

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: P196899

Luminaire Tested: **NAV-AF-03-D-UNV-5NQ-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196899
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-5NQ-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10012 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G1

Input Watts (W): 96
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

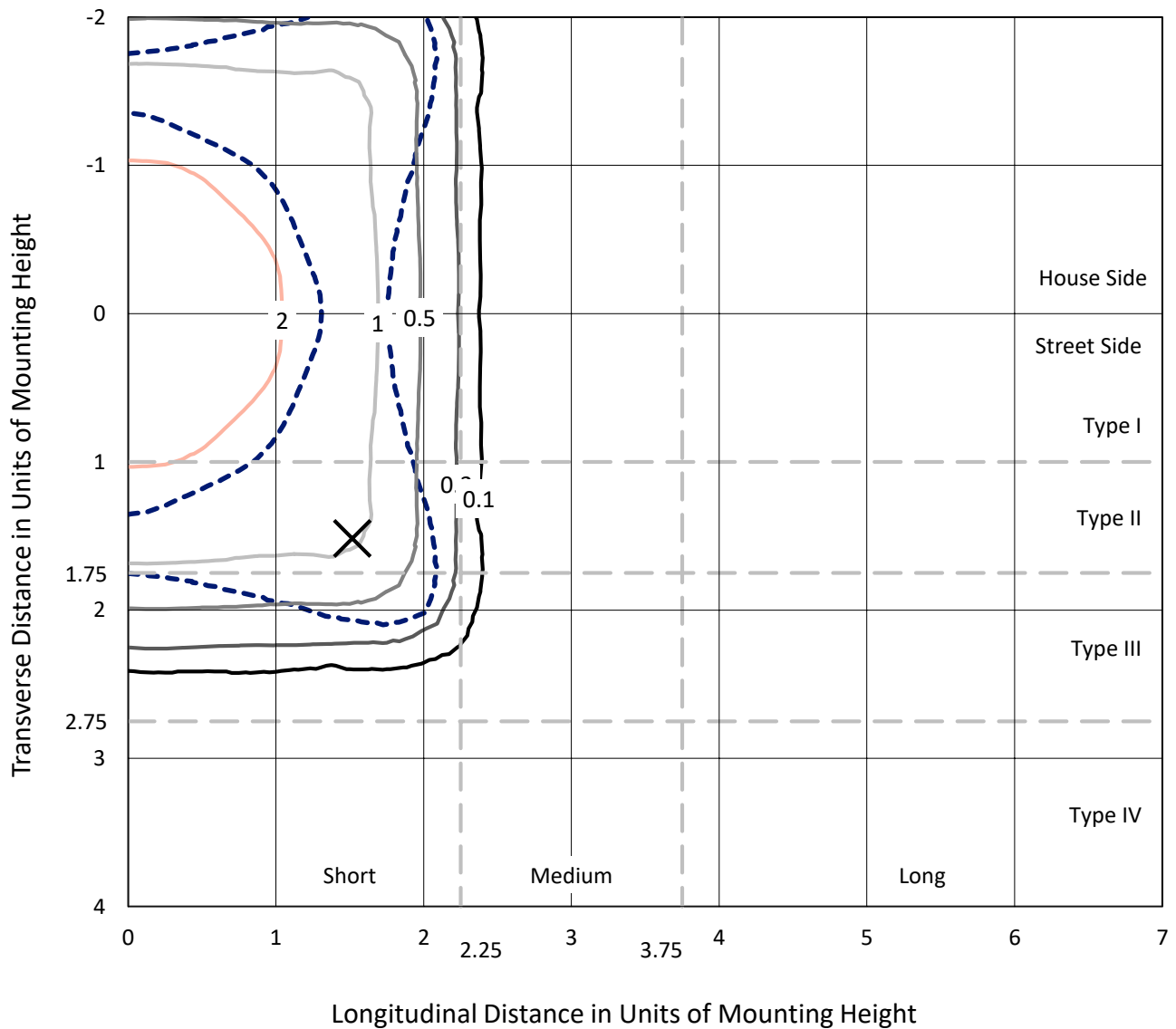


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Iso-Footcandle Lines of Horizontal Illumination

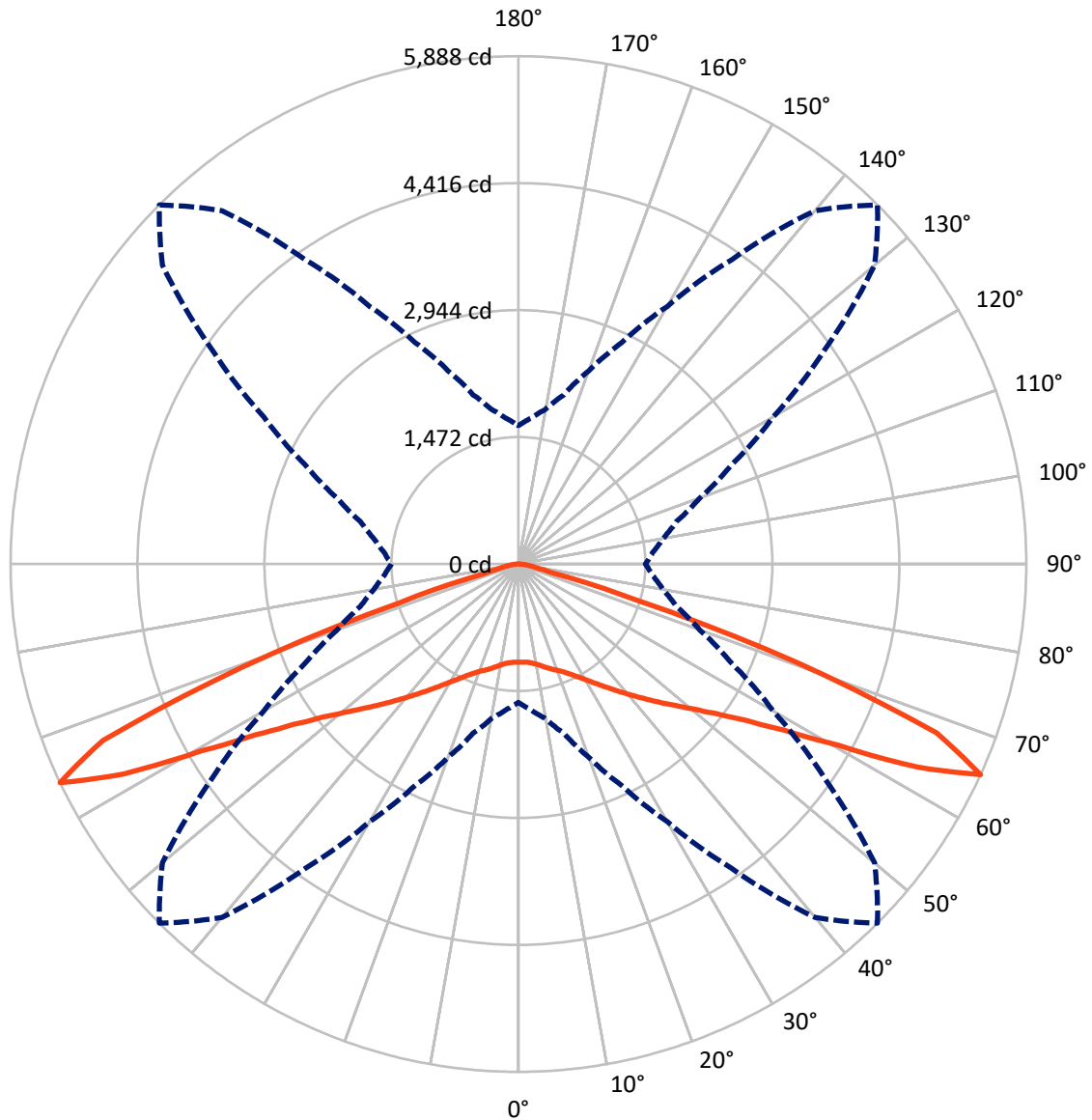
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.9 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5006.0	0.0	5006.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5006.0	0.0	5006.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	10012.0	0.0	10012.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.9	1.1
10°-20°	355.4	3.6
20°-30°	663.1	6.6
30°-40°	1118.0	11.2
40°-50°	1816.0	18.1
50°-60°	2845.4	28.4
60°-70°	2685.9	26.8
70°-80°	362.0	3.6
80°-90°	55.1	0.6
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°	10012.0	100.0
0°-180°	10012.0	100.0



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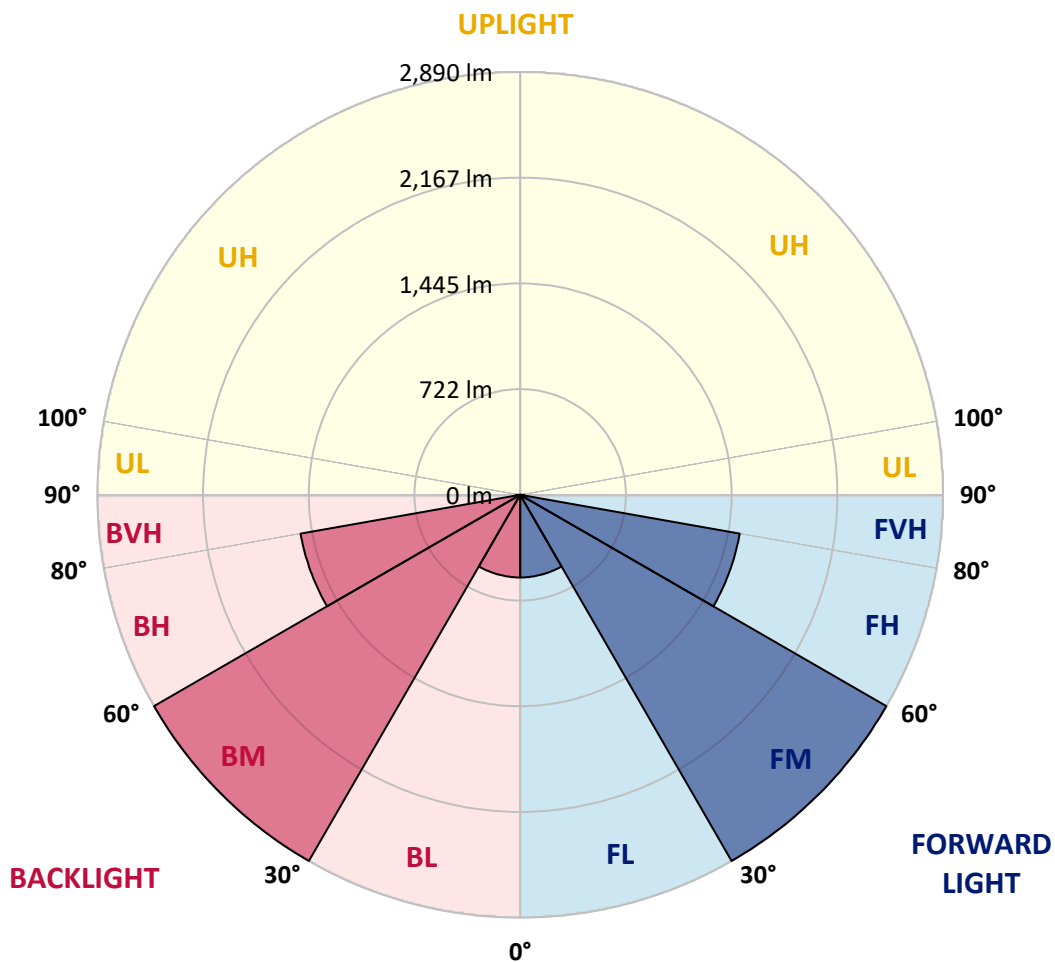
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	564.7	5.6			
