

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: P196040

Luminaire Tested: **NAV-AF-02-D-UNV-RW-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196040
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-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10286.8 lumens
Efficiency: N/A
Efficacy: 121.0 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

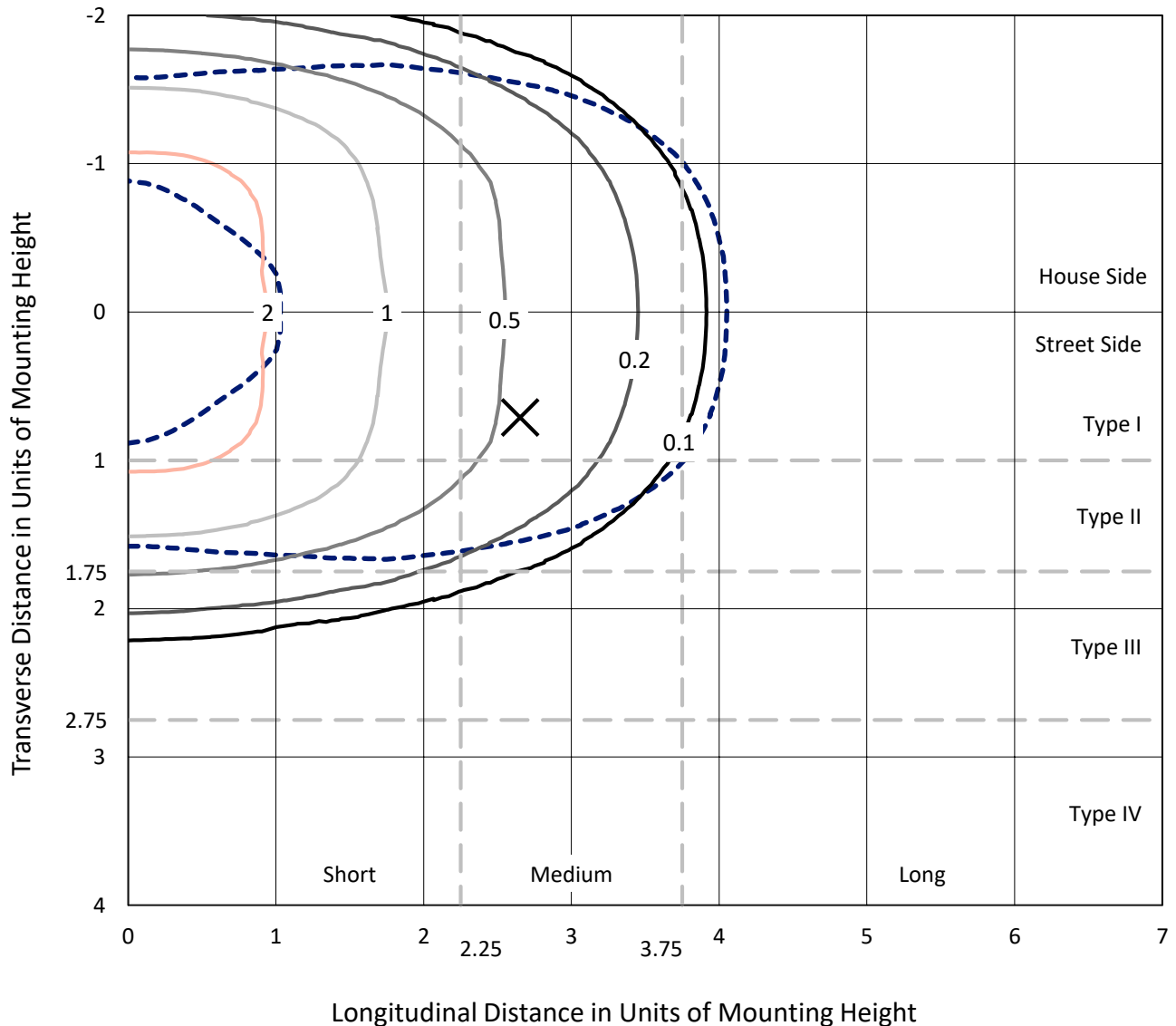
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

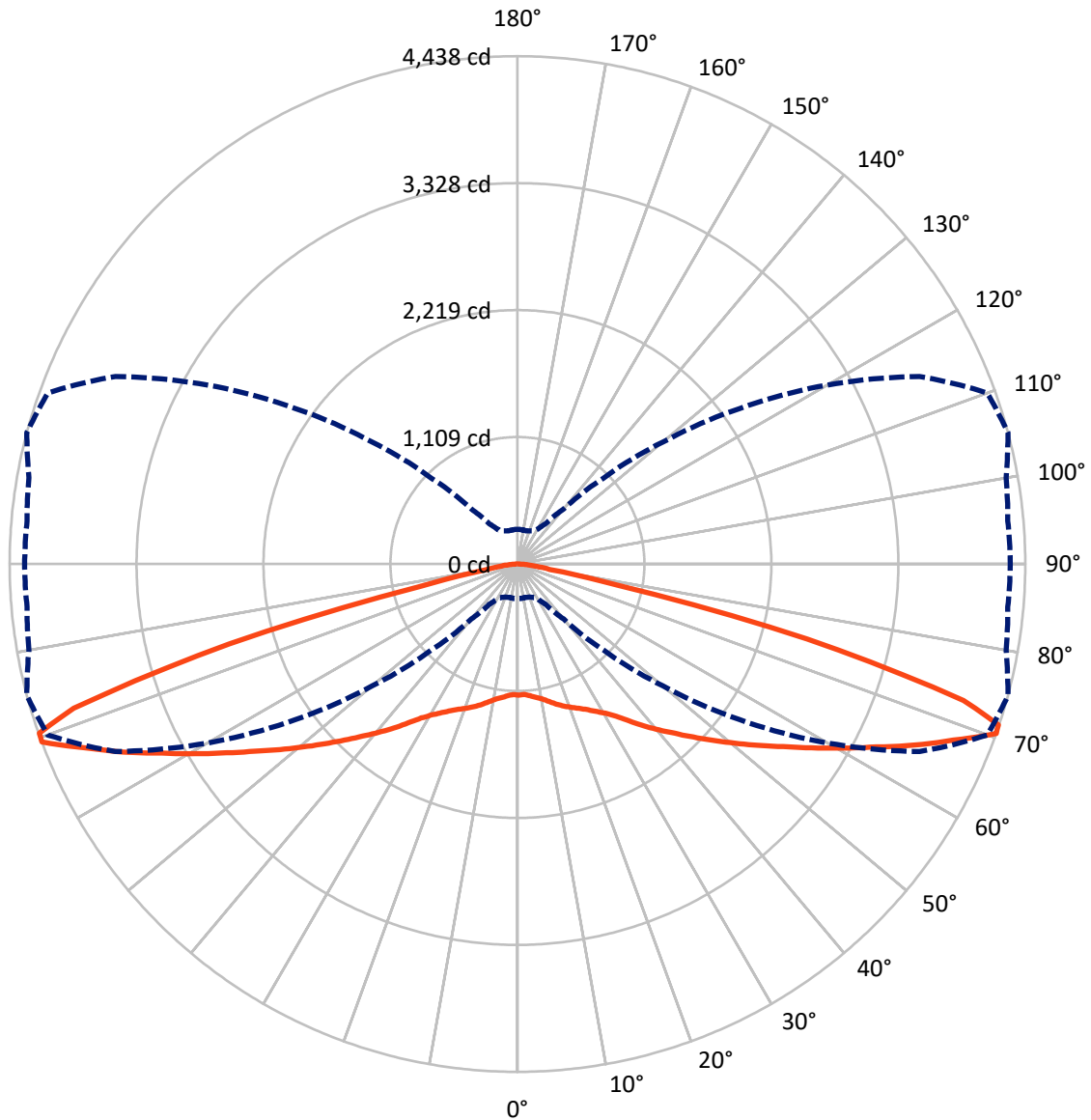
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.9 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
House Side	Lumens	5143.4	0.0	5143.4
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5143.4	0.0	5143.4
	% Fixture	50.0	0.0	50.0
Total	Lumens	10286.8	0.0	10286.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.9	1.1
10°-20°	340.8	3.3
20°-30°	640.0	6.2
30°-40°	1127.4	11.0
40°-50°	1868.5	18.2
50°-60°	2599.3	25.3
60°-70°	2453.8	23.9
70°-80°	1048.0	10.2
80°-90°	99.0	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°	10286.8	100.0
0°-180°	10286.8	100.0



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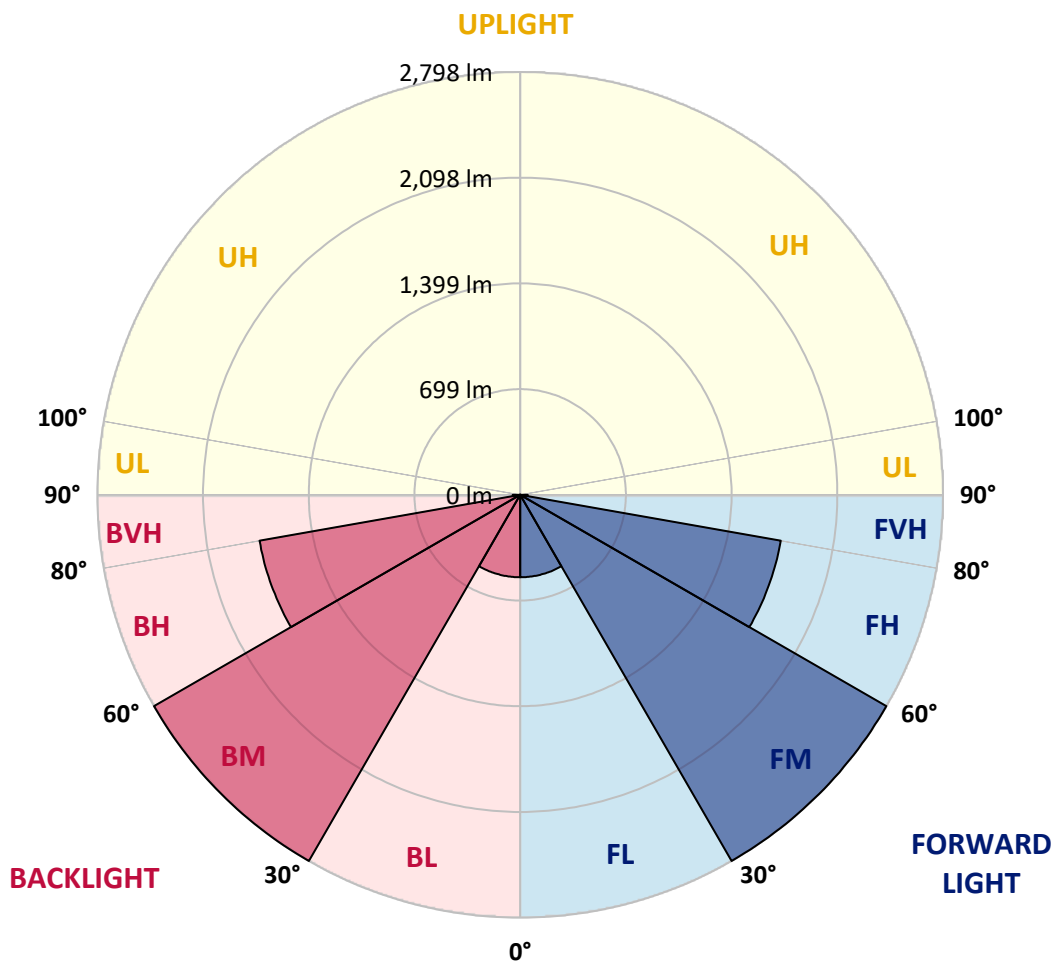
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	545.3	5.3			
FM	(30°-60°)	2797.6	27.2			
FH	(60°-80°)	1750.9	17.0			G1/1800
FVH	(80°-90°)	49.5	0.5			G1/100
