

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: P195872

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7050-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195872  
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-7050-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 5000K, 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: 9919 lumens  
Efficiency: N/A  
Efficacy: 116.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

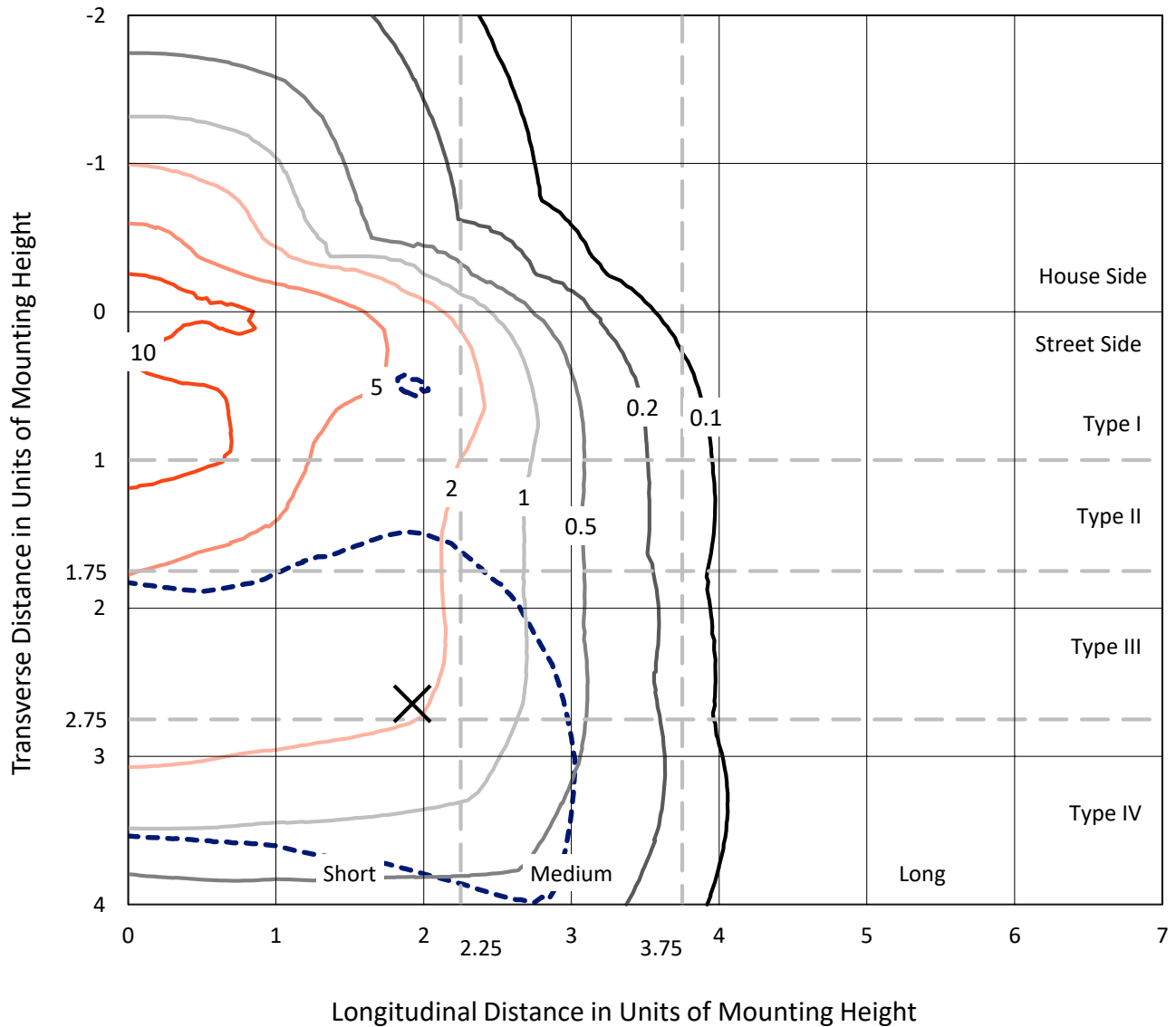
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

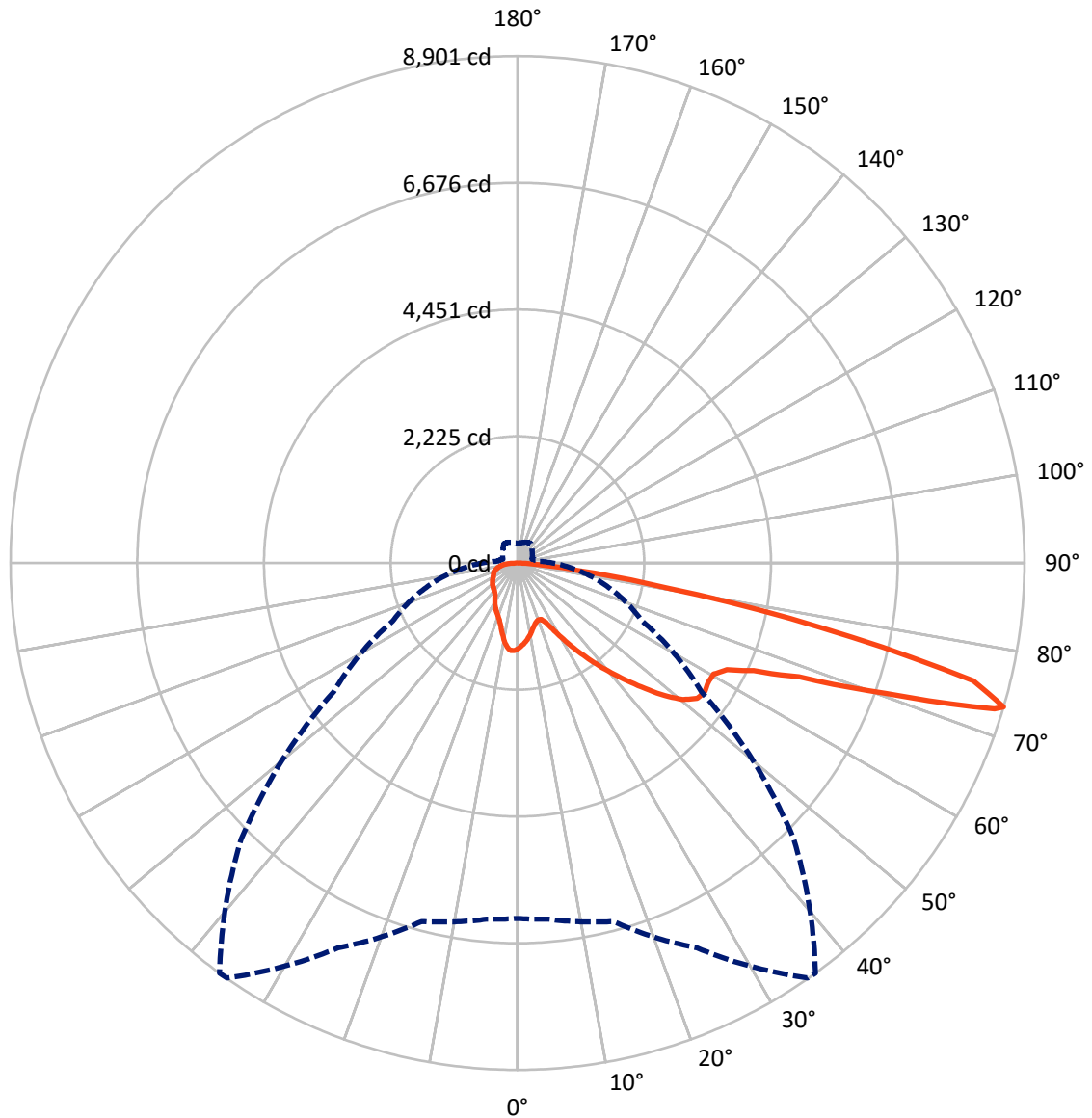
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15 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
<b>House Side</b>	Lumens	1912.7	0.0	1912.7
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	8006.3	0.0	8006.3
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	9919.0	0.0	9919.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.5	1.4
10°-20°	342.7	3.5
20°-30°	549.5	5.5
30°-40°	908.9	9.2
40°-50°	1406.4	14.2
50°-60°	1882.8	19.0
60°-70°	2459.5	24.8
70°-80°	2009.0	20.3
80°-90°	223.6	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°	9919.0	100.0
0°-180°	9919.0	100.0



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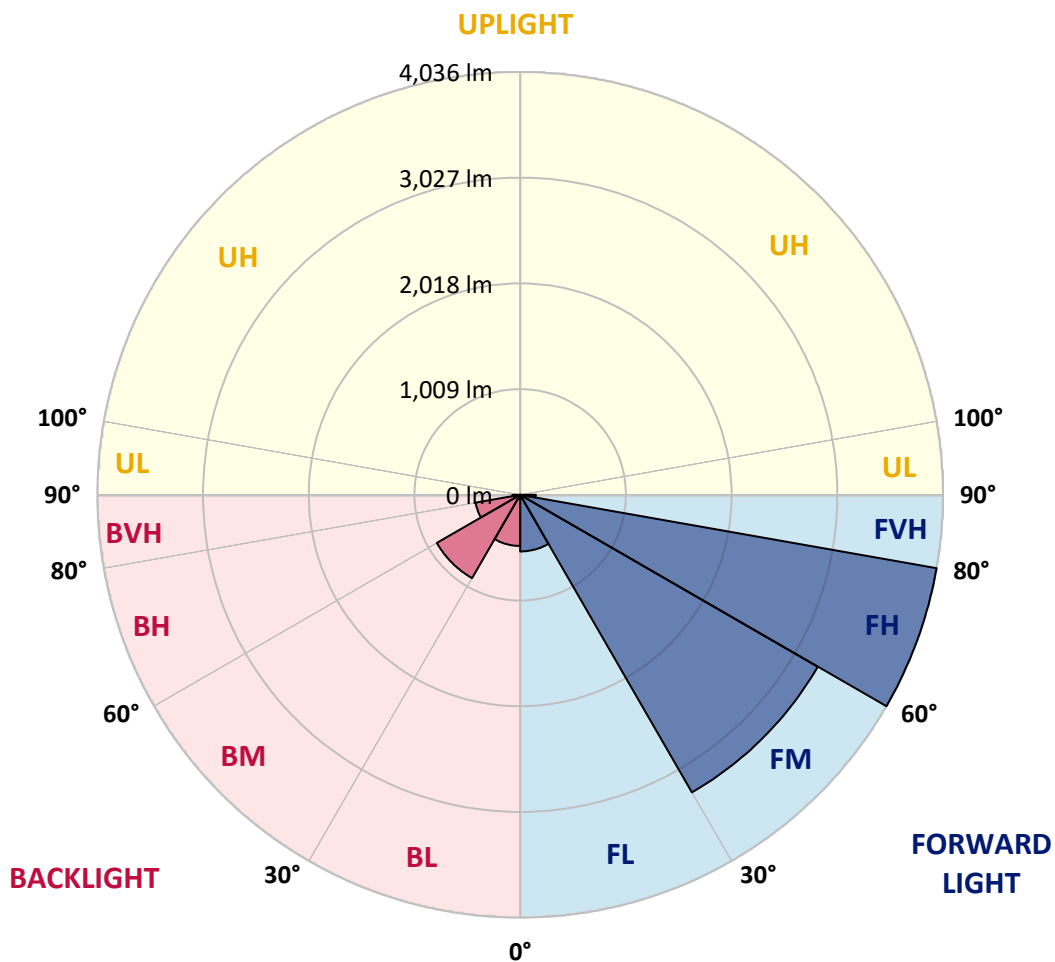
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	540.5	5.4			
FM (30°-60°)	3279.6	33.1			
FH (60°-80°)	4036.3	40.7			G2/5000
FVH (80°-90°)	150.0	1.5			G2/225
BL (0°-30°)	488.2	4.9	B1/500		