FM	(30°-60°)	2889.8	28.9			
FH	(60°-80°)	1524.0	15.2			G1/1800
FVH	(80°-90°)	27.6	0.3			G1/100
BL	(0°-30°)	564.7	5.6	B2/1000		
BM	(30°-60°)	2889.8	28.9	B3/5000		
BH	(60°-80°)	1524.0	15.2	B3/2500		G1/1800
BVH	(80°-90°)	27.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9
2.5°	1148.2	1148.2	1150.1	1149.5	1147.0	1145.1	1143.2	1140.7	1139.5	1138.2	1137.6
5°	1154.4	1154.4	1156.3	1155.7	1153.8	1151.3	1150.1	1148.2	1146.3	1145.1	1145.7
7.5°	1170.0	1170.7	1171.3	1170.7	1168.8	1166.9	1164.4	1163.8	1161.3	1159.4	1160.7
10°	1193.7	1193.7	1194.4	1195.0	1193.7	1189.4	1189.4	1188.1	1185.6	1183.1	1183.8
12.5°	1219.9	1219.9	1220.6	1220.6	1220.6	1218.1	1218.7	1218.1	1214.9	1213.7	1214.9
15°	1245.5	1246.1	1246.1	1247.4	1247.4	1248.0	1250.5	1250.5	1249.2	1248.6	1248.6
17.5°	1275.4	1276.7	1277.3	1279.2	1279.8	1281.1	1283.5	1284.2	1284.8	1282.9	1283.5
20°	1315.4	1316.0	1317.9	1318.5	1321.0	1321.0	1322.2	1321.6	1320.3	1317.9	1317.9
22.5°	1360.3	1361.5	1365.3	1365.3	1368.4	1366.5	1367.1	1365.3	1362.1	1360.9	1359.6
25°	1418.9	1420.8	1423.9	1422.6	1423.9	1420.8	1420.8	1420.8	1418.9	1417.0	1416.4
27.5°	1493.1	1490.0	1493.1	1490.6	1490.0	1487.5	1488.1	1486.9	1485.0	1484.4	1481.9
30°	1570.4	1566.7	1568.6	1569.2	1567.9	1567.3	1564.8	1563.0	1559.8	1560.5	1558.6
