

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: P270396

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270396
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-02-D-UNV-T4FT-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1200mA 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: 11701.2 lumens
Efficiency: N/A
Efficacy: 90.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G2

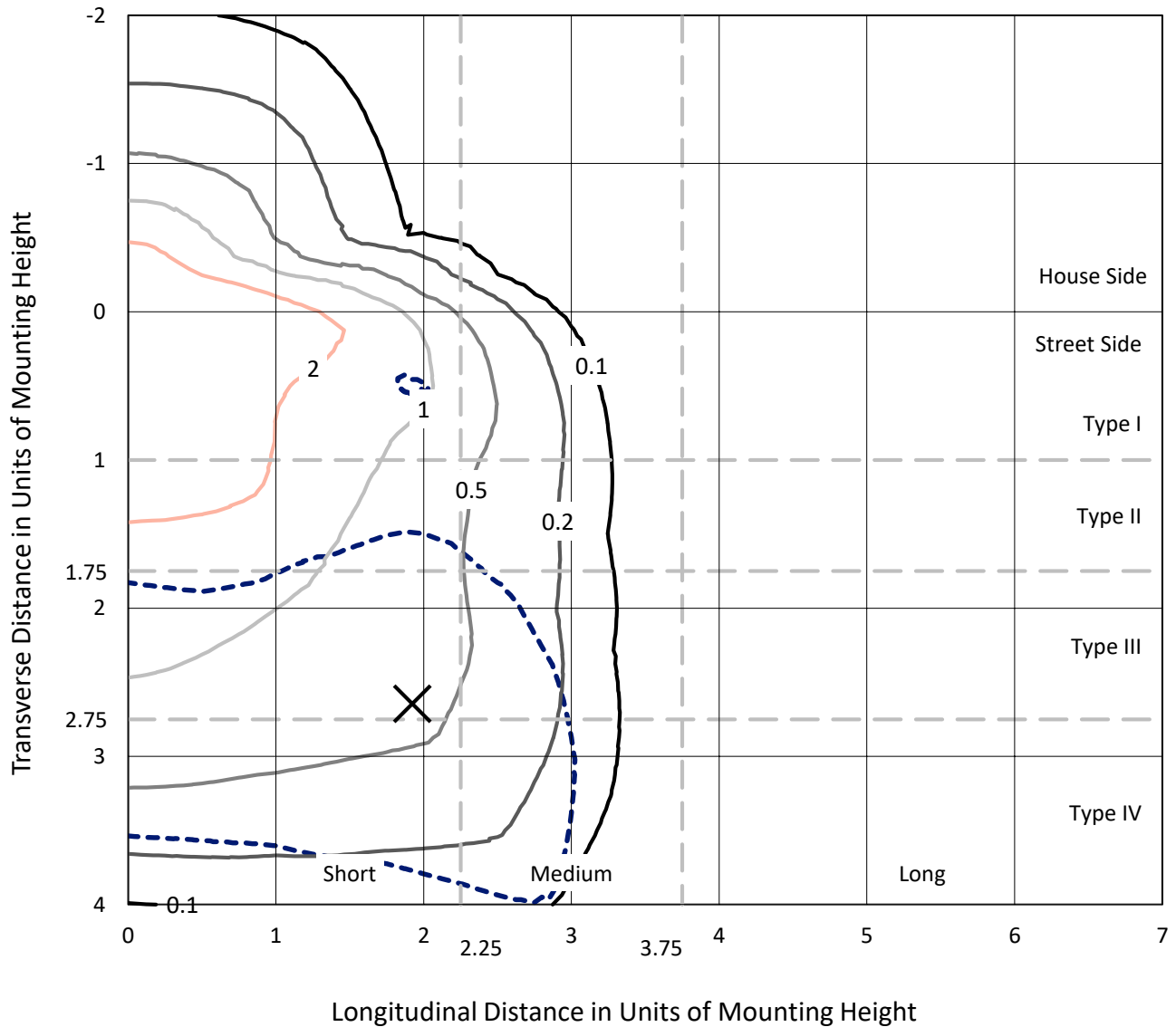
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

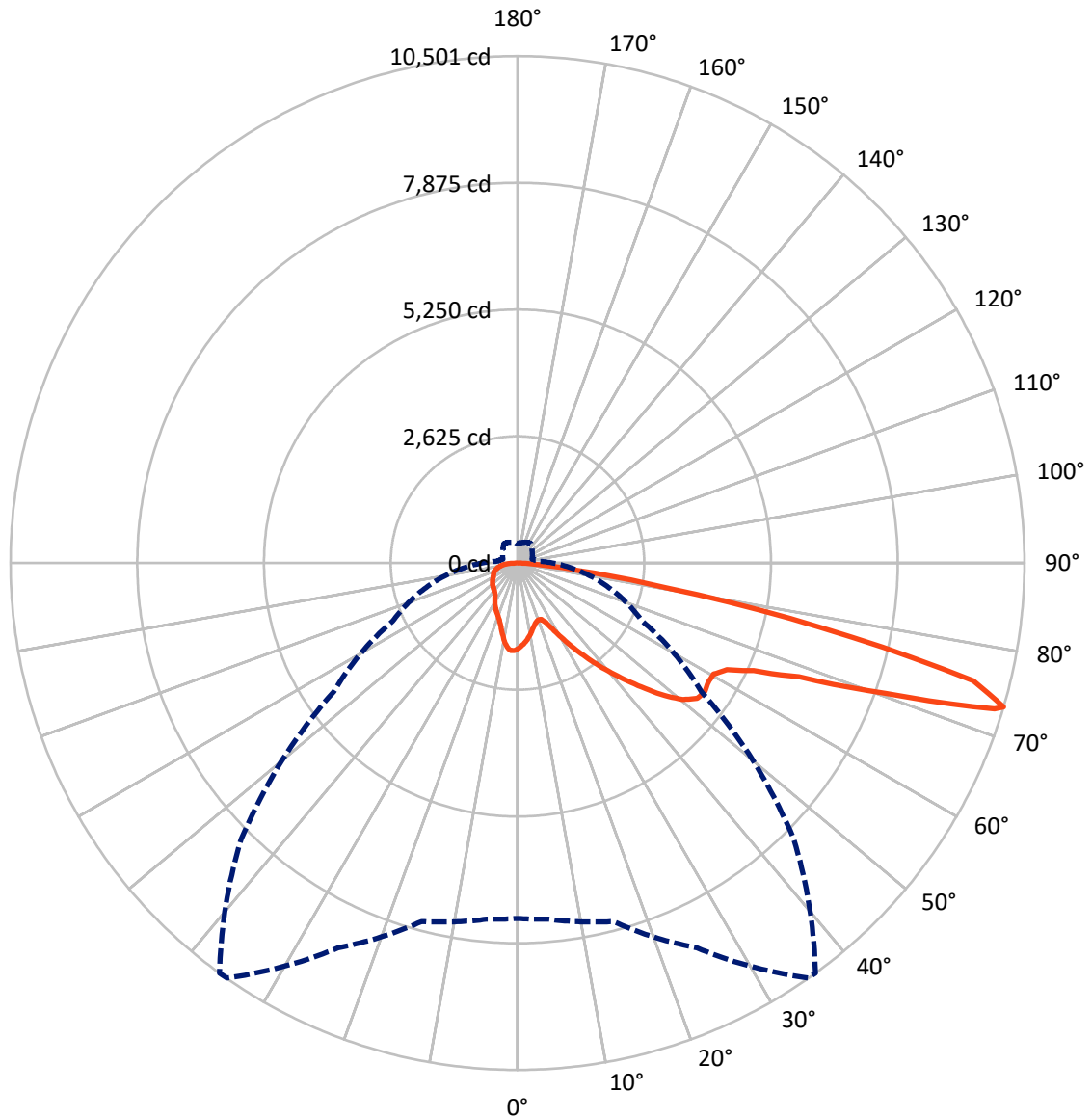
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.4 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	2256.4	0.0	2256.4
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	9444.9	0.0	9444.9
	% Fixture	80.7	0.0	80.7
Total	Lumens	11701.2	0.0	11701.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.0	1.4
10°-20°	404.3	3.5
20°-30°	648.2	5.5
30°-40°	1072.2	9.2
40°-50°	1659.1	14.2
50°-60°	2221.1	19.0
60°-70°	2901.4	24.8
70°-80°	2370.0	20.3
80°-90°	263.8	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°	11701.2	100.0
0°-180°	11701.2	100.0



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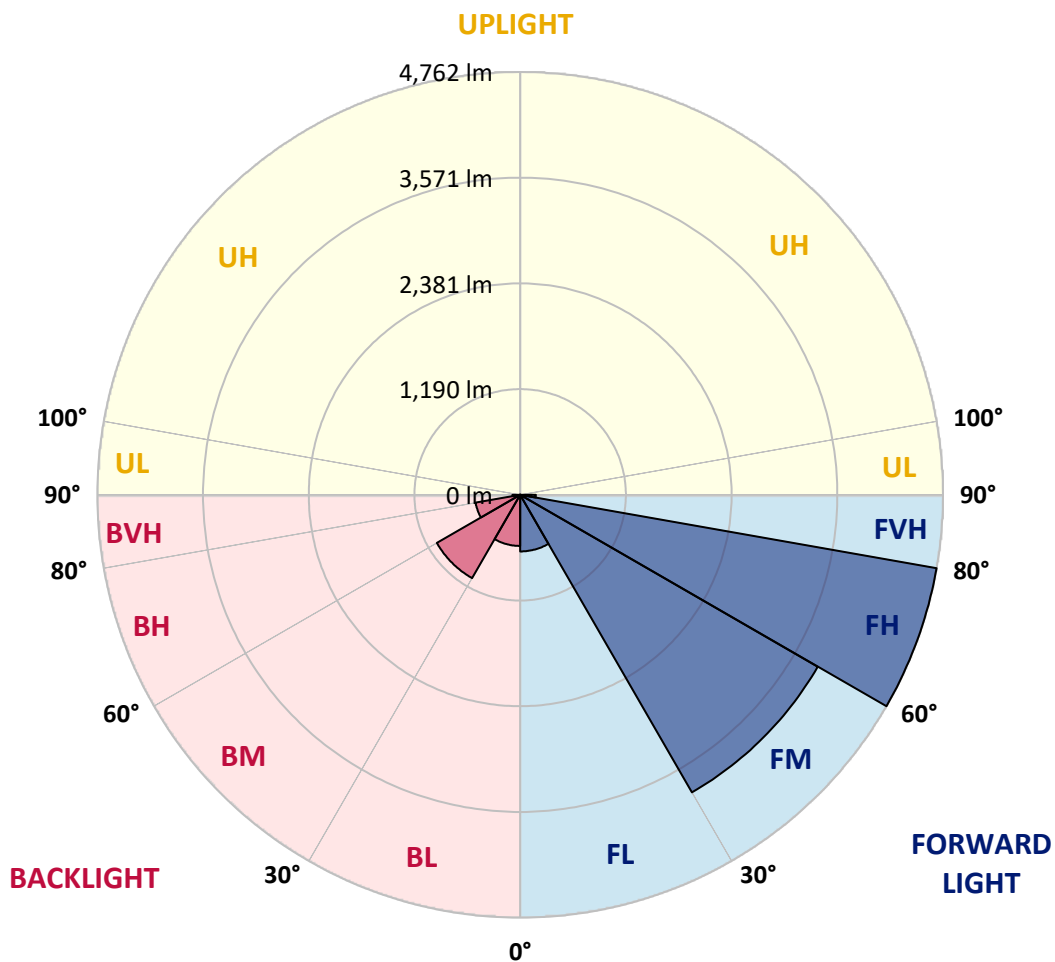
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	637.6	5.4			
FM (30°-60°)	3868.8	33.1			
FH (60°-80°)	4761.5	40.7			G2/5000
FVH (80°-90°)	176.9	1.5			G2/225
BL (0°-30°)	576.0	4.9	B2/1000		
BM (30°-60°)	1083.6	9.3	B2/2500		
BH (60°-80°)	509.9	4.4	B2/1000		G2/1000