BM (30°-60°)	918.6	9.3	B1/1000		
BH (60°-80°)	432.2	4.4	B1/500		G1/500
BVH (80°-90°)	73.6	0.7			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4
2.5°	1445.1	1448.9	1449.5	1453.9	1453.9	1453.3	1455.2	1462.7	1466.5	1475.3	1482.9
5°	1373.9	1378.3	1380.2	1387.7	1397.2	1397.8	1404.8	1419.3	1433.1	1452.7	1469.0
7.5°	1293.8	1298.9	1303.9	1319.7	1333.5	1334.8	1348.0	1371.4	1389.6	1413.6	1443.2
10°	1216.3	1217.6	1222.6	1242.8	1261.1	1263.0	1281.9	1308.3	1332.9	1366.3	1399.7
12.5°	1152.7	1156.5	1155.2	1170.3	1186.1	1187.3	1212.5	1245.9	1281.9	1319.7	1359.4
15°	1130.6	1130.0	1116.7	1116.1	1123.0	1124.3	1148.9	1188.0	1228.3	1274.9	1326.0
17.5°	1145.7	1140.7	1106.0	1084.6	1080.2	1081.5	1099.7	1142.6	1185.4	1239.0	1300.1
20°	1228.9	1209.4	1128.1	1076.4	1061.9	1061.9	1072.6	1107.3	1154.6	1217.0	1293.8
22.5°	1426.2	1395.9	1222.6	1130.6	1079.6	1074.5	1066.3	1092.8	1145.1	1220.1	1319.7
25°	1674.5	1660.0	1395.9	1274.9	1169.7	1153.3	1099.1	1108.6	1164.6	1254.1	1390.3
27.5°	1904.5	1879.3	1623.4	1484.8	1336.1	1310.9	1196.2	1157.7	1211.3	1317.2	1492.4
30°	2038.8	2021.7	1857.3	1724.9	1547.8	1515.7	1351.2	1254.8	1294.5	1421.1	1637.3
32.5°	2185.0	2174.9	2091.7	1971.3	1777.2	1740.0	1551.6	1412.9	1421.8	1559.2	1811.9
35°	2326.8	2340.0	2292.7	2204.5	2024.3	1989.6	1820.7	1619.7	1578.7	1714.2	1998.4
37.5°	2496.9	2500.1	2470.5	2413.1	2283.9	2255.6	2116.3	1840.2	1749.5	1879.3	2178.7
40°	2836.6	2786.8	2670.9	2625.5	2548.6	2531.0	2372.1	2042.5	1908.3	2048.8	2348.8
