

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: P196034

Luminaire Tested: **NAV-AF-02-D-UNV-RW-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196034  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)  
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-RW-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8389.2 lumens  
Efficiency: N/A  
Efficacy: 127.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B3 - U0 - G3

Input Watts (W): 66  
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

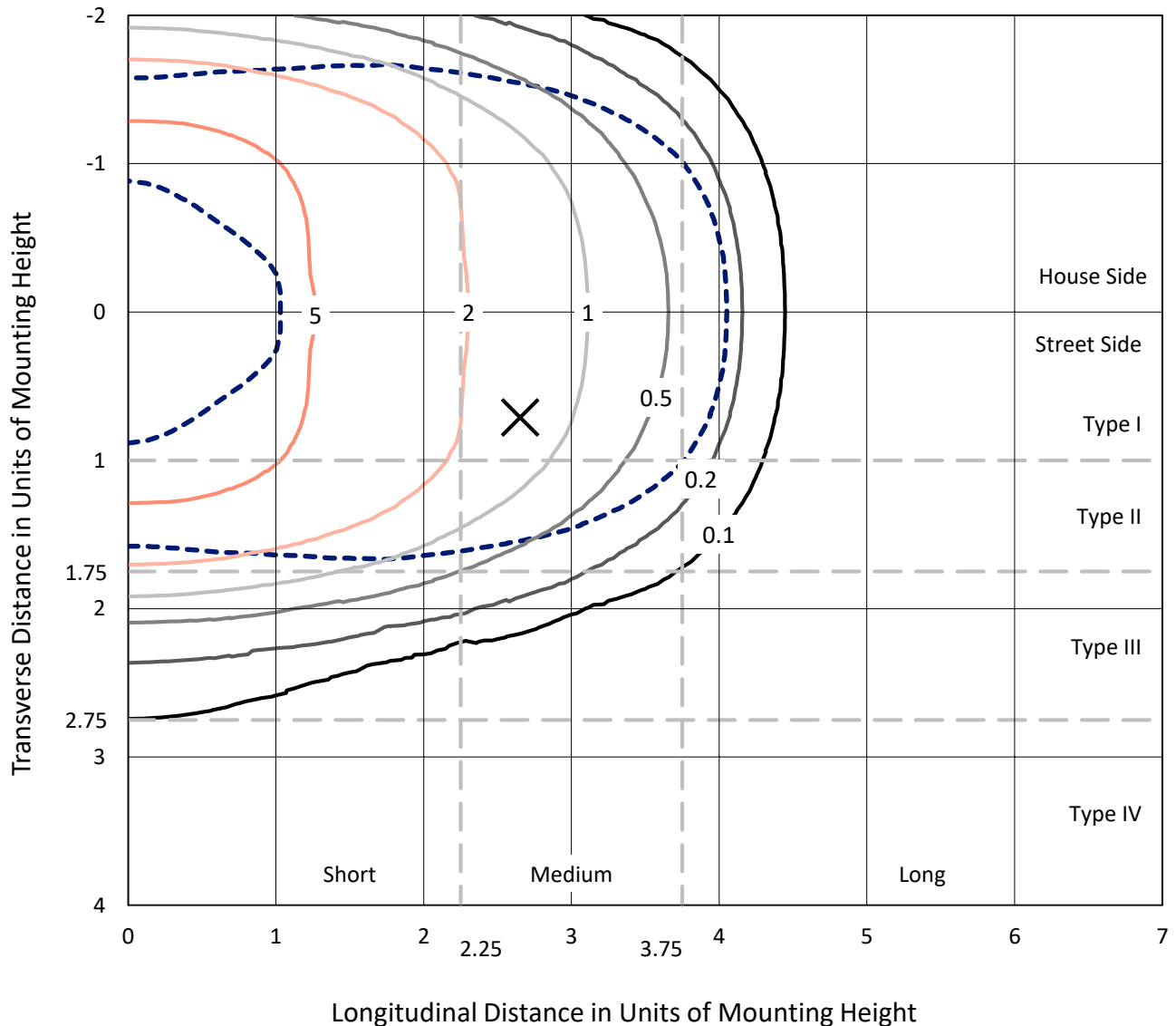


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### Iso-Footcandle Lines of Horizontal Illumination

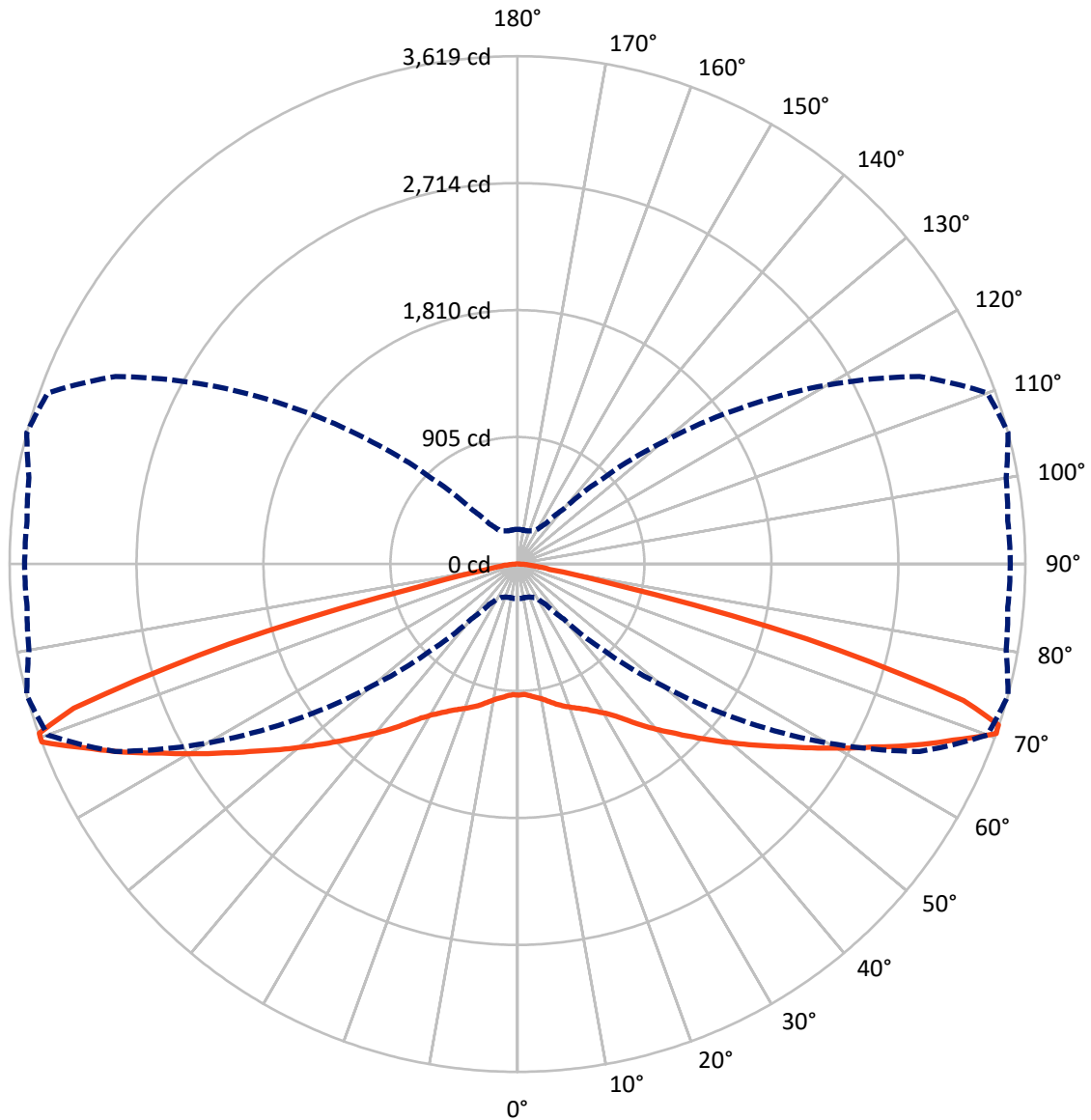
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.4 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4194.6	0.0	4194.6
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	4194.6	0.0	4194.6
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	8389.2	0.0	8389.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.6	1.1
10°-20°	277.9	3.3
20°-30°	522.0	6.2
30°-40°	919.4	11.0
40°-50°	1523.8	18.2
50°-60°	2119.8	25.3
60°-70°	2001.2	23.9
70°-80°	854.7	10.2
80°-90°	80.8	1.0
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°	8389.2	100.0
0°-180°	8389.2	100.0



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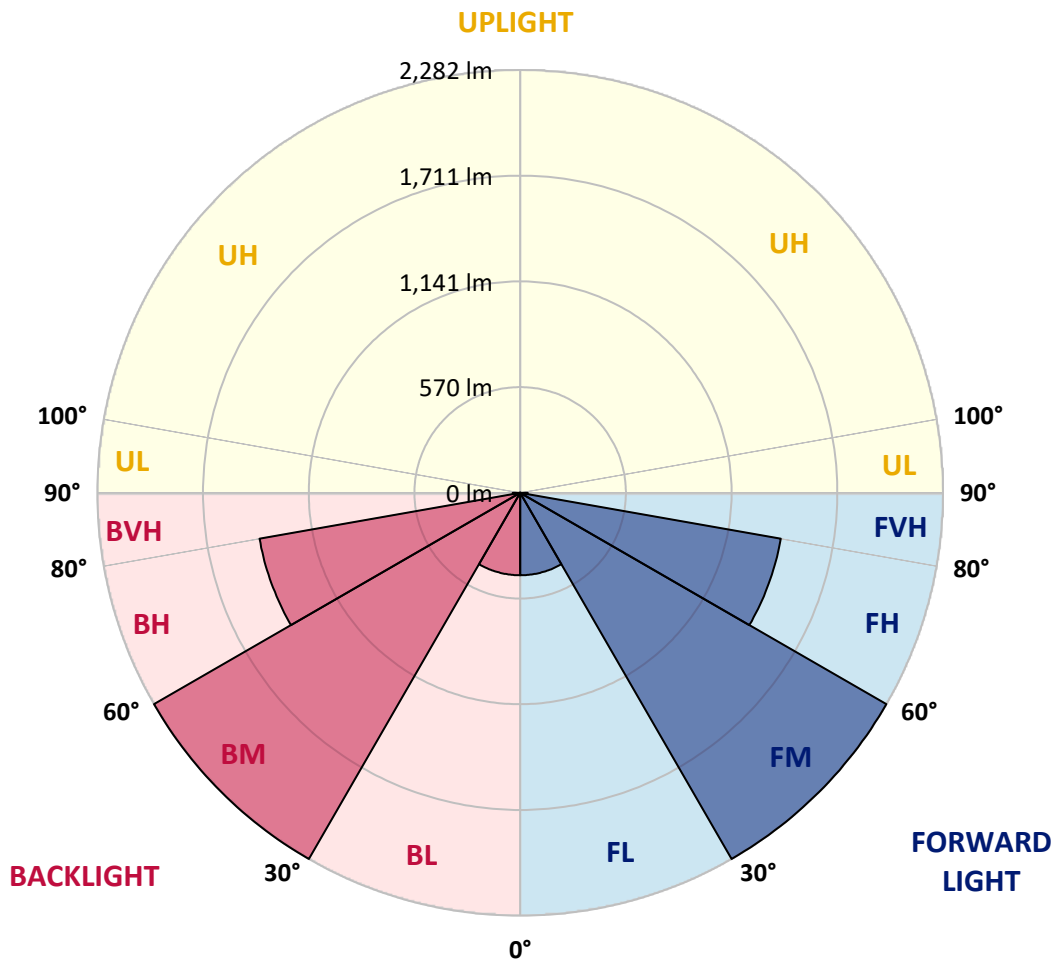