BVH (80°-90°)	86.9	0.7			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4
2.5°	1704.8	1709.2	1710.0	1715.1	1715.1	1714.4	1716.7	1725.6	1730.0	1740.5	1749.4
5°	1620.7	1625.9	1628.2	1637.2	1648.2	1649.0	1657.2	1674.3	1690.6	1713.6	1733.0
7.5°	1526.3	1532.2	1538.2	1556.9	1573.1	1574.5	1590.3	1617.8	1639.2	1667.6	1702.5
10°	1434.9	1436.4	1442.3	1466.2	1487.7	1489.8	1512.1	1543.4	1572.5	1611.7	1651.3
12.5°	1359.8	1364.3	1362.8	1380.5	1399.2	1400.6	1430.5	1469.7	1512.1	1556.9	1603.7
15°	1333.8	1333.1	1317.5	1316.6	1324.8	1326.3	1355.4	1401.4	1449.0	1504.0	1564.2
17.5°	1351.6	1345.7	1304.8	1279.5	1274.2	1275.8	1297.3	1347.8	1398.4	1461.6	1533.8
20°	1449.8	1426.7	1330.7	1269.8	1252.7	1252.7	1265.4	1306.2	1362.0	1435.6	1526.3
22.5°	1682.4	1646.8	1442.3	1333.8	1273.5	1267.6	1257.9	1289.2	1350.8	1439.4	1556.9
25°	1975.4	1958.2	1646.8	1504.0	1379.8	1360.6	1296.6	1307.8	1373.9	1479.5	1640.0
27.5°	2246.8	2216.9	1915.1	1751.5	1576.2	1546.4	1411.1	1365.8	1428.9	1553.8	1760.5
30°	2405.1	2385.0	2191.0	2034.8	1826.0	1787.9	1594.0	1480.1	1527.1	1676.4	1931.4
32.5°	2577.5	2565.6	2467.6	2325.5	2096.6	2052.6	1830.3	1666.8	1677.2	1839.3	2137.4
35°	2744.9	2760.4	2704.6	2600.7	2388.0	2347.1	2147.8	1910.7	1862.4	2022.3	2357.5
37.5°	2945.5	2949.2	2914.3	2846.6	2694.2	2660.8	2496.5	2170.8	2063.9	2216.9	2570.1
40°	3346.2	3287.5	3150.7	3097.3	3006.5	2985.6	2798.4	2409.6	2251.2	2417.0	2770.8
42.5°	3779.7	3688.4	3474.1	3386.4	3350.0	3330.6	3049.7	2568.7	2426.6	2616.9	2967.9
