.2	3266.1	3589.8
50°	5119.3	5107.7	5018.2	4824.1	4370.7	3798.4	3684.7	3392.3	3503.1	3741.9	4234.7
52.5°	5579.0	5516.3	5446.6	5349.9	4956.5	4258.0	4114.0	3788.4	3992.3	4288.4	5035.2
55°	5747.0	5705.0	5789.0	5914.4	5576.3	4726.6	4565.6	4250.8	4544.2	4913.5	5977.0
57.5°	5925.8	5940.2	6129.9	6382.9	6162.9	5226.6	5052.2	4798.1	5149.7	5612.9	7029.5
60°	6015.4	6072.6	6450.9	6925.8	6720.9	5774.8	5607.5	5426.9	5821.2	6385.6	8079.5
62.5°	6030.6	6107.4	6643.1	7116.4	7489.3	6614.6	6421.4	6225.6	6660.3	7239.7	8839.7
65°	5751.6	5869.5	6626.2	7350.7	8189.5	8017.8	7895.3	7553.7	7783.5	7992.0	8969.3
67.5°	4931.4	5060.2	5970.7	7254.1	8751.2	9473.9	9450.6	8946.1	8650.9	8282.6	8008.0
70°	3619.5	3723.1	4597.9	6201.4	8506.1	10616.8	10657.9	9848.6	8893.4	7665.4	5954.5
71°	2927.1	3016.6	3841.2	5505.6	8028.5	10675.7	10761.6	9888.8	8641.2	7108.3	4985.1
72.5°	1821.9	1871.9	2550.6	4155.1	6913.3	10067.7	10212.6	9373.6	7847.0	6008.3	3523.7
75°	687.7	707.4	946.3	1832.5	4126.5	7563.5	7738.8	7084.2	5512.8	3429.8	1474.7
77.5°	369.4	379.3	469.5	762.0	1653.6	4335.8	4561.1	4040.7	2644.6	1200.2	602.9
80°	247.8	254.0	324.6	451.7	760.1	1650.9	1838.8	1622.3	990.0	685.0	429.3
82.5°	160.1	163.8	221.0	296.9	491.1	580.5	662.7	692.2	618.0	491.1	259.4
85°	105.6	108.2	145.7	189.6	304.0	286.2	293.3	383.7	421.2	323.7	132.4
87.5°	60.8	62.6	87.7	97.5	136.8	107.3	116.3	182.4	250.4	211.0	76.0
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°	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2	1641.2
2.5°	1620.5	1613.4	1597.2	1587.5	1583.1	1581.1	1579.4	1583.1	1583.1	1581.1	1577.7
5°	1591.1	1577.7	1550.8	1532.0	1522.2	1519.6	1523.0	1527.6	1530.3	1530.3	1527.6
7.5°	1569.6	1549.8	1514.2	1488.2	1473.0	1468.5	1478.3	1494.4	1505.2	1510.6	1511.5
10°	1551.7	1524.9	1485.4	1458.7	1446.1	1444.4	1457.0	1477.4	1499.8	1509.6	1511.5
12.5°	1535.7	1505.2	1462.3	1437.2	1428.2	1432.7	1449.8	1468.5	1494.4	1508.8	1509.6
15°	1520.4	1489.1	1443.4	1417.5	1415.8	1422.9	1439.1	1454.1	1473.8	1491.7	1491.7
17.5°	1502.4	1468.5	1421.1	1397.0	1397.0	1403.2	1413.9	1421.9	1434.6	1451.5	1450.7
20°	1481.0	1446.1	1397.9	1372.8	1367.5	1363.8	1363.8	1365.7	1376.5	1391.7	1394.3
22.5°	1465.0	1429.2	1378.2	1347.7	1323.7	1300.3	1290.5	1286.9	1296.9	1311.0	1314.7
25°	1465.0	1429.2	1371.9	1321.0	1261.8	1217.3	1198.3	1193.0	1202.9	1216.3	1221.7
27.5°	1489.1	1453.3	1386.3	1296.9	1188.5	1117.0	1094.7	1090.3	1099.2	1109.9	1115.2
30°	1545.4	1510.6	1427.3	1269.0	1107.3	1013.3	988.2	983.7	988.2	992.7	998.9
32.5°	1639.3	1609.9	1494.4	1244.1	1025.0	919.3	889.1	881.9	883.7	884.6	890.0
35°	1792.3	1778.9	1583.9	1214.5	947.2	842.5	811.2	796.8	796.0	800.4	806.7
37.5°	2026.5	2034.7	1699.2	1171.6	882.8	788.0	756.6	742.3	735.2	744.1	751.3
40°	2357.5	2376.2	1832.5	1113.4	829.9	755.7	722.6	709.2	699.4	696.6	700.3
42.5°	2787.7	2782.3	1968.5	1039.2	772.7	734.3	699.4	685.0	669.0	648.3	643.9
45°	3297.5	3220.6	2082.0	948.0	707.4	713.8	678.0	658.3	633.1	602.9	599.2
47.5°	3899.4	3687.5	2151.8	850.5	646.6	686.8	653.7	623.3	586.8	567.0	564.3
50°	4624.7	4233.8	2200.9	751.3	592.1	652.9	619.8	579.5	543.7	538.4	537.5
52.5°	5483.3	4878.6	2261.8	661.8	549.1	609.1	585.8	544.6	516.0	518.7	518.7
55°	6396.3	5545.9	2263.5	591.2	511.6	558.0	560.7	527.7	505.2	514.3	517.0
57.5°	7229.0	6129.0	2085.7	541.0	475.8	517.9	552.6	534.0	517.0	548.2	550.9
60°	7955.2	6577.8	1702.8	499.9	446.3	502.6	570.7	572.4	568.7	653.7	660.1
62.5°	8220.7	6582.4	1209.2	465.1	430.2	511.6	608.2	610.8	610.8	689.5	701.1
65°	7848.9	6034.2	804.9	444.5	419.5	531.3	638.5	626.9	599.2	653.7	641.2
67.5°	6537.7	4697.1	588.5	431.0	404.2	532.2	665.4	635.9	588.5	635.0	613.5
70°	4493.2	2988.9	492.8	418.6	386.4	508.9	679.7	633.1	572.4	592.1	563.4
71°	3616.8	2385.2	467.7	414.1	379.3	495.4	681.5	629.6	564.3	576.8	550.9
72.5°	2382.6	1469.4	437.4	404.2	368.5	472.1	677.1	621.5	553.5	554.6	537.5
75°	939.9	609.1	393.5	381.9	338.0	434.7	657.3	604.6	533.1	515.2	508.0
77.5°	474.9	397.9	346.0	350.6	302.3	396.2	629.6	576.8	504.4	480.2	474.9
80°	347.0	302.3	296.0	304.0	262.0	358.7	594.8	539.3	467.7	492.8	482.0
82.5°	211.0	184.2	231.7	251.3	219.0	320.2	553.5	495.4	421.2	388.2	375.6
85°	100.3	108.2	167.3	185.1	161.9	255.7	506.3	447.1	367.5	317.6	322.9
87.5°	49.1	59.9	95.7	110.9	106.4	187.8	381.9	347.0	289.8	238.8	233.4
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)