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	444.7	5.3			
FM (30°-60°)	2281.5	27.2			
FH (60°-80°)	1427.9	17.0			G1/1800
FVH (80°-90°)	40.4	0.5			G1/100
BL (0°-30°)	444.7	5.3	B1/500		
BM (30°-60°)	2281.5	27.2	B2/2500		
BH (60°-80°)	1427.9	17.0	B3/2500		G3/2500
BVH (80°-90°)	40.4	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	934.3	934.3	934.3	934.3	934.3	934.3	934.3	934.3	934.3	934.3	934.3
2.5°	940.0	939.5	940.0	938.5	939.0	938.5	938.5	936.3	936.3	935.3	933.6
5°	929.5	930.6	930.6	930.6	932.1	932.1	934.3	934.8	936.3	937.9	939.0
7.5°	912.2	912.7	914.2	915.3	918.4	922.7	926.9	931.6	935.8	941.0	946.8
10°	897.4	898.5	901.1	903.8	909.5	914.7	922.1	929.5	936.8	945.8	954.7
12.5°	889.6	891.1	895.3	899.5	908.5	915.3	925.3	936.8	946.8	955.2	965.3
15°	890.6	891.1	896.9	902.7	915.3	924.7	939.0	952.6	964.7	974.2	985.7
17.5°	905.8	906.8	912.7	921.1	933.1	945.3	960.6	974.7	991.0	1002.1	1015.7
20°	935.8	937.3	943.7	952.6	965.8	978.4	994.1	1008.8	1025.7	1038.8	1052.5
22.5°	974.7	977.3	984.2	995.2	1008.3	1023.6	1039.9	1055.2	1070.9	1084.0	1095.6
25°	1026.7	1029.9	1037.3	1048.3	1061.4	1077.8	1094.6	1110.3	1126.7	1136.6	1146.1
27.5°	1096.7	1101.9	1109.8	1118.8	1130.4	1147.6	1163.4	1176.6	1192.4	1203.4	1209.7
30°	1190.8	1198.2	1204.4	1213.9	1222.3	1240.7	1253.3	1263.9	1275.9	1282.3	1283.8
32.5°	1305.9	1312.8	1319.1	1325.8	1337.4	1354.3	1366.4	1372.2	1378.4	1377.4	1371.7
