

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: P195830

Luminaire Tested: **NAV-AF-02-D-UNV-T3-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195830  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)  
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-T3-7050  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12185 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

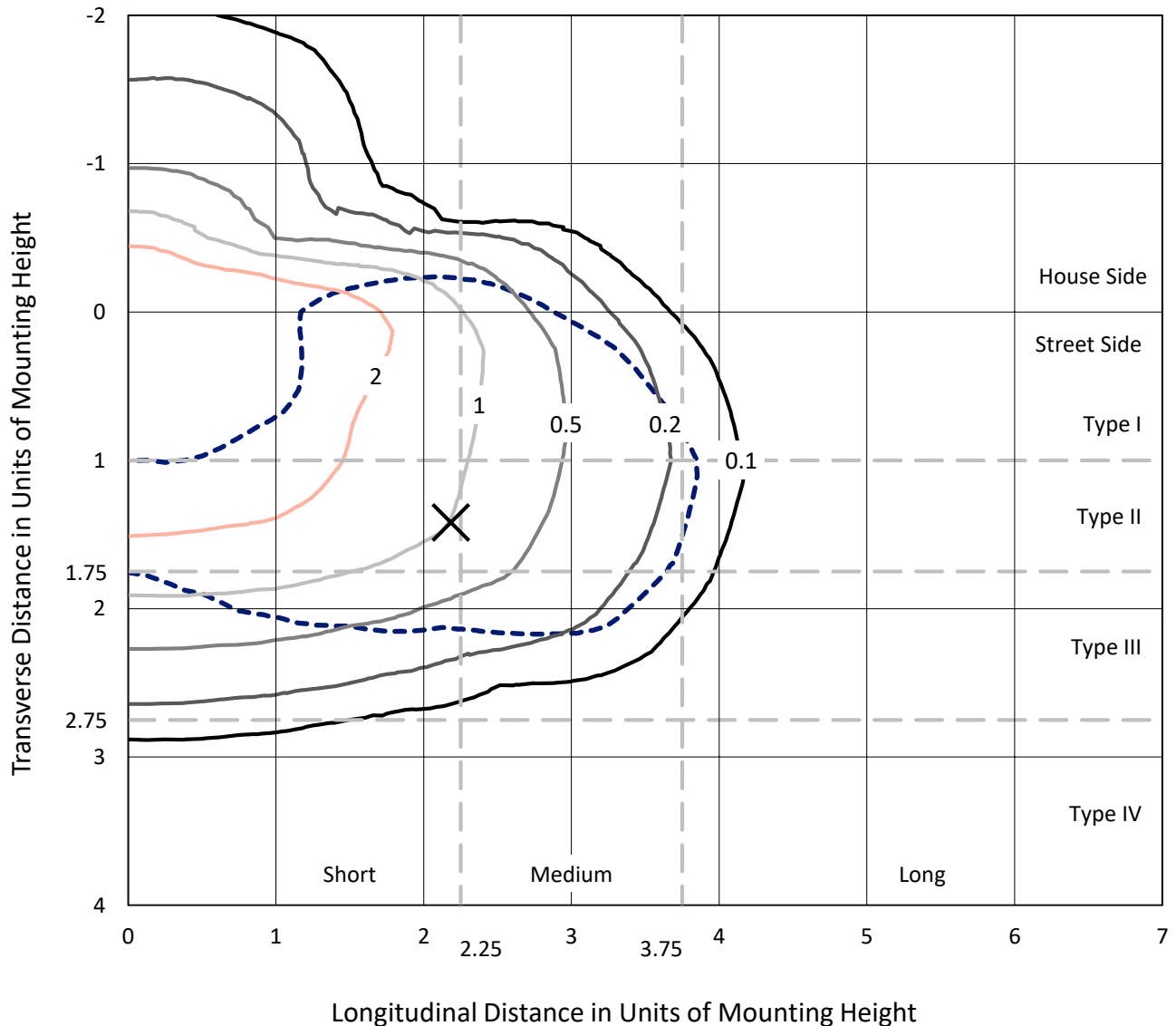
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

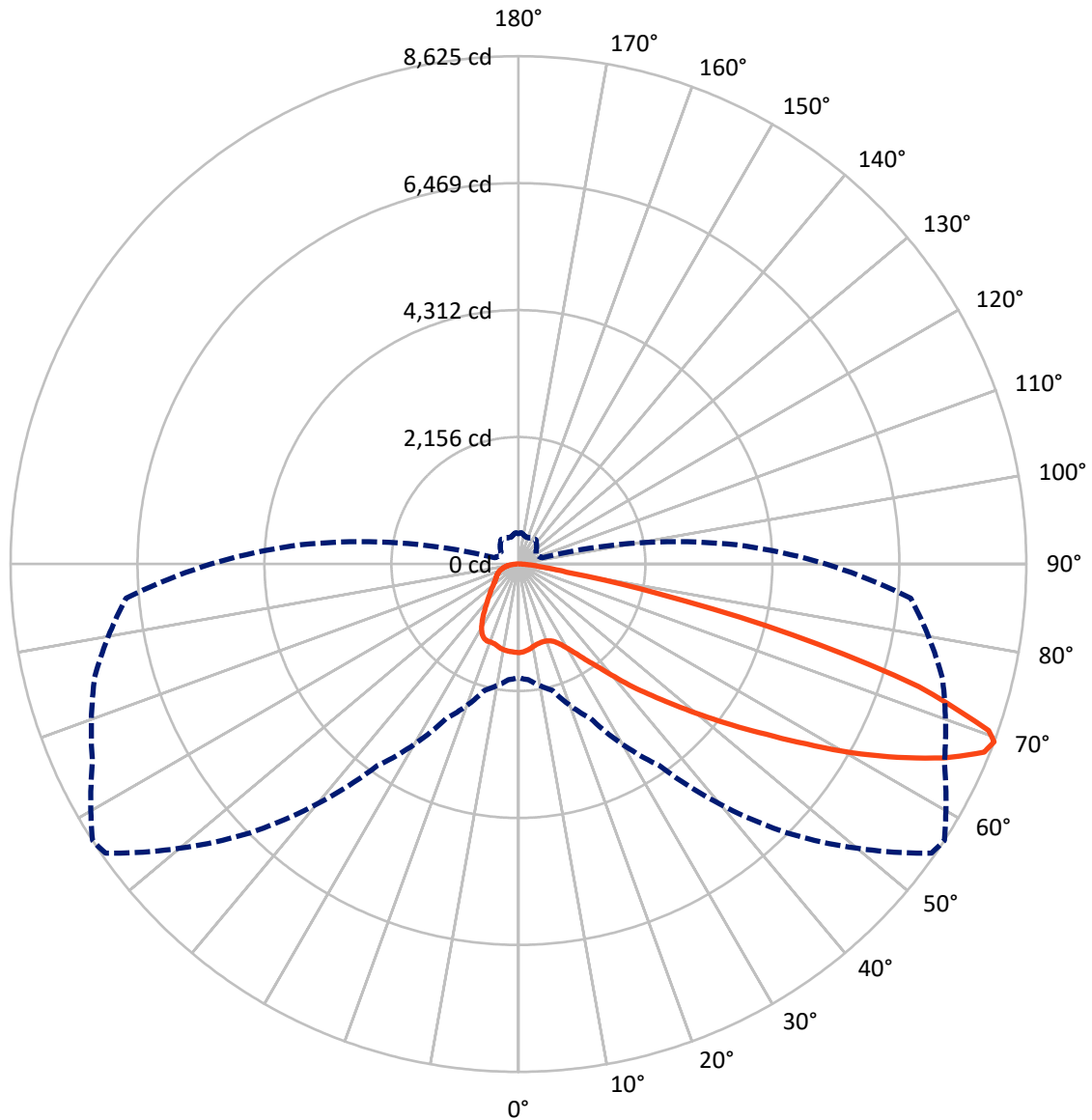
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.9 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2688.8	0.0	2688.8
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	9496.2	0.0	9496.2
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	12185.0	0.0	12185.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.0	1.2
10°-20°	400.8	3.3
20°-30°	666.7	5.5
30°-40°	1088.6	8.9
40°-50°	1837.4	15.1
50°-60°	2858.1	23.5
60°-70°	3404.6	27.9
70°-80°	1586.1	13.0
80°-90°	201.7	1.7
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°	12185.0	100.0
0°-180°	12185.0	100.0



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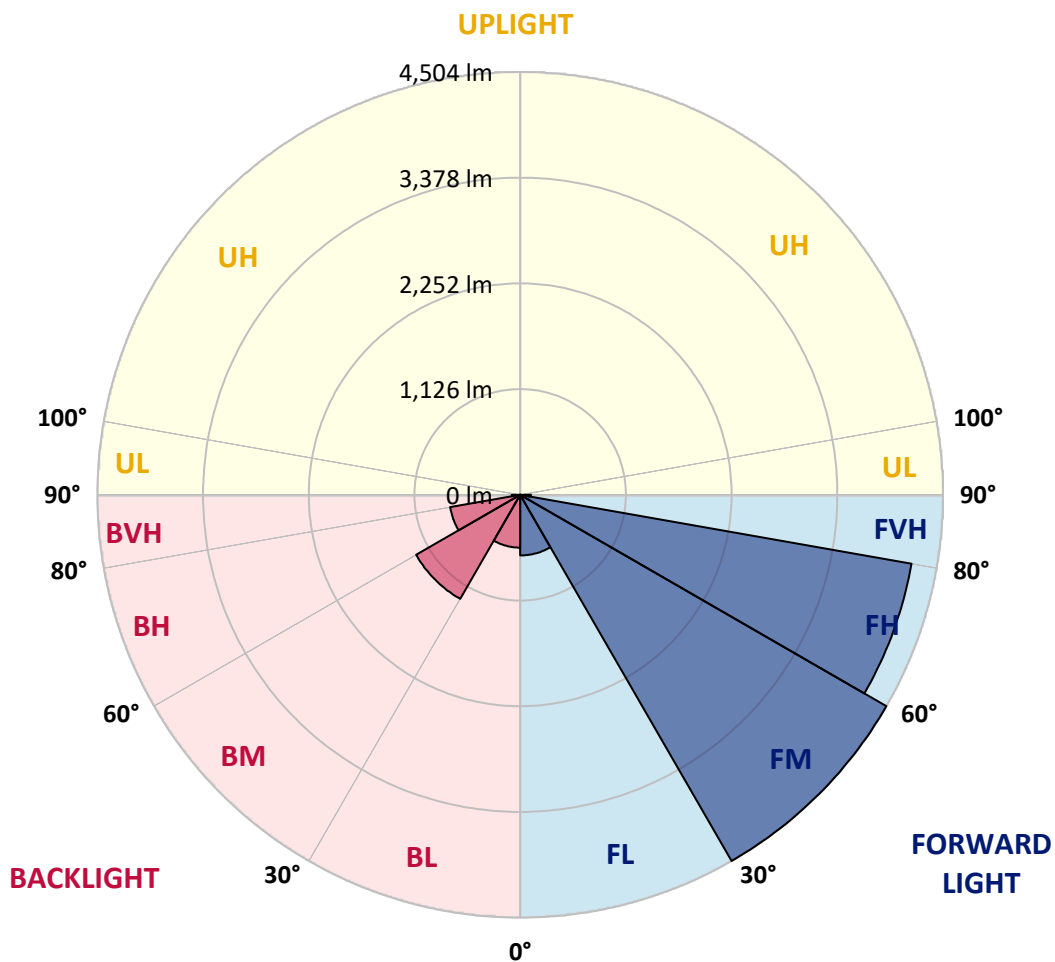
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	645.3	5.3			
FM	(30°-60°)	4504.4	37.0			
FH	(60°-80°)	4233.1	34.7			G2/5000
FVH	(80°-90°)	113.4	0.9			G2/225
BL	(0°-30°)	563.1	4.6	B2/1000		
BM	(30°-60°)	1279.7	10.5	B2/2500		
BH	(60°-80°)	757.7	6.2	B2/1000		G2/1000