32.5°	1659.0	1655.3	1657.1	1657.8	1656.5	1657.8	1657.1	1652.8	1649.0	1651.5	1651.5
35°	1764.4	1761.9	1766.9	1768.8	1765.0	1763.2	1760.7	1755.7	1750.1	1753.8	1754.4
37.5°	1891.0	1887.9	1891.6	1896.6	1889.8	1886.0	1876.1	1868.6	1864.8	1866.7	1869.2
40°	2022.6	2023.2	2033.8	2035.1	2027.6	2023.2	2013.3	2002.0	1991.4	1991.4	1994.6
42.5°	2161.1	2162.9	2175.4	2179.8	2177.3	2169.2	2155.5	2141.7	2128.0	2130.5	2134.3
45°	2317.6	2315.1	2328.2	2338.8	2337.0	2334.5	2321.4	2296.4	2283.9	2283.3	2289.6
47.5°	2482.3	2487.3	2501.0	2519.1	2518.4	2512.2	2495.4	2472.3	2449.2	2451.1	2458.6
50°	2674.4	2681.2	2704.3	2722.4	2724.9	2723.0	2703.1	2676.2	2643.8	2645.7	2655.7
52.5°	2846.5	2856.5	2883.3	2920.7	2943.8	2954.4	2941.3	2916.4	2883.3	2885.2	2895.8
55°	3002.4	3018.0	3057.9	3109.1	3155.2	3198.3	3217.6	3217.0	3192.7	3198.3	3212.0
57.5°	3100.3	3122.2	3182.7	3265.0	3356.7	3443.4	3518.2	3588.7	3604.3	3633.6	3633.6
60°	2968.8	3019.9	3100.3	3241.3	3421.5	3616.1	3826.9	4032.1	4164.4	4268.5	4212.4
62.5°	2479.2	2554.6	2667.5	2853.4	3134.0	3481.4	3904.9	4382.0	4879.7	5184.1	4960.8
65°	1604.1	1698.9	1821.8	2030.7	2384.4	2831.5	3448.4	4305.9	5347.5	5887.6	5388.7
67.5°	635.5	699.8	774.6	923.1	1229.9	1669.0	2361.3	3419.1	4721.9	5231.5	4672.0
70°	303.7	314.3	328.7	360.5	437.2	590.0	948.6	1684.6	2895.8	3432.8	2826.6