BL	(0°-30°)	545.3	5.3	B2/1000		
BM	(30°-60°)	2797.6	27.2	B3/5000		
BH	(60°-80°)	1750.9	17.0	B3/2500		G3/2500
BVH	(80°-90°)	49.5	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°	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5
2.5°	1152.7	1151.9	1152.7	1150.7	1151.3	1150.7	1150.7	1148.2	1148.2	1146.8	1144.9
5°	1139.8	1141.0	1141.0	1141.0	1142.9	1142.9	1145.5	1146.2	1148.2	1150.0	1151.3
7.5°	1118.5	1119.1	1121.1	1122.3	1126.2	1131.4	1136.5	1142.3	1147.4	1153.9	1161.0
10°	1100.4	1101.7	1104.9	1108.2	1115.2	1121.7	1130.7	1139.8	1148.8	1159.7	1170.7
12.5°	1090.8	1092.7	1097.8	1102.9	1114.0	1122.3	1134.6	1148.8	1161.0	1171.3	1183.6
15°	1092.0	1092.7	1099.8	1106.8	1122.3	1133.9	1151.3	1168.1	1182.9	1194.5	1208.7
17.5°	1110.7	1112.0	1119.1	1129.4	1144.3	1159.1	1177.7	1195.2	1215.2	1228.7	1245.4
20°	1147.4	1149.4	1157.2	1168.1	1184.2	1199.7	1219.1	1237.1	1257.7	1273.8	1290.6
22.5°	1195.2	1198.4	1206.8	1220.3	1236.4	1255.2	1275.1	1293.8	1313.2	1329.2	1343.4
25°	1258.9	1262.8	1271.8	1285.4	1301.5	1321.6	1342.1	1361.4	1381.5	1393.8	1405.3
27.5°	1344.8	1351.2	1360.8	1371.8	1386.0	1407.3	1426.6	1442.7	1462.1	1475.6	1483.3
30°	1460.2	1469.2	1476.8	1488.5	1498.8	1521.3	1536.9	1549.8	1564.6	1572.3	1574.2
32.5°	1601.3	1609.7	1617.4	1625.8	1640.0	1660.6	1675.4	1682.5	1690.2	1689.0	1681.8
