

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: P195368

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195368
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10009 lumens
Efficiency: N/A
Efficacy: 117.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 85
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

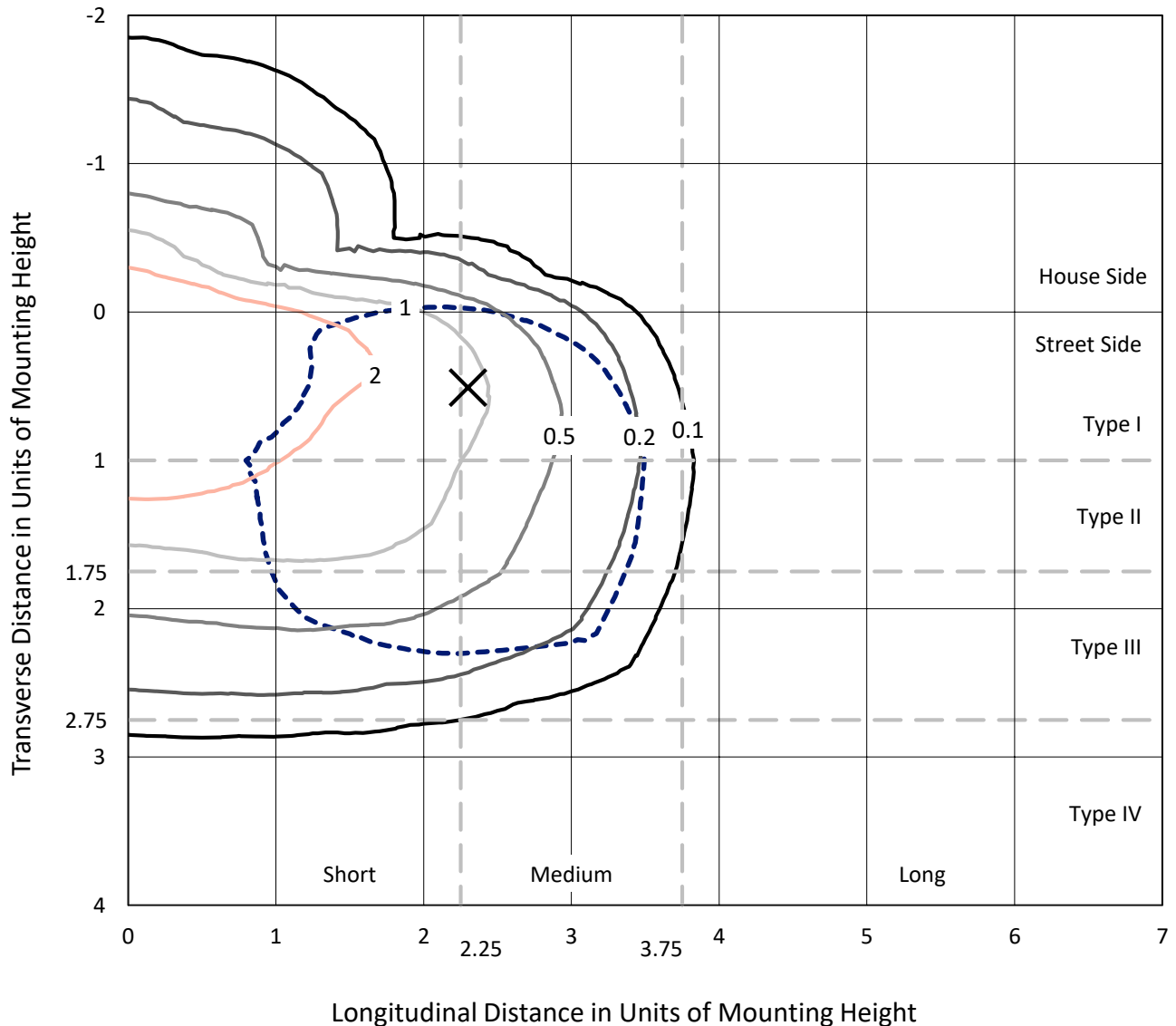


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Iso-Footcandle Lines of Horizontal Illumination

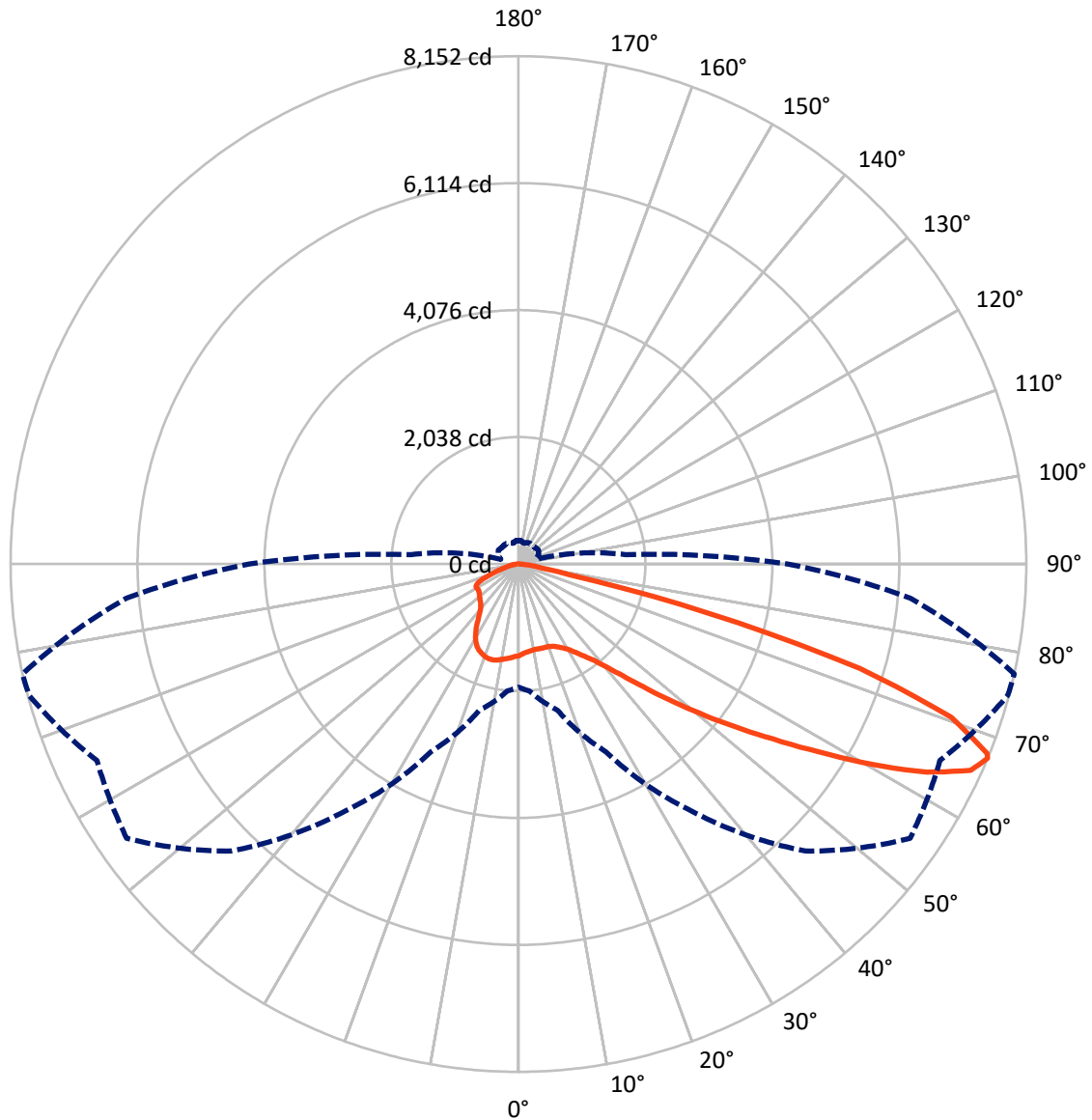
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.4 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1720.1	0.0	1720.1
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	8289.0	0.0	8289.0
	% Fixture	82.8	0.0	82.8
Total	Lumens	10009.0	0.0	10009.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.2	1.3
10°-20°	363.3	3.6
20°-30°	617.3	6.2
30°-40°	987.6	9.9
40°-50°	1520.4	15.2
50°-60°	2109.4	21.1
60°-70°	2813.8	28.1
70°-80°	1339.1	13.4
80°-90°	126.8	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°	10009.0	100.0
0°-180°	10009.0	100.0



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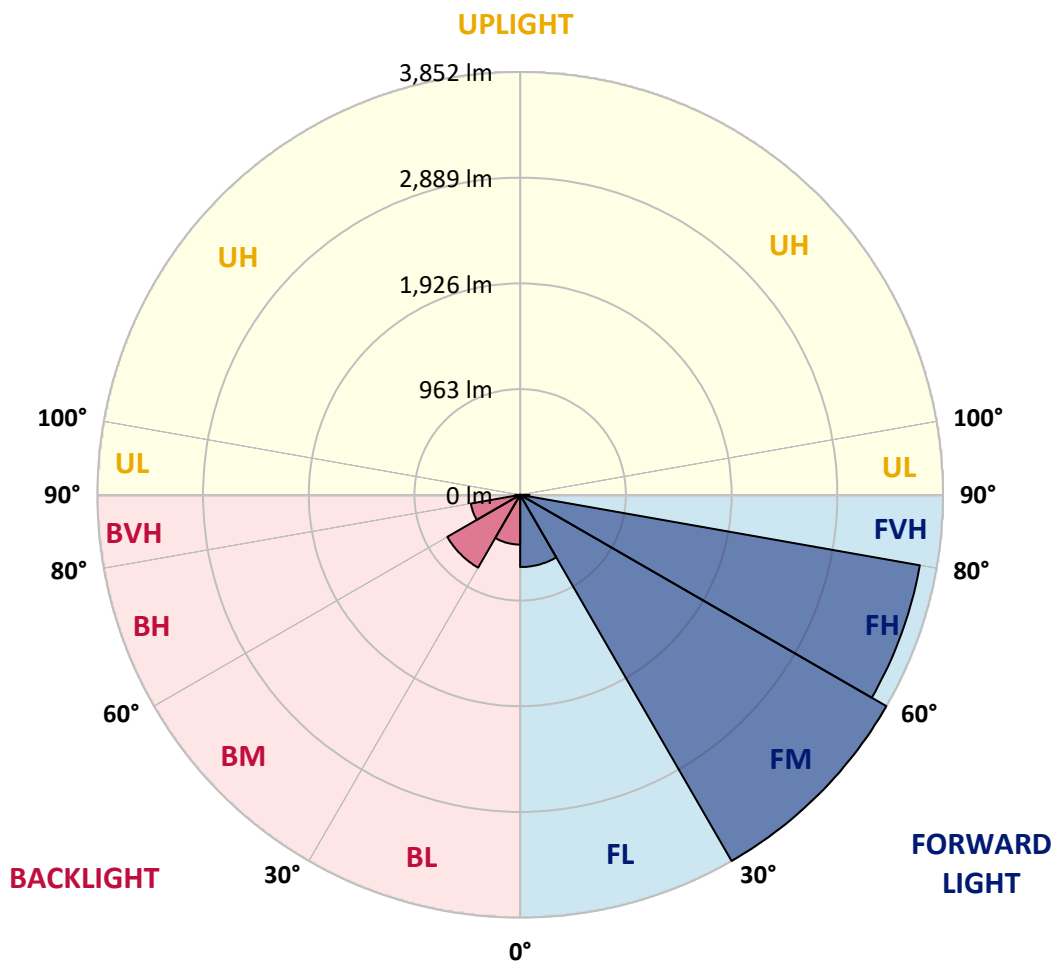
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	658.2	6.6			
FM	(30°-60°)	3851.6	38.5			
FH	(60°-80°)	3696.9	36.9			G2/5000
FVH	(80°-90°)	82.3	0.8			G1/100
BL	(0°-30°)	453.7	4.5	B1/500		
BM	(30°-60°)	765.9	7.7	B1/1000		
BH	(60°-80°)	456.1	4.6	B1/500		G1/500
BVH	(80°-90°)	44.4	0.4			G1/100