72.5°	219.5	221.4	228.3	238.9	261.3	292.5	355.5	515.2	998.5	1451.9	999.8
75°	166.5	169.0	172.8	178.4	190.2	205.2	228.9	274.4	341.8	394.2	341.2
77.5°	126.6	129.1	132.2	137.8	144.1	154.7	163.4	181.5	210.2	221.4	220.2
80°	92.3	96.7	101.7	106.7	111.0	116.0	116.6	125.4	141.6	152.2	149.1
82.5°	58.6	62.4	75.5	81.1	81.7	83.0	82.3	83.0	91.7	99.2	96.7
85°	37.4	39.9	46.8	53.0	51.8	54.3	54.3	53.0	49.3	42.4	50.5
87.5°	18.7	19.3	22.5	28.1	26.8	23.7	23.1	23.1	16.8	14.3	15.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9	1138.9
2.5°	1135.7	1137.0	1135.1	1135.1	1134.5	1135.7	1133.9	1133.9
5°	1144.5	1146.3	1145.7	1145.7	1147.0	1148.2	1147.6	1147.0
7.5°	1160.1	1161.3	1162.6	1163.2	1164.4	1163.8	1165.0	1164.4
10°	1183.8	1182.5	1184.4	1182.5	1183.1	1181.9	1182.5	1182.5
12.5°	1213.7	1211.8	1210.6	1209.3	1209.3	1206.8	1206.8	1207.5
15°	1248.0	1244.9	1242.4	1241.1	1239.9	1239.9	1238.0	1239.3
17.5°	1281.7	1278.6	1274.2	1274.2	1272.3	1271.1	1269.8	1272.9
20°	1317.2	1314.1	1311.6	1311.0	1307.2	1306.0	1306.6	1310.4
22.5°	1358.4	1356.5	1356.5	1355.3	1352.8	1350.9	1350.9	1355.3
25°	1413.9	1410.2	1410.8	1411.4	1410.2	1410.2	1408.9	1412.0
27.5°	1481.9	1478.8	1480.6	1481.9	1480.6	1482.5	1480.6	1483.1
30°	1561.7	1559.8	1561.7	1563.6	1560.5	1560.5	1559.2	1561.1
32.5°	1657.1	1654.6	1655.9	1655.9	1651.5	1647.8	1642.8	1646.5
