

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: P195915

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195915  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)  
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-5MQ-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13001.7 lumens  
Efficiency: N/A  
Efficacy: 135.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type V - Short - Full Cutoff  
BUG Rating: B4 - U0 - G2

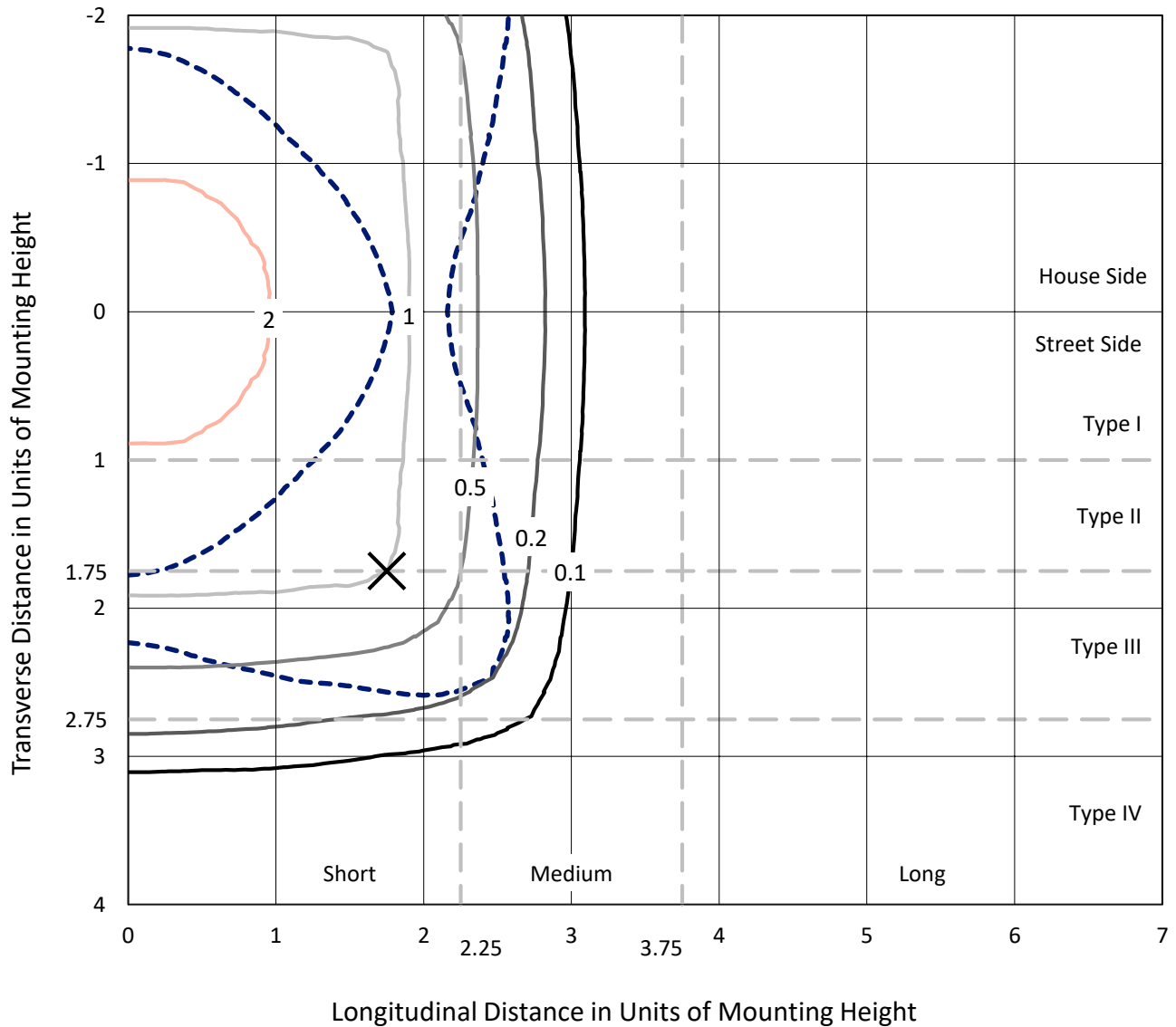
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

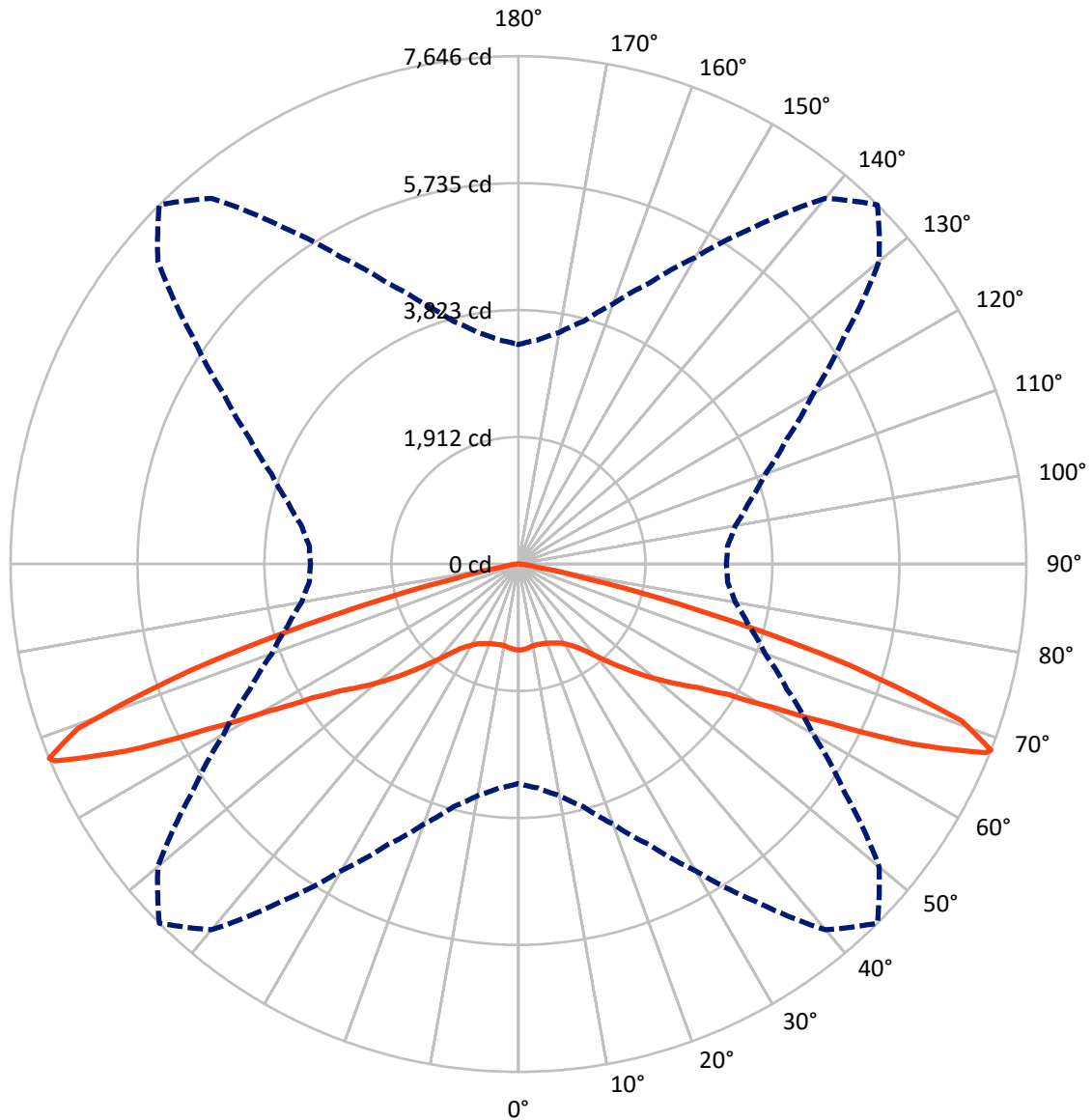
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.2 fc  
 Type V - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6500.9	0.0	6500.9
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6500.9	0.0	6500.9
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	13001.7	0.0	13001.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.4	0.9
10°-20°	352.0	2.7
20°-30°	598.4	4.6
30°-40°	979.2	7.5
40°-50°	1750.0	13.5
50°-60°	2955.5	22.7
60°-70°	4582.9	35.2
70°-80°	1575.7	12.1
80°-90°	86.6	0.7
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°	13001.7	100.0
0°-180°	13001.7	100.0



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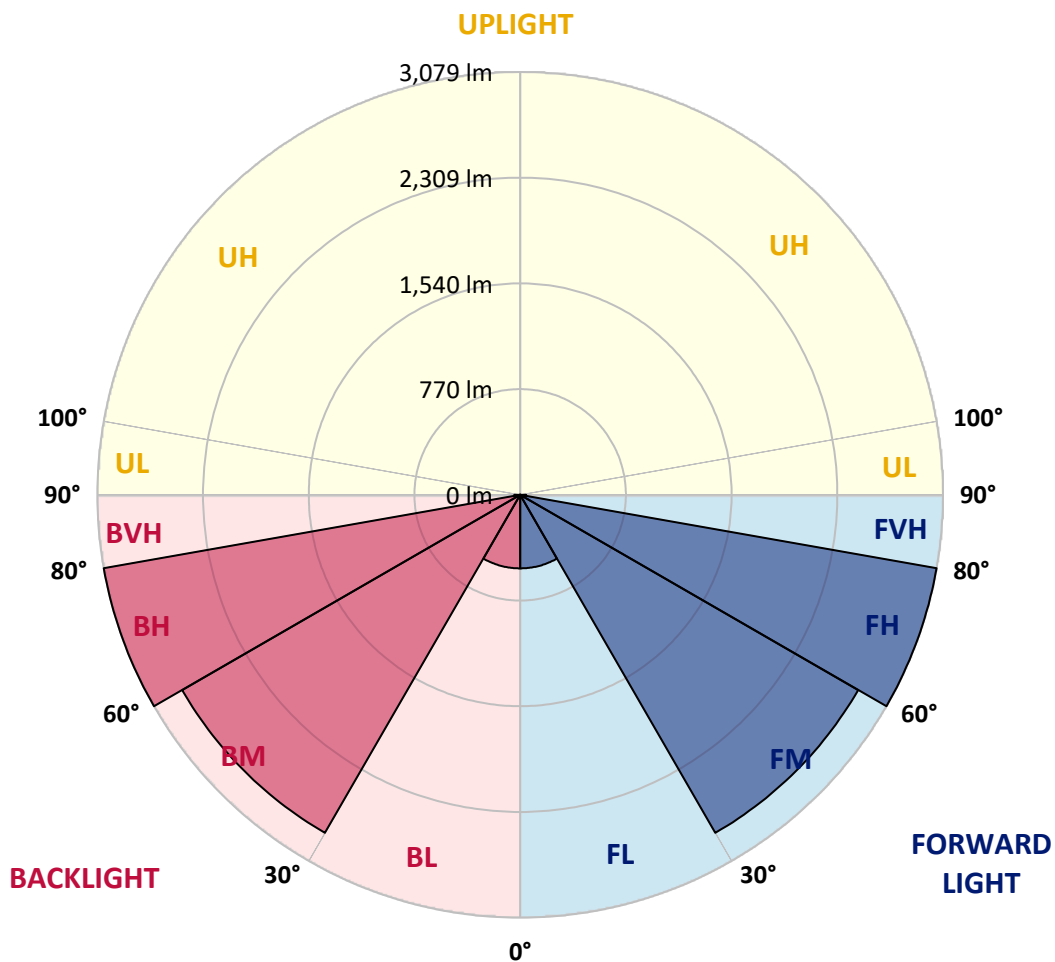
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	535.9	4.1			
FM	(30°-60°)	2842.4	21.9			