45°	4129.1	4054.8	3845.1	3736.6	3741.0	3709.8	3268.9	2710.6	2616.9	2817.8	3187.9
47.5°	4473.4	4349.2	4114.2	4098.6	4150.7	4104.6	3478.6	2852.7	2815.5	3036.4	3408.0
50°	4495.7	4382.7	4287.5	4412.5	4501.6	4444.4	3668.9	3038.4	3021.4	3300.9	3692.0
52.5°	4224.3	4207.9	4352.9	4563.3	4711.3	4660.0	3824.4	3229.5	3231.8	3631.8	4037.7
55°	4125.5	4104.6	4278.5	4537.2	4737.3	4706.8	3940.3	3445.2	3465.2	4033.2	4408.7
57.5°	4291.9	4239.9	4274.1	4488.2	4676.3	4658.5	4060.8	3684.6	3721.0	4495.7	4751.4
60°	4808.6	4702.4	4520.9	4561.1	4678.6	4668.1	4233.3	3951.5	4012.4	4977.4	4968.4
62.5°	5582.5	5462.1	5092.6	4914.3	4888.1	4868.2	4517.9	4279.3	4309.8	5325.3	4842.1
65°	6431.7	6302.2	5862.9	5570.7	5417.6	5374.4	4977.4	4674.8	4483.8	5324.7	4350.0
67.5°	7384.7	7248.0	6810.1	6531.2	6365.5	6291.9	5723.1	4994.5	4427.2	4874.1	3480.8
70°	8360.9	8230.8	8030.0	8127.4	8200.3	8088.0	6897.7	5100.8	4021.4	3821.4	2337.4
72.5°	7842.7	7832.3	7984.8	8908.0	10312.5	10334.8	8070.9	4800.5	3106.9	2271.3	1245.9
73°	7361.7	7405.5	7688.1	8792.8	10493.1	10500.6	8094.0	4645.0	2852.7	1956.8	1094.3
75°	3813.9	4111.4	5159.5	7129.7	9716.2	9751.1	7135.0	3516.5	1700.3	1086.9	737.5
77.5°	1021.6	1008.1	1662.4	3473.4	6477.7	6431.7	4508.4	1702.5	814.9	681.8	517.5
80°	350.2	354.7	565.8	1270.6	3023.7	3131.4	1956.8	742.7	536.0	475.1	366.5
82.5°	178.5	184.4	295.9	540.5	1264.6	1237.9	629.7	437.1	359.1	288.4	205.3
85°	95.2	98.2	162.9	280.4	464.0	469.2	221.5	233.4	228.2	163.5	101.1
