

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: P270325

Luminaire Tested: **NAV-AF-02-D-UNV-5NQ-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270325
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-02-D-UNV-5NQ-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10878.7 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G1

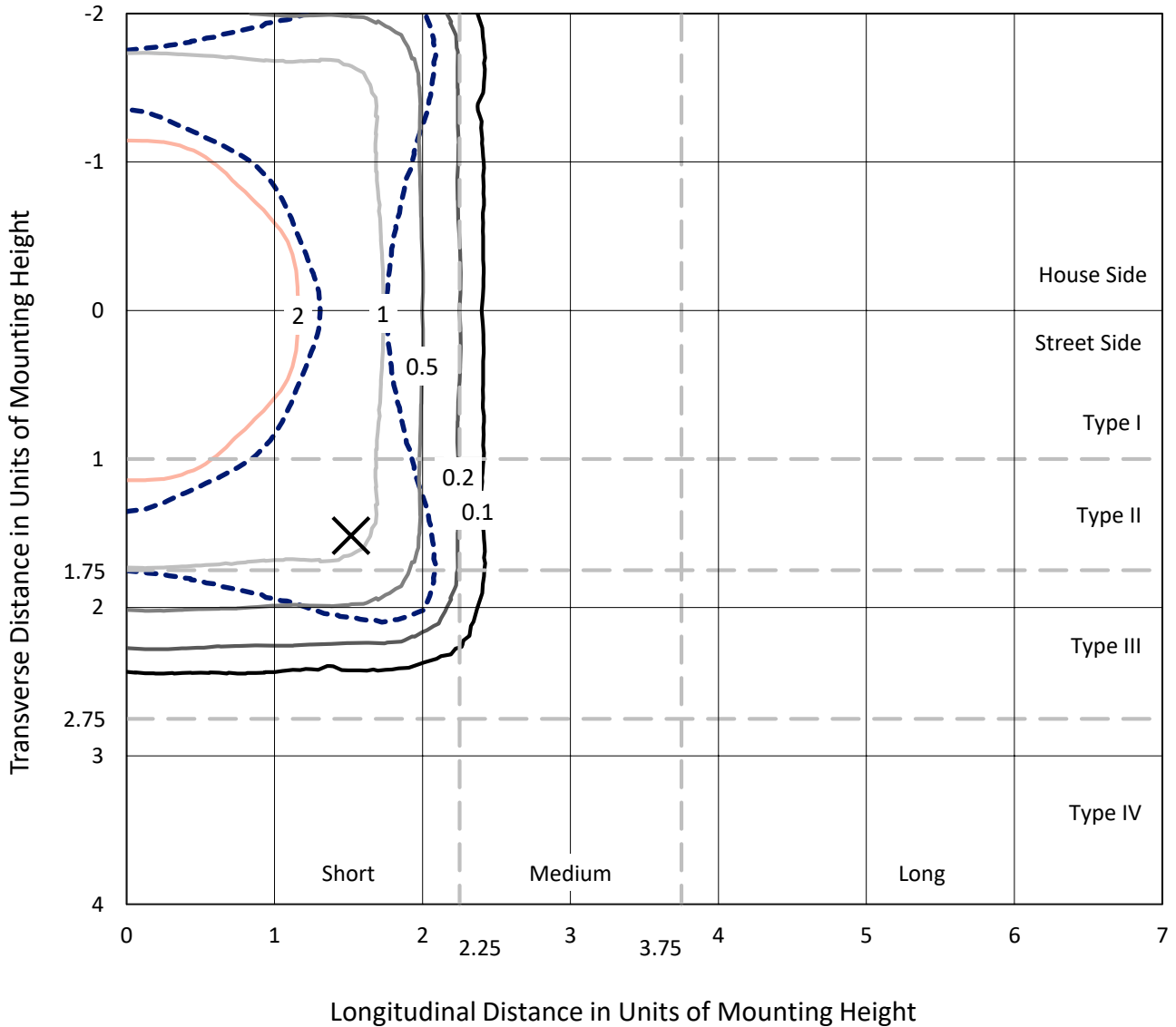
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