42.5°	3204.0	3126.5	2945.0	2870.6	2839.8	2823.4	2585.2	2177.4	2057.0	2218.4	2515.8
45°	3500.2	3437.2	3259.5	3167.5	3171.3	3144.8	2771.1	2297.8	2218.4	2388.5	2702.4
47.5°	3792.0	3686.8	3487.6	3474.4	3518.5	3479.4	2948.8	2418.1	2386.6	2573.8	2888.9
50°	3810.9	3715.1	3634.5	3740.3	3816.0	3767.4	3110.1	2575.7	2561.2	2798.2	3129.7
52.5°	3580.9	3567.0	3689.9	3868.3	3993.7	3950.2	3241.8	2737.7	2739.6	3078.6	3422.7
55°	3497.1	3479.4	3626.9	3846.2	4015.7	3989.9	3340.2	2920.4	2937.4	3418.9	3737.2
57.5°	3638.2	3594.1	3623.1	3804.6	3964.1	3948.9	3442.3	3123.4	3154.2	3810.9	4027.7
60°	4076.3	3986.1	3832.4	3866.4	3966.0	3957.1	3588.5	3349.6	3401.3	4219.3	4211.7
62.5°	4732.3	4630.2	4317.0	4165.7	4143.7	4126.7	3829.8	3627.5	3653.4	4514.3	4104.6
65°	5452.0	5342.4	4969.9	4722.2	4592.4	4555.8	4219.3	3962.8	3800.8	4513.6	3687.4
67.5°	6260.0	6144.0	5772.8	5536.5	5395.9	5333.5	4851.4	4233.8	3752.9	4131.7	2950.7
70°	7087.4	6977.1	6807.0	6889.5	6951.3	6856.1	5847.2	4323.9	3408.8	3239.3	1981.4
72.5°	6648.2	6639.3	6768.5	7551.3	8741.8	8760.7	6841.6	4069.3	2633.7	1925.3	1056.2
73°	6240.4	6277.6	6517.1	7453.6	8894.9	8901.2	6861.2	3937.6	2418.1	1658.7	927.7
75°	3233.0	3485.1	4373.7	6043.8	8236.3	8265.9	6048.2	2980.9	1441.3	921.4	625.2
77.5°	865.9	854.6	1409.2	2944.4	5491.1	5452.0	3821.6	1443.2	690.7	577.9	438.6
80°	296.8	300.6	479.6	1077.0	2563.1	2654.5	1658.7	629.6	454.4	402.7	310.7
82.5°	151.3	156.3	250.8	458.2	1072.0	1049.3	533.8	370.6	304.4	244.5	173.9