FH	(60°-80°)	3079.3	23.7			G2/5000
FVH	(80°-90°)	43.3	0.3			G1/100
BL	(0°-30°)	535.9	4.1	B2/1000		
BM	(30°-60°)	2842.4	21.9	B3/5000		
BH	(60°-80°)	3079.3	23.7	B4/5000		G2/5000
BVH	(80°-90°)	43.3	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G2**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0
2.5°	1302.5	1302.5	1304.2	1303.3	1301.0	1298.5	1296.2	1293.7	1292.2	1290.6	1289.0
5°	1289.0	1289.0	1291.4	1289.8	1288.2	1285.8	1284.2	1281.9	1280.2	1278.7	1279.4
7.5°	1271.5	1273.1	1274.7	1273.9	1270.7	1269.9	1267.5	1266.7	1265.1	1262.7	1263.5
10°	1256.4	1257.1	1258.7	1257.9	1257.1	1254.8	1253.9	1253.2	1252.4	1249.2	1248.4
12.5°	1241.2	1242.8	1244.4	1245.2	1244.4	1245.2	1246.0	1246.8	1246.0	1244.4	1244.4
15°	1229.3	1230.9	1233.3	1235.6	1236.4	1241.2	1244.4	1247.6	1249.9	1250.8	1248.4
17.5°	1222.9	1225.3	1228.5	1233.3	1237.3	1242.8	1248.4	1253.2	1257.1	1257.9	1255.6
20°	1222.1	1224.5	1229.3	1234.9	1242.1	1249.2	1257.9	1265.1	1269.1	1271.5	1269.1
22.5°	1227.6	1230.9	1237.3	1244.4	1253.2	1262.7	1273.9	1281.9	1289.8	1293.0	1290.6
25°	1243.6	1246.8	1253.9	1262.7	1272.2	1284.2	1295.4	1305.7	1313.7	1317.7	1314.5
27.5°	1277.1	1277.9	1285.8	1295.4	1306.5	1316.8	1331.2	1336.0	1342.3	1346.3	1342.3
30°	1324.0	1325.6	1332.8	1347.9	1358.3	1371.8	1379.8	1384.6	1391.7	1395.7	1390.9
32.5°	1395.7	1397.2	1403.7	1418.0	1427.5	1437.9	1447.5	1450.6	1457.8	1462.5	1457.0