BVH	(80°-90°)	88.3	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6
2.5°	1497.0	1497.0	1500.9	1500.9	1500.9	1499.3	1494.7	1496.2	1493.1	1490.8	1486.9
5°	1466.6	1468.1	1472.8	1474.4	1476.7	1477.5	1477.5	1476.7	1477.5	1477.5	1475.2
7.5°	1424.4	1426.0	1431.5	1434.6	1441.6	1447.8	1451.0	1451.0	1454.9	1458.0	1458.8
10°	1398.7	1398.7	1401.8	1401.8	1407.3	1410.4	1420.5	1419.8	1430.7	1440.8	1445.5
12.5°	1395.6	1395.6	1394.0	1388.6	1385.4	1384.7	1394.8	1396.4	1412.7	1430.7	1439.3
15°	1405.7	1405.7	1401.0	1390.1	1378.4	1373.0	1383.1	1386.2	1404.2	1425.2	1438.5
17.5°	1438.5	1437.7	1427.6	1405.7	1385.4	1376.9	1380.0	1383.1	1399.5	1423.7	1440.0
20°	1511.0	1511.0	1489.2	1449.4	1414.3	1394.0	1389.3	1391.7	1403.4	1426.0	1447.1
22.5°	1638.2	1640.5	1601.5	1536.0	1475.9	1433.0	1414.3	1416.6	1422.1	1443.9	1467.4
25°	1825.4	1819.2	1763.8	1671.0	1577.3	1504.0	1465.8	1468.1	1468.1	1488.4	1512.6
27.5°	2023.6	2025.1	1945.5	1845.7	1722.4	1613.2	1552.4	1551.6	1550.8	1570.3	1596.1
30°	2247.4	2248.2	2156.2	2040.7	1899.5	1759.9	1668.6	1667.8	1660.8	1685.0	1718.5
32.5°	2492.4	2491.6	2384.7	2254.5	2097.7	1939.3	1820.7	1820.0	1814.5	1847.3	1887.8
35°	2763.9	2763.9	2657.8	2497.1	2327.8	2151.5	2014.2	2013.4	2016.5	2061.0	2099.2
37.5°	3090.7	3097.7	2969.8	2774.8	2589.9	2401.9	2242.0	2237.3	2213.9	2288.8	2352.0
40°	3431.6	3451.1	3318.5	3090.7	2891.0	2696.8	2520.5	2517.4	2497.1	2576.6	2678.8
42.5°	3800.6	3845.1	3697.6	3465.2	3247.5	3037.7	2860.6	2852.0	2774.0	2898.0	3058.0