87.5°	46.8	48.2	78.1	123.3	171.8	165.7	77.3	101.1	112.3	92.2	55.8
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°	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4	1772.4
2.5°	1760.5	1760.5	1770.2	1786.5	1798.3	1809.5	1817.0	1828.9	1835.5	1834.9	1834.1
5°	1748.6	1756.0	1775.4	1795.4	1808.8	1817.7	1817.7	1822.9	1822.9	1820.8	1817.7
7.5°	1721.2	1733.6	1761.9	1779.8	1783.6	1774.0	1754.6	1739.7	1721.2	1711.5	1707.7
10°	1677.2	1693.6	1729.2	1737.4	1718.1	1684.0	1637.2	1596.9	1561.3	1544.8	1539.7
12.5°	1634.0	1655.7	1689.2	1676.4	1630.5	1563.5	1491.4	1436.4	1396.2	1380.5	1375.3
15°	1598.4	1624.5	1650.5	1611.1	1530.8	1437.8	1358.2	1307.0	1276.5	1264.6	1261.6
17.5°	1574.5	1605.1	1614.1	1540.5	1428.9	1324.8	1254.3	1220.7	1207.4	1202.1	1200.7
20°	1576.2	1610.3	1588.7	1472.1	1330.7	1225.9	1179.1	1169.5	1169.5	1169.5	1168.8
22.5°	1616.9	1646.8	1578.3	1408.2	1236.3	1142.6	1122.6	1130.7	1136.7	1136.7	1135.9
25°	1701.7	1718.1	1585.8	1346.4	1147.9	1070.6	1071.3	1086.9	1092.1	1092.1	1090.6
27.5°	1831.1	1817.7	1599.2	1278.0	1060.9	1005.2	1015.5	1029.6	1033.4	1031.2	1030.4
30°	1993.2	1939.7	1610.3	1197.7	979.2	944.2	953.1	961.2	958.3	953.1	952.4
32.5°	2174.5	2063.9	1603.7	1107.7	907.0	881.0	886.2	890.7	886.2	873.5	873.5
35°	2354.5	2176.1	1567.3	1009.7	849.7	820.1	819.3	833.4	832.6	817.7	818.5
37.5°	2512.1	2264.5	1496.5	919.7	800.7	775.4	778.4	787.4	791.8	771.7	769.5
40°	2649.7	2325.5	1397.0	843.1	761.4	762.8	754.5	740.6	735.3	726.4	724.8