35°	1496.8	1500.0	1505.6	1515.1	1523.1	1531.1	1538.2	1535.9	1540.6	1546.9	1541.4
37.5°	1635.3	1634.6	1636.1	1643.3	1651.2	1656.1	1667.2	1661.6	1666.4	1671.9	1668.7
40°	1796.9	1796.9	1796.2	1808.9	1812.1	1816.9	1828.8	1821.7	1828.0	1834.4	1828.8
42.5°	1980.8	1984.0	1988.0	1998.3	2007.1	2008.8	2014.3	2011.1	2019.1	2024.6	2019.1
45°	2192.7	2197.4	2202.2	2226.0	2230.0	2233.2	2237.2	2226.9	2235.7	2240.5	2238.8
47.5°	2412.4	2421.1	2431.5	2456.2	2472.1	2479.2	2482.5	2470.5	2471.3	2478.5	2479.2
50°	2660.8	2670.3	2680.7	2708.6	2723.7	2736.4	2740.4	2726.9	2728.5	2734.0	2735.7
52.5°	2890.1	2901.2	2923.5	2960.9	2982.4	3004.7	3006.4	2989.6	2996.7	3000.7	2997.6
55°	3105.9	3120.2	3149.7	3199.8	3238.8	3282.6	3302.5	3284.2	3284.2	3281.0	3279.4
57.5°	3357.4	3373.4	3403.7	3461.8	3515.9	3578.8	3632.9	3651.2	3684.7	3695.8	3678.3
60°	3736.4	3753.1	3784.2	3860.6	3929.1	4020.6	4109.8	4182.2	4300.1	4363.8	4306.5
62.5°	4082.8	4108.3	4181.5	4315.2	4463.3	4632.9	4829.6	4969.7	5183.8	5290.5	5146.5
65°	4003.9	4055.7	4199.0	4409.2	4714.9	5082.7	5483.2	5867.7	6310.5	6537.4	6244.4
67.5°	3497.6	3541.4	3695.8	3940.2	4321.6	4828.7	5451.4	6247.6	7160.8	7585.9	7067.6
68°	3304.1	3386.1	3539.7	3782.6	4167.2	4665.6	5330.4	6190.2	7187.0	7646.4	7086.7
70°	2533.4	2562.9	2710.2	2928.3	3343.1	3832.0	4503.1	5483.2	6609.8	7082.7	6507.1
72.5°	1203.8	1221.3	1316.8	1531.9	1795.4	2193.4	2785.8	3710.1	4725.2	5217.3	4643.3