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°	65°	75°	77.5°	85°
0°	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1
2.5°	1320.9	1327.1	1327.7	1345.6	1353.7	1374.1	1396.3	1416.1	1433.5	1439.7	1450.8
5°	1188.5	1188.5	1190.3	1202.1	1225.0	1257.8	1304.2	1354.9	1408.1	1421.1	1453.9
7.5°	1119.2	1120.4	1121.7	1133.4	1151.4	1180.4	1226.8	1296.1	1384.6	1406.2	1463.8
10°	1125.4	1123.5	1117.3	1114.8	1122.3	1140.8	1181.0	1252.2	1364.8	1398.2	1481.7
12.5°	1222.5	1218.8	1198.4	1168.7	1141.5	1134.6	1162.5	1229.9	1355.5	1398.2	1512.0
15°	1388.9	1391.4	1351.2	1289.3	1218.2	1169.9	1166.2	1221.9	1352.4	1401.9	1547.3
17.5°	1605.5	1606.7	1551.0	1461.3	1343.1	1243.5	1191.6	1221.9	1352.4	1405.6	1581.3
20°	1835.6	1826.9	1763.8	1651.2	1497.8	1345.6	1238.0	1229.3	1356.1	1411.2	1613.5
22.5°	2033.0	2024.9	1958.7	1840.6	1664.9	1466.3	1300.5	1254.1	1376.5	1434.1	1658.7
25°	2205.6	2210.5	2146.2	2013.2	1831.3	1602.4	1393.9	1311.0	1419.2	1475.5	1714.3
27.5°	2415.3	2406.0	2331.8	2205.0	2002.6	1743.4	1510.8	1382.7	1470.0	1525.6	1782.4
30°	2657.8	2653.5	2553.3	2422.7	2191.3	1901.2	1626.5	1460.1	1536.2	1594.3	1867.8
32.5°	2952.3	2951.7	2844.0	2683.8	2403.5	2079.4	1763.2	1565.9	1632.7	1691.5	1981.0
35°	3285.8	3285.2	3173.8	2962.2	2647.9	2276.7	1924.1	1694.5	1752.1	1814.0	2115.9
37.5°	3517.2	3513.4	3455.3	3249.9	2918.3	2506.2	2125.1	1867.8	1887.6	1956.9	2278.6
40°	3561.7	3584.0	3634.1	3512.8	3213.4	2761.1	2326.8	2054.0	2072.6	2161.6	2483.4