35°	1760.5	1766.9	1771.4	1786.3	1809.5	1823.1	1834.0	1836.6	1837.8	1824.3	1810.8
37.5°	1928.2	1935.8	1939.7	1962.9	1984.8	2000.4	2005.5	2011.3	2007.4	1984.8	1960.4
40°	2109.3	2117.6	2129.3	2149.2	2175.0	2189.8	2196.3	2195.7	2192.4	2166.0	2126.0
42.5°	2287.2	2297.5	2307.2	2342.0	2363.2	2388.4	2391.7	2390.9	2383.9	2353.6	2307.2
45°	2438.0	2450.3	2470.3	2509.0	2543.2	2573.4	2585.7	2590.2	2583.1	2550.8	2498.0
47.5°	2562.5	2570.9	2595.9	2643.0	2686.9	2731.4	2755.8	2773.2	2772.6	2749.4	2693.3
50°	2647.6	2657.2	2688.2	2741.0	2795.8	2848.0	2896.4	2935.7	2954.4	2937.6	2885.4
52.5°	2672.0	2684.3	2724.9	2788.1	2851.9	2922.2	2994.4	3064.0	3105.9	3116.2	3075.6
55°	2568.9	2582.4	2641.8	2729.4	2834.5	2938.3	3047.9	3147.1	3233.5	3273.5	3257.4
57.5°	2268.5	2278.2	2353.6	2467.1	2617.2	2799.7	2984.0	3165.8	3314.2	3417.9	3436.0
60°	1794.1	1806.3	1888.8	2008.7	2179.5	2410.4	2668.2	2966.0	3256.8	3494.6	3612.6
62.5°	1210.7	1219.1	1298.3	1407.9	1594.9	1817.3	2104.7	2481.9	2896.4	3321.2	3653.9
65°	635.7	635.7	689.2	765.9	914.7	1114.0	1408.5	1795.4	2288.4	2819.0	3375.3
67.5°	368.8	368.1	380.3	397.7	444.8	525.4	687.8	972.1	1438.9	2056.4	2689.4
70°	304.2	302.4	300.4	300.4	307.5	319.8	350.7	428.7	627.3	1060.4	1654.8
71°	290.7	289.5	284.3	282.3	285.6	292.1	305.6	341.7	445.5	723.3	1235.8
72.5°	274.7	271.4	263.6	260.4	261.1	263.6	267.5	281.7	313.3	411.3	704.6