75°	441.1	445.1	467.4	518.3	617.0	766.7	1051.0	1625.8	2406.8	2870.2	2416.4
77.5°	238.0	238.9	247.7	260.3	277.8	297.8	340.7	457.0	737.2	1003.2	778.7
80°	149.7	148.8	157.6	168.0	179.9	189.5	193.4	207.0	233.2	273.1	250.8
82.5°	76.4	83.6	103.5	114.7	132.2	135.3	131.3	130.5	138.5	149.7	154.5
85°	42.2	37.4	54.9	73.2	79.6	82.0	82.8	78.1	76.4	74.9	78.9
87.5°	21.5	19.9	23.8	36.6	39.0	31.8	32.6	27.8	19.1	19.1	19.9
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°	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0	1297.0
2.5°	1287.4	1288.2	1286.6	1286.6	1286.6	1287.4	1286.6	1285.8
5°	1277.1	1278.7	1278.7	1279.4	1280.2	1280.2	1280.2	1280.2
7.5°	1261.9	1262.7	1264.3	1264.3	1264.3	1264.3	1264.3	1264.3
10°	1247.6	1246.0	1245.2	1243.6	1243.6	1241.2	1242.1	1242.8
12.5°	1240.4	1237.3	1235.6	1233.3	1231.6	1229.3	1229.3	1230.1
15°	1243.6	1238.8	1234.1	1232.5	1230.9	1229.3	1227.6	1228.5
17.5°	1249.9	1244.4	1238.8	1235.6	1232.5	1230.1	1229.3	1230.1
20°	1263.5	1255.6	1246.8	1241.2	1234.9	1233.3	1230.9	1233.3
22.5°	1281.9	1272.2	1261.1	1250.8	1243.6	1240.4	1237.3	1239.6
25°	1304.2	1293.7	1282.7	1270.7	1262.7	1260.4	1256.4	1256.4
27.5°	1335.2	1326.5	1316.8	1305.7	1297.7	1295.4	1289.0	1289.0
30°	1384.6	1375.8	1367.1	1357.5	1349.5	1347.1	1339.1	1339.1
32.5°	1449.8	1440.3	1434.7	1426.7	1420.4	1416.4	1406.9	1406.0