42.5°	3513.4	3542.5	3708.9	3743.0	3508.5	3069.9	2579.3	2312.0	2335.5	2446.2	2724.0
45°	3471.4	3496.7	3705.2	3870.4	3799.9	3406.4	2894.2	2626.9	2671.4	2808.8	2998.7
47.5°	3399.6	3423.1	3632.2	3893.3	3966.3	3730.6	3273.4	3005.5	3082.2	3248.7	3311.8
50°	3395.9	3406.4	3532.6	3816.6	4023.9	3976.8	3693.5	3448.5	3566.0	3757.8	3658.2
52.5°	3301.9	3375.5	3489.9	3694.1	4025.1	4120.4	4107.4	3934.1	4115.4	4327.6	4038.1
55°	2726.5	2811.3	3347.6	3634.1	4017.7	4243.5	4485.4	4450.7	4734.1	4957.4	4463.7
57.5°	2545.8	2581.7	2936.8	3652.0	4079.5	4447.0	4863.4	5005.7	5441.9	5685.6	4974.1
60°	2496.3	2534.1	2854.6	3660.7	4247.2	4817.6	5376.3	5632.4	6274.0	6532.6	5553.8
62.5°	2441.3	2490.2	2860.7	3668.7	4541.7	5365.8	6056.8	6312.3	7128.4	7359.1	6097.0
65°	2280.4	2345.4	2746.3	3618.0	4864.0	6053.7	6956.4	7021.3	7834.3	7980.9	6424.9
67°	1975.4	2046.6	2432.0	3324.8	4834.3	6517.1	7675.9	7464.9	8134.3	8152.3	6318.5
67.5°	1878.9	1952.5	2325.6	3202.9	4749.6	6577.7	7803.3	7526.2	8131.8	8112.0	6219.5
70°	1265.2	1348.1	1646.9	2351.6	3809.8	6121.8	7772.4	7337.5	7598.5	7371.5	5343.5
72.5°	628.0	630.4	821.6	1288.1	2308.3	4390.7	6483.7	6277.1	6159.5	5730.8	3921.2
75°	302.5	308.1	387.9	569.2	973.2	2266.8	4421.7	4235.4	3606.2	3122.4	1962.4
77.5°	230.8	236.3	301.3	370.6	405.8	739.3	2190.1	1770.0	1044.9	834.6	553.1
80°	178.2	188.7	254.3	284.6	268.5	296.3	688.6	542.0	406.5	373.1	274.1
82.5°	139.2	145.4	215.9	215.9	185.6	198.6	320.5	313.0	252.4	227.7	147.2
85°	98.4	110.7	173.8	160.9	121.9	123.1	191.8	183.7	129.9	104.6	57.5