75°	250.1	242.3	232.7	228.2	226.3	225.7	225.7	229.4	236.6	248.2	288.8
77.5°	221.8	210.8	200.5	196.0	192.7	190.8	189.6	187.0	185.7	190.8	205.6
80°	187.6	175.9	167.6	165.0	163.1	159.3	154.1	148.9	145.7	148.2	157.3
82.5°	145.1	133.4	134.7	135.3	132.2	125.7	120.5	114.8	108.9	107.6	112.2
85°	115.4	109.6	105.7	114.1	107.0	99.2	92.2	82.6	68.9	56.8	61.9
87.5°	49.6	50.3	72.2	108.9	95.4	76.7	63.8	51.6	32.8	24.4	25.2
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°	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5	1145.5
2.5°	1144.3	1144.3	1142.3	1141.0	1141.0	1141.0	1139.8	1140.4
5°	1151.9	1153.3	1154.6	1153.9	1155.8	1157.8	1157.2	1156.4
7.5°	1164.8	1168.7	1172.6	1174.6	1177.1	1179.7	1180.4	1178.4
10°	1177.7	1185.5	1191.3	1196.4	1199.7	1202.3	1204.2	1203.6
12.5°	1193.9	1204.8	1215.2	1225.5	1232.6	1236.4	1240.3	1239.0
15°	1220.3	1232.6	1245.4	1258.9	1270.0	1275.7	1281.6	1280.2
17.5°	1256.4	1267.3	1277.7	1291.3	1304.8	1311.2	1317.7	1317.0
20°	1301.5	1309.9	1315.7	1323.5	1336.4	1343.4	1349.3	1347.3
22.5°	1353.2	1355.7	1356.3	1358.9	1369.2	1377.6	1385.4	1387.3
25°	1409.2	1407.3	1403.4	1401.4	1408.5	1417.6	1427.2	1429.8
27.5°	1478.8	1472.3	1462.7	1454.9	1456.9	1468.5	1479.5	1482.1
30°	1566.4	1551.6	1531.1	1516.2	1513.7	1525.8	1537.5	1541.4
32.5°	1666.4	1646.4	1618.1	1595.5	1585.8	1596.8	1607.1	1612.9
35°	1785.0	1763.1	1728.9	1699.9	1684.5	1691.6	1709.6	1716.0