35°	1537.4	1528.6	1527.9	1522.3	1515.9	1516.7	1507.1	1505.6
37.5°	1663.2	1656.1	1658.4	1653.6	1648.1	1652.9	1647.3	1647.3
40°	1824.0	1821.7	1824.0	1820.9	1821.7	1822.4	1817.7	1819.2
42.5°	2018.3	2011.9	2026.3	2024.6	2022.3	2028.6	2017.5	2009.5
45°	2242.0	2239.6	2254.0	2256.3	2251.5	2255.5	2235.7	2234.8
47.5°	2484.8	2484.8	2497.5	2496.0	2491.2	2492.0	2468.1	2453.0
50°	2738.0	2736.4	2749.2	2746.0	2739.7	2738.8	2714.1	2699.1
52.5°	3001.5	3001.5	3019.9	3011.2	2996.0	2988.9	2958.6	2938.6
55°	3293.0	3289.0	3294.5	3265.9	3236.4	3214.9	3177.5	3162.4
57.5°	3661.6	3615.4	3575.6	3539.0	3497.6	3472.1	3428.3	3412.4
60°	4184.7	4061.2	4007.9	3934.7	3866.2	3832.0	3773.9	3742.8
62.5°	4909.1	4704.6	4559.7	4398.1	4242.0	4132.1	4043.7	4004.8
65°	5746.7	5300.9	4932.3	4585.9	4292.1	4058.9	3929.1	3888.4
67.5°	6065.2	5246.7	4610.6	4113.8	3757.1	3479.3	3324.0	3291.3
68°	5997.6	5122.5	4461.7	3953.0	3594.8	3314.5	3160.0	3130.5
70°	5290.5	4321.6	3624.1	3117.7	2783.4	2516.7	2407.6	2360.7
72.5°	3606.6	2775.5	2129.0	1703.0	1453.0	1284.2	1183.9	1149.7
75°	1660.0	1121.8	749.2	559.7	475.3	434.8	403.7	395.7
77.5°	484.1	351.9	302.6	280.3	263.5	249.2	238.9	238.0
80°	230.1	215.7	209.4	195.1	179.9	166.4	156.8	158.5
82.5°	154.5	150.5	150.5	136.2	112.2	96.4	79.6	71.6
85°	82.0	85.2	89.9	85.2	74.1	54.9	35.8	39.0
87.5°	27.8	31.8	33.5	32.6	29.5	22.3	16.7	16.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)