87.5°	43.9	56.3	123.7	105.2	65.0	50.1	78.6	67.4	51.3	39.6	26.6
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°	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1	1473.1
2.5°	1463.2	1473.1	1488.5	1497.8	1510.2	1515.1	1520.1	1528.7	1535.5	1533.7	1530.6
5°	1476.8	1493.5	1512.7	1518.8	1518.8	1512.7	1508.9	1509.6	1507.7	1506.5	1502.8
7.5°	1496.6	1519.5	1533.1	1526.9	1507.7	1483.6	1460.7	1447.1	1434.1	1426.0	1428.5
10°	1524.4	1549.8	1550.4	1523.2	1477.4	1424.8	1379.6	1350.6	1322.7	1310.4	1314.1
12.5°	1564.6	1590.0	1568.3	1509.6	1429.1	1346.9	1264.0	1203.9	1150.1	1137.1	1133.4
15°	1607.9	1627.7	1579.5	1480.5	1359.8	1224.4	1085.2	995.4	935.4	924.9	921.2
17.5°	1645.7	1656.8	1573.9	1428.5	1250.3	1036.9	874.8	814.2	801.8	808.0	808.0
20°	1679.1	1675.4	1549.8	1348.1	1077.7	829.0	735.0	734.4	751.1	766.5	767.8
22.5°	1721.1	1692.1	1511.4	1228.7	871.7	691.7	675.6	691.7	710.2	727.6	729.4
25°	1771.3	1710.6	1460.1	1058.6	701.0	628.0	634.8	648.4	660.1	673.7	674.4
27.5°	1821.4	1724.9	1387.7	858.7	608.2	587.1	594.5	600.1	603.2	611.9	611.9
30°	1879.5	1736.0	1283.1	688.0	565.5	551.2	546.9	544.4	546.9	558.7	559.3
32.5°	1952.5	1755.8	1140.2	590.2	545.7	525.9	503.6	491.2	499.9	520.9	524.6
35°	2035.4	1779.3	968.8	551.2	538.9	513.5	472.7	453.5	456.6	475.8	478.9
37.5°	2139.4	1809.6	799.9	542.0	545.7	512.3	458.4	431.2	417.6	418.2	417.6
40°	2272.4	1839.9	666.3	544.4	560.5	515.4	451.6	408.9	380.5	381.7	384.2