37.5°	1925.6	1895.2	1857.3	1820.4	1794.7	1796.0	1815.3	1823.1
40°	2080.9	2037.1	1988.7	1943.0	1905.6	1903.0	1920.4	1926.2
42.5°	2242.7	2186.7	2129.9	2069.9	2023.5	2015.1	2037.7	2038.3
45°	2416.8	2344.6	2274.3	2204.7	2156.4	2141.5	2163.4	2166.0
47.5°	2602.4	2512.2	2429.0	2353.6	2301.4	2278.2	2299.5	2303.3
50°	2795.8	2702.3	2605.7	2521.9	2460.6	2432.3	2457.4	2460.0
52.5°	2987.3	2898.9	2802.9	2706.8	2632.8	2600.5	2630.1	2639.2
55°	3180.0	3094.9	3004.7	2908.7	2815.2	2786.8	2819.0	2828.7
57.5°	3380.5	3298.6	3216.8	3120.1	3029.2	2986.0	3020.8	3034.4
60°	3601.6	3529.4	3452.0	3354.8	3265.2	3214.8	3244.5	3259.9
62.5°	3818.9	3804.0	3733.8	3632.6	3519.2	3468.8	3494.0	3504.9
65°	3836.9	4077.4	4074.2	3973.6	3815.0	3730.6	3737.7	3742.8
67.5°	3348.9	3900.7	4253.3	4284.9	4108.4	3976.2	3960.7	3963.9
70°	2371.0	3128.5	3876.9	4368.1	4437.8	4335.3	4301.7	4306.8
71°	1899.7	2684.3	3508.2	4168.9	4432.5	4402.9	4384.3	4397.8
72.5°	1212.6	1977.8	2779.7	3570.0	4076.0	4221.1	4242.4	4250.8
75°	440.3	850.9	1440.1	2063.5	2615.3	2995.0	3203.9	3220.7
77.5°	236.6	304.9	471.3	704.0	884.4	981.1	992.8	997.3
80°	174.0	201.7	230.8	263.6	284.3	288.2	281.1	266.3
82.5°	123.2	139.2	150.9	162.4	170.8	163.8	136.1	103.8
85°	71.6	78.7	85.1	90.9	92.2	87.1	57.4	47.1
87.5°	28.3	30.9	30.3	34.2	32.8	30.3	22.6	19.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)