35°	1761.9	1758.8	1761.3	1763.2	1758.2	1754.4	1746.9	1750.1
37.5°	1877.3	1878.5	1881.7	1889.8	1888.5	1882.3	1876.7	1879.2
40°	2006.4	2012.6	2026.4	2032.0	2030.7	2024.5	2017.0	2018.3
42.5°	2152.3	2160.5	2174.8	2184.2	2179.8	2171.1	2161.7	2165.4
45°	2311.4	2323.9	2342.6	2351.9	2346.3	2337.0	2323.9	2330.7
47.5°	2479.8	2504.7	2529.7	2542.1	2540.3	2527.2	2510.3	2512.2
50°	2681.2	2714.3	2746.1	2758.6	2749.2	2729.3	2705.6	2704.9
52.5°	2932.0	2967.5	2993.7	2990.6	2967.5	2936.3	2909.5	2908.3
55°	3245.0	3256.9	3253.2	3226.3	3185.8	3137.1	3102.8	3097.2
57.5°	3623.6	3583.7	3525.1	3444.0	3352.9	3260.6	3198.3	3175.2
60°	4086.4	3906.2	3696.6	3475.8	3274.4	3123.4	3028.0	2970.0
62.5°	4468.7	3946.7	3478.3	3094.7	2781.0	2594.5	2464.2	2383.7
65°	4337.7	3409.7	2731.1	2236.5	1894.1	1701.4	1563.6	1471.9
67.5°	3351.1	2278.3	1585.4	1098.9	833.2	705.4	616.2	558.2
70°	1689.6	873.8	529.5	373.6	319.3	296.9	281.9	273.2
72.5°	495.8	331.2	275.0	243.2	223.9	210.2	201.5	197.1
75°	274.4	223.9	197.7	179.6	167.1	157.8	152.2	148.4
77.5°	189.0	162.8	149.7	137.8	127.9	121.0	116.6	112.9
80°	132.2	119.1	113.5	107.3	99.8	94.2	87.9	85.4
82.5°	87.9	82.3	81.1	76.1	71.7	65.5	54.3	50.5
85°	51.8	51.1	51.1	49.3	46.2	40.5	32.4	32.4
87.5°	18.1	18.7	19.3	20.6	20.0	16.8	13.7	13.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)