42.5°	2411.6	1859.7	581.6	551.9	578.5	519.7	449.2	387.3	362.5	383.6	402.8
45°	2574.3	1854.2	537.6	558.7	592.1	521.5	439.9	384.8	364.4	427.5	463.4
47.5°	2761.1	1830.0	512.9	561.8	595.8	520.9	433.1	392.9	379.9	489.4	530.2
50°	2964.1	1792.3	493.1	556.8	593.9	518.4	440.5	402.8	386.1	503.0	534.5
52.5°	3186.2	1757.7	472.7	545.7	584.6	511.0	449.8	398.4	368.7	463.4	487.5
55°	3449.1	1749.6	449.8	526.5	569.2	503.0	444.8	384.8	349.6	410.8	425.6
57.5°	3749.8	1799.7	420.1	503.0	548.1	486.9	433.1	377.4	342.7	373.7	381.7
60°	4131.5	1910.5	388.5	478.2	522.2	462.8	422.6	379.2	344.6	368.1	370.0
62.5°	4429.7	2010.1	360.1	447.9	487.5	433.7	411.4	381.1	350.2	375.5	372.4
65°	4538.0	1961.2	324.8	402.8	438.6	401.5	396.0	382.3	350.2	379.9	373.1
67°	4315.9	1728.0	291.4	357.6	392.2	373.1	381.1	377.4	344.0	379.2	367.5
67.5°	4210.1	1645.7	282.7	350.2	379.9	364.4	377.4	374.9	342.1	378.0	364.4
70°	3472.0	1180.4	238.8	293.9	318.0	321.1	354.5	358.8	327.3	355.1	330.4
72.5°	2470.4	738.7	206.0	227.7	256.7	274.7	323.6	337.2	307.5	308.7	288.3
75°	1222.5	396.6	183.7	175.7	199.8	228.9	282.1	307.5	278.4	257.4	250.6
77.5°	412.7	224.6	155.3	141.7	155.3	183.7	233.9	268.5	245.6	217.8	213.4
80°	213.4	163.3	121.3	113.8	122.5	142.3	183.1	223.3	209.7	211.0	173.8
82.5°	133.0	99.6	87.2	86.6	92.8	108.9	134.9	181.3	180.0	154.0	112.0
85°	61.9	57.5	55.7	57.5	59.4	61.9	87.9	129.3	136.7	82.9	73.6
87.5°	26.0	25.4	22.3	24.1	26.6	26.0	35.3	55.1	76.7	52.0	47.6
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)