45°	4284.3	4313.1	4099.4	3888.8	3683.6	3444.1	3233.5	3187.5	3109.4	3268.6	3476.1
47.5°	4613.5	4599.4	4466.0	4324.8	4193.0	3963.6	3639.9	3581.4	3486.2	3696.9	3925.4
50°	4817.8	4828.0	4753.1	4746.1	4739.1	4579.1	4098.6	4028.4	3918.4	4168.0	4434.8
52.5°	4952.8	4906.8	4920.0	5079.2	5271.9	5195.4	4617.4	4539.3	4426.2	4675.9	4977.0
55°	4896.6	4835.8	4958.3	5271.9	5725.1	5742.2	5186.8	5106.5	5009.7	5215.7	5629.1
57.5°	4664.2	4694.6	4888.1	5324.1	6034.8	6232.1	5841.3	5759.4	5569.1	5778.1	6248.5
60°	4337.3	4398.9	4694.6	5241.4	6251.6	6613.6	6559.8	6505.2	6177.5	6325.8	6899.1
62.5°	3986.3	4047.1	4410.6	5100.2	6154.1	6951.4	7265.0	7231.4	6849.2	6853.1	7311.8
65°	3467.5	3492.5	3863.8	4714.9	5883.4	7256.4	7971.0	7941.3	7491.2	7303.2	7427.2
67.5°	2618.8	2650.0	2955.0	3721.8	5059.7	7091.0	8535.0	8530.3	7877.4	7470.2	7152.7
69°	1933.8	1972.1	2220.9	2889.5	4183.6	6460.7	8561.5	8624.7	7981.9	7453.0	6688.5
70°	1415.1	1458.8	1688.9	2293.5	3484.7	5764.9	8334.5	8470.2	7942.1	7344.6	6326.5
72.5°	601.5	616.3	729.4	1035.2	1767.7	3476.1	6826.6	7112.1	7172.9	6580.8	4942.7
75°	376.8	381.5	425.9	531.2	786.3	1437.7	4420.8	4810.0	5355.3	5105.7	3309.1
77.5°	284.0	287.9	313.6	365.9	488.3	536.7	2050.9	2445.6	3067.3	3003.4	1646.8
80°	217.6	220.0	237.1	266.0	344.0	336.2	665.4	836.3	1280.1	1129.6	582.7
82.5°	170.8	171.6	186.4	191.9	240.3	226.2	333.9	372.1	517.2	429.8	284.7
85°	151.3	153.7	168.5	140.4	153.7	136.5	183.3	198.9	274.6	259.0	107.7