42.5°	2779.0	2367.9	1291.4	779.1	741.2	758.3	730.9	697.4	683.3	691.4	696.6
45°	2906.1	2415.5	1189.5	726.4	715.9	745.0	707.1	669.9	653.4	657.2	662.4
47.5°	3061.6	2481.7	1066.8	669.9	677.3	720.4	692.1	652.0	627.5	612.6	608.2
50°	3266.0	2577.5	907.7	609.0	636.4	693.6	679.5	625.9	599.2	569.4	562.1
52.5°	3521.7	2668.2	747.2	559.9	602.9	670.6	658.6	603.8	571.0	535.3	529.3
55°	3776.7	2680.9	609.0	517.5	565.0	639.4	633.5	585.9	539.7	510.7	504.8
57.5°	3955.1	2561.2	515.9	481.8	528.7	600.6	610.4	564.2	513.7	491.5	487.7
60°	3958.1	2275.0	459.5	458.0	501.1	567.3	586.7	539.1	497.4	482.5	479.5
62.5°	3643.6	1833.4	423.0	440.1	481.0	539.7	568.7	524.9	493.7	487.7	484.7
65°	3054.1	1354.6	394.0	423.8	462.4	516.6	553.9	520.4	492.2	489.9	487.7
67.5°	2254.8	928.6	369.6	403.0	441.5	492.9	539.7	513.7	483.3	492.2	489.1
70°	1418.6	620.0	346.4	379.2	414.1	465.4	521.1	501.9	472.1	466.8	457.2
72.5°	800.7	448.3	319.0	348.7	378.5	429.0	495.9	481.8	446.7	425.9	416.4
73°	723.3	424.4	312.3	341.3	370.2	421.6	489.9	475.8	439.5	416.4	407.4
75°	529.3	347.1	281.8	310.8	336.1	387.3	461.6	446.1	406.7	379.2	373.2
77.5°	383.7	267.6	242.4	268.5	290.7	339.7	419.2	401.5	362.8	348.0	342.0
80°	276.6	202.9	200.7	226.1	245.3	295.2	374.0	355.4	318.2	362.0	352.3
82.5°	165.1	130.2	147.2	175.4	195.6	247.6	324.8	303.4	267.6	270.6	230.4
85°	78.8	73.7	91.4	115.3	129.4	169.5	270.6	253.5	214.2	175.4	171.8
87.5°	34.9	33.4	43.8	51.4	69.1	101.9	185.1	164.3	155.3	93.0	72.9
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)