35°	1435.8	1441.0	1444.7	1456.8	1475.7	1486.8	1495.7	1497.8	1498.8	1487.8	1476.7
37.5°	1572.5	1578.7	1581.9	1600.8	1618.7	1631.3	1635.5	1640.3	1637.1	1618.7	1598.8
40°	1720.2	1727.0	1736.5	1752.8	1773.8	1785.9	1791.2	1790.7	1788.0	1766.4	1733.9
42.5°	1865.2	1873.7	1881.6	1910.0	1927.3	1947.8	1950.5	1949.9	1944.1	1919.5	1881.6
45°	1988.3	1998.3	2014.6	2046.1	2074.0	2098.7	2108.7	2112.4	2106.6	2080.3	2037.2
47.5°	2089.8	2096.6	2117.1	2155.5	2191.3	2227.5	2247.5	2261.6	2261.1	2242.2	2196.5
50°	2159.1	2167.0	2192.3	2235.4	2280.1	2322.7	2362.1	2394.2	2409.5	2395.8	2353.2
52.5°	2179.2	2189.1	2222.3	2273.8	2325.8	2383.2	2442.0	2498.8	2532.9	2541.4	2508.3
55°	2095.0	2106.1	2154.4	2225.9	2311.7	2396.3	2485.7	2566.6	2637.1	2669.7	2656.5
57.5°	1850.0	1857.9	1919.5	2011.9	2134.5	2283.2	2433.6	2581.8	2702.7	2787.4	2802.2
60°	1463.1	1473.0	1540.4	1638.2	1777.5	1965.7	2176.0	2418.9	2656.0	2849.9	2946.2
62.5°	987.4	994.1	1058.9	1148.2	1300.7	1482.1	1716.5	2024.0	2362.1	2708.6	2979.9
65°	518.3	518.3	562.0	624.6	746.0	908.5	1148.7	1464.1	1866.4	2299.0	2752.8
67.5°	300.7	300.2	310.2	324.4	362.7	428.5	561.0	792.8	1173.4	1677.1	2193.3
70°	248.2	246.5	245.0	245.0	250.7	260.8	286.0	349.6	511.6	864.8	1349.6
71°	237.1	236.1	231.8	230.3	232.9	238.1	249.2	278.7	363.2	589.8	1007.8
72.5°	223.9	221.4	215.0	212.4	212.9	215.0	218.2	229.8	255.5	335.4	574.6