87.5°	77.2	81.1	141.2	120.1	77.2	64.7	80.3	86.6	111.6	120.9	52.3
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°	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6	1505.6
2.5°	1487.6	1488.4	1490.8	1494.7	1500.9	1508.7	1518.1	1527.4	1532.9	1536.8	1535.2
5°	1475.2	1475.9	1480.6	1487.6	1495.4	1507.1	1522.7	1534.4	1543.0	1548.5	1547.7
7.5°	1459.6	1461.9	1471.3	1479.1	1490.0	1499.3	1511.8	1522.7	1531.3	1536.8	1536.0
10°	1447.8	1450.2	1461.9	1472.0	1481.4	1483.0	1480.6	1477.5	1476.7	1480.6	1479.1
12.5°	1442.4	1447.1	1458.0	1465.0	1461.1	1446.3	1429.1	1422.1	1419.8	1427.6	1428.3
15°	1443.9	1447.8	1457.2	1452.5	1431.5	1406.5	1397.1	1402.6	1407.3	1412.0	1412.7
17.5°	1447.8	1450.2	1452.5	1435.4	1405.7	1389.3	1386.2	1380.8	1366.7	1358.9	1358.1
20°	1454.9	1458.0	1454.1	1426.8	1400.3	1378.4	1341.0	1307.4	1275.4	1258.3	1251.3
22.5°	1479.1	1481.4	1469.7	1443.2	1402.6	1331.6	1255.9	1198.2	1149.1	1122.6	1112.4
25°	1526.6	1530.5	1514.2	1480.6	1374.5	1250.5	1143.6	1065.6	1004.0	972.0	963.4
27.5°	1610.1	1614.0	1596.1	1508.7	1309.0	1142.1	1012.6	935.3	882.3	855.0	851.1
30°	1734.9	1740.4	1724.0	1507.9	1209.1	1004.0	884.6	839.4	809.0	790.2	789.5
32.5°	1908.1	1928.4	1861.3	1481.4	1085.9	864.3	787.9	772.3	757.5	745.0	745.0
35°	2128.1	2175.7	1997.0	1426.0	950.2	769.2	734.1	719.2	700.5	687.3	685.7
37.5°	2391.0	2465.1	2093.8	1327.7	833.1	723.1	701.3	677.1	647.5	621.7	615.5
40°	2752.2	2769.3	2141.3	1167.8	745.8	698.2	670.9	640.5	603.0	574.1	571.0
42.5°	3114.9	3058.7	2132.0	996.2	695.8	675.6	639.7	606.1	572.6	548.4	548.4