85°	80.7	83.2	138.0	237.6	393.3	397.7	187.8	197.9	193.5	138.6	85.7
87.5°	39.7	41.0	66.2	104.6	145.6	140.5	65.5	85.7	95.2	78.1	47.3
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°	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4	1502.4
2.5°	1492.4	1492.4	1500.5	1514.4	1524.5	1534.0	1540.3	1550.3	1556.0	1555.4	1554.7
5°	1482.3	1488.6	1505.0	1522.0	1533.3	1540.9	1540.9	1545.3	1545.3	1543.4	1540.9
7.5°	1459.0	1469.7	1493.6	1508.7	1511.9	1503.7	1487.3	1474.7	1459.0	1450.8	1447.6
10°	1421.8	1435.6	1465.9	1472.8	1456.4	1427.4	1387.7	1353.7	1323.5	1309.6	1305.2
12.5°	1385.2	1403.5	1431.9	1421.1	1382.1	1325.3	1264.2	1217.6	1183.5	1170.3	1165.9
15°	1355.0	1377.0	1399.1	1365.7	1297.6	1218.8	1151.4	1107.9	1082.1	1072.0	1069.5
17.5°	1334.8	1360.6	1368.2	1305.8	1211.3	1123.0	1063.2	1034.8	1023.5	1019.1	1017.8
20°	1336.1	1365.1	1346.8	1247.8	1128.1	1039.2	999.5	991.3	991.3	991.3	990.7
22.5°	1370.7	1395.9	1338.0	1193.6	1048.1	968.6	951.6	958.6	963.6	963.6	963.0
25°	1442.6	1456.4	1344.3	1141.3	973.1	907.5	908.1	921.4	925.8	925.8	924.5
27.5°	1552.2	1540.9	1355.6	1083.3	899.3	852.1	860.9	872.9	876.0	874.1	873.5
30°	1689.6	1644.2	1365.1	1015.3	830.0	800.4	807.9	814.9	812.4	807.9	807.3
32.5°	1843.4	1749.5	1359.4	939.0	768.9	746.8	751.2	755.0	751.2	740.5	740.5
35°	1995.9	1844.6	1328.5	855.8	720.3	695.1	694.5	706.5	705.8	693.2	693.9
37.5°	2129.5	1919.6	1268.6	779.6	678.7	657.3	659.8	667.4	671.2	654.2	652.3
40°	2246.1	1971.3	1184.2	714.7	645.3	646.6	639.7	627.7	623.3	615.7	614.5