75°	204.0	197.6	189.8	186.1	184.5	184.0	184.0	187.2	192.9	202.4	235.5
77.5°	180.9	172.0	163.5	159.8	157.2	155.6	154.6	152.4	151.4	155.6	167.7
80°	153.0	143.5	136.7	134.6	133.0	129.8	125.6	121.4	118.8	120.9	128.3
82.5°	118.3	108.8	109.9	110.4	107.8	102.5	98.3	93.6	88.9	87.8	91.5
85°	94.1	89.4	86.2	93.1	87.3	80.9	75.2	67.3	56.3	46.2	50.4
87.5°	40.5	41.0	58.9	88.9	77.8	62.6	52.1	42.0	26.8	19.9	20.5
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):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	934.3	934.3	934.3	934.3	934.3	934.3	934.3	934.3
2.5°	933.1	933.1	931.6	930.6	930.6	930.6	929.5	930.0
5°	939.5	940.5	941.6	941.0	942.6	944.2	943.7	943.2
7.5°	950.0	953.2	956.3	957.9	959.9	962.1	962.6	961.1
10°	960.6	966.8	971.6	975.8	978.4	980.5	982.0	981.5
12.5°	973.6	982.5	991.0	999.4	1005.2	1008.3	1011.5	1010.5
15°	995.2	1005.2	1015.7	1026.7	1035.7	1040.4	1045.1	1044.1
17.5°	1024.7	1033.6	1042.0	1053.0	1064.1	1069.3	1074.6	1074.1
20°	1061.4	1068.3	1073.0	1079.3	1089.9	1095.6	1100.4	1098.8
22.5°	1103.5	1105.6	1106.1	1108.3	1116.7	1123.5	1129.7	1131.4
25°	1149.3	1147.6	1144.5	1142.9	1148.7	1156.0	1164.0	1166.1
27.5°	1206.1	1200.7	1192.9	1186.5	1188.2	1197.6	1206.6	1208.6
30°	1277.6	1265.4	1248.6	1236.5	1234.4	1244.4	1253.8	1257.0
32.5°	1359.0	1342.7	1319.6	1301.2	1293.3	1302.2	1310.6	1315.4
35°	1455.8	1437.9	1410.0	1386.3	1373.7	1379.6	1394.3	1399.5