45°	3527.6	3311.5	2061.0	823.8	650.6	649.8	610.8	578.8	553.1	535.1	531.2
47.5°	3922.3	3538.5	1938.5	696.6	603.8	624.1	592.1	566.3	542.9	525.8	522.7
50°	4401.3	3801.4	1808.3	607.7	558.5	601.5	584.3	571.0	548.4	518.8	515.6
52.5°	4877.1	4108.7	1707.6	540.6	518.8	583.5	589.0	590.5	569.5	511.7	507.8
55°	5388.1	4437.2	1601.5	488.3	486.0	574.9	599.9	598.3	588.2	513.3	507.1
57.5°	5874.1	4767.1	1443.2	451.7	460.3	566.3	602.2	577.3	559.3	521.1	511.0
60°	6276.6	5040.2	1210.7	425.9	438.4	549.2	586.6	549.2	518.8	519.5	510.2
62.5°	6472.4	5116.6	926.0	396.3	420.5	521.1	564.0	528.1	500.0	522.7	517.2
65°	6323.4	4899.0	660.0	369.0	398.6	488.3	550.7	510.2	490.7	538.3	532.0
67.5°	5788.3	4306.1	479.0	344.8	377.6	454.8	525.8	493.8	481.3	550.0	535.9
69°	5219.6	3717.9	415.0	330.8	362.7	436.9	509.4	485.2	474.3	533.6	513.3
70°	4746.9	3264.7	383.0	322.2	350.3	426.7	496.9	479.8	467.3	514.1	489.9
72.5°	3403.5	2110.1	322.2	296.4	317.5	404.1	469.6	459.5	440.8	464.2	448.6
75°	2056.3	1101.5	273.8	269.9	283.2	372.9	437.6	425.1	406.4	408.8	401.0
77.5°	944.7	508.6	229.3	238.7	247.3	333.9	398.6	384.6	367.4	361.2	362.0
80°	414.2	297.2	191.9	203.6	208.3	300.3	356.5	340.9	322.2	355.7	330.0
82.5°	223.9	172.4	149.8	157.6	170.8	261.3	309.7	289.4	271.5	315.9	255.1
85°	90.5	88.2	101.4	109.2	118.6	188.0	259.0	237.9	216.1	193.5	188.8
87.5°	39.0	42.1	49.9	53.0	63.2	117.0	174.0	152.1	152.9	131.1	128.7
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)