42.5°	2355.8	2007.2	1094.7	660.5	628.3	642.8	619.5	591.1	579.2	586.1	590.5
45°	2463.5	2047.6	1008.3	615.7	606.9	631.5	599.3	567.8	554.0	557.1	561.5
47.5°	2595.2	2103.7	904.4	567.8	574.1	610.7	586.7	552.7	531.9	519.3	515.5
50°	2768.5	2185.0	769.5	516.1	539.5	588.0	576.0	530.6	508.0	482.7	476.4
52.5°	2985.3	2261.9	633.4	474.6	511.1	568.5	558.4	511.7	484.0	453.8	448.7
55°	3201.5	2272.6	516.1	438.6	479.0	542.0	536.9	496.6	457.5	433.0	427.9
57.5°	3352.8	2171.1	437.4	408.4	448.1	509.2	517.4	478.3	435.5	416.6	413.4
60°	3355.3	1928.5	389.5	388.2	424.8	480.9	497.2	456.9	421.6	409.0	406.5
62.5°	3088.7	1554.1	358.6	373.1	407.8	457.5	482.1	444.9	418.5	413.4	410.9
65°	2588.9	1148.3	334.0	359.2	392.0	438.0	469.5	441.2	417.2	415.3	413.4
67.5°	1911.5	787.1	313.2	341.6	374.3	417.8	457.5	435.5	409.6	417.2	414.7
70°	1202.5	525.6	293.7	321.4	351.0	394.5	441.8	425.4	400.2	395.8	387.6
72.5°	678.7	380.0	270.4	295.6	320.8	363.6	420.4	408.4	378.8	361.1	352.9
73°	613.2	359.9	264.7	289.3	313.8	357.3	415.3	403.3	372.5	352.9	345.4
75°	448.7	294.3	238.9	263.4	284.9	328.3	391.4	378.1	344.7	321.4	316.4
77.5°	325.2	226.9	205.5	227.5	246.4	288.0	355.4	340.3	307.5	294.9	289.9
80°	234.4	172.0	170.2	191.6	208.0	250.2	317.0	301.2	269.7	306.9	298.7
82.5°	139.9	110.3	124.8	148.7	165.7	209.9	275.4	257.1	226.9	229.4	195.4
85°	66.8	62.4	77.5	97.7	109.7	143.7	229.4	214.9	181.5	148.7	145.6
87.5°	29.6	28.4	37.2	43.5	58.6	86.3	156.9	139.3	131.7	78.8	61.8
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)