37.5°	1570.3	1545.7	1514.6	1484.7	1463.6	1464.7	1480.4	1486.8
40°	1697.1	1661.3	1621.9	1584.6	1554.1	1551.9	1566.1	1570.8
42.5°	1829.0	1783.3	1737.0	1688.1	1650.2	1643.5	1661.8	1662.4
45°	1970.9	1912.1	1854.8	1798.0	1758.6	1746.5	1764.4	1766.4
47.5°	2122.4	2048.8	1980.9	1919.5	1876.8	1857.9	1875.3	1878.4
50°	2280.1	2203.8	2125.0	2056.6	2006.7	1983.6	2004.1	2006.2
52.5°	2436.3	2364.2	2285.9	2207.5	2147.1	2120.8	2145.0	2152.3
55°	2593.4	2524.0	2450.4	2372.1	2295.9	2272.7	2299.0	2306.9
57.5°	2757.0	2690.2	2623.4	2544.5	2470.4	2435.1	2463.6	2474.6
60°	2937.3	2878.4	2815.3	2735.9	2662.8	2621.8	2646.0	2658.6
62.5°	3114.4	3102.3	3045.0	2962.5	2870.0	2829.0	2849.4	2858.4
65°	3129.1	3325.2	3322.6	3240.6	3111.3	3042.4	3048.2	3052.4
67.5°	2731.2	3181.2	3468.7	3494.5	3350.5	3242.7	3230.1	3232.7
70°	1933.7	2551.3	3161.7	3562.3	3619.1	3535.5	3508.2	3512.4
71°	1549.4	2189.1	2861.0	3399.9	3614.9	3590.8	3575.5	3586.6
72.5°	988.9	1613.0	2267.0	2911.5	3324.2	3442.4	3459.8	3466.7
75°	359.1	694.0	1174.4	1682.9	2132.9	2442.5	2612.9	2626.5
77.5°	192.9	248.7	384.3	574.1	721.3	800.2	809.7	813.3
80°	142.0	164.6	188.2	215.0	231.8	235.0	229.2	217.2
82.5°	100.5	113.5	123.1	132.5	139.3	133.5	110.9	84.6
85°	58.3	64.1	69.4	74.2	75.2	71.0	46.7	38.4
87.5°	23.1	25.3	24.8	27.8	26.8	24.8	18.4	15.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)