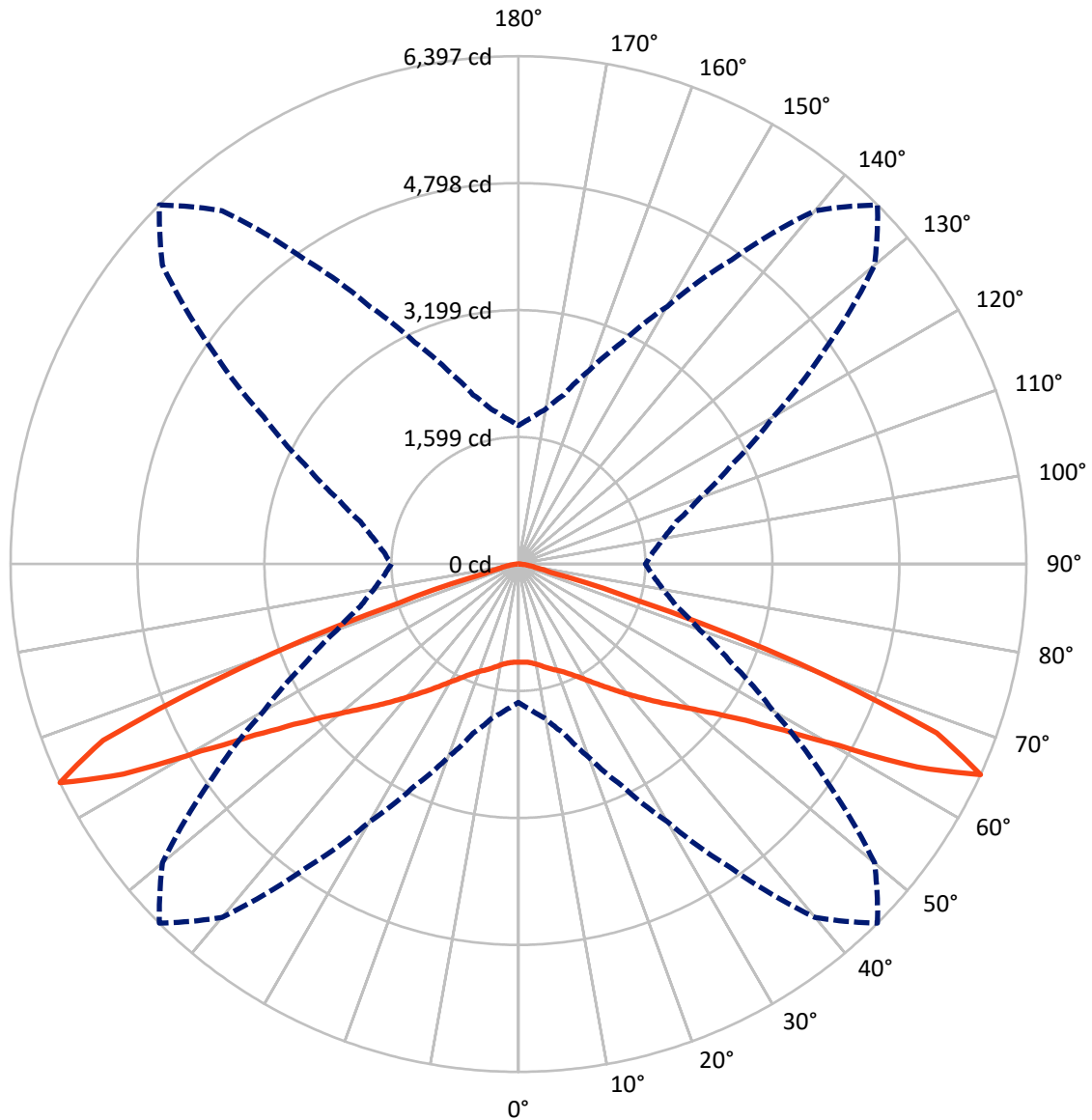
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.1 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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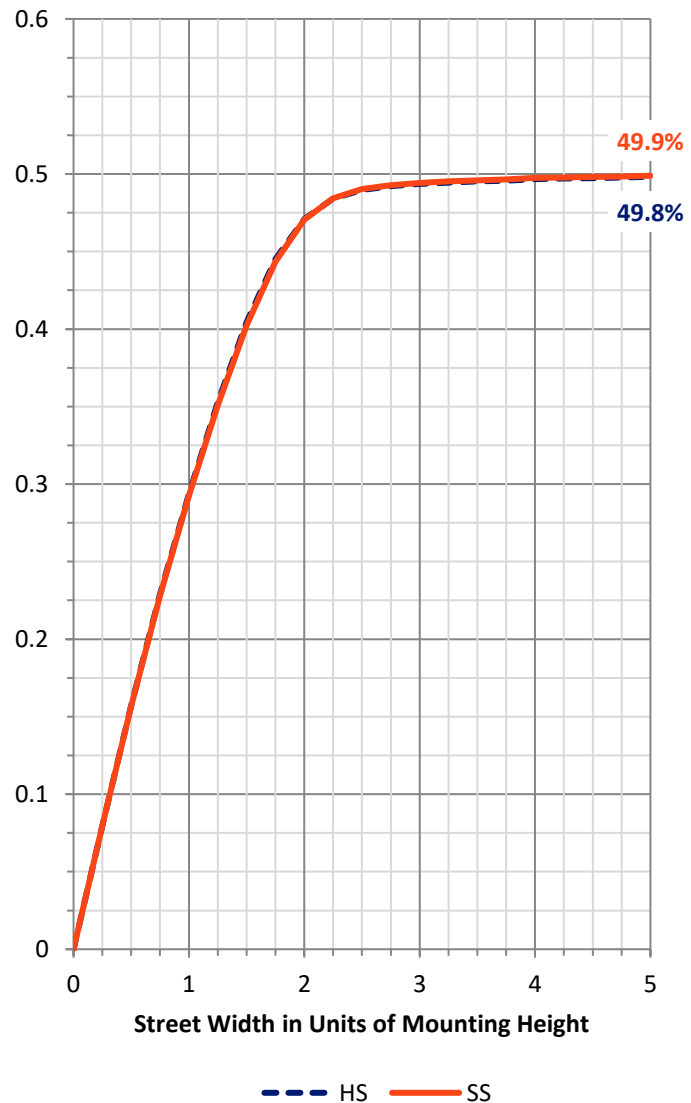
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5439.4	0.0	5439.4
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5439.4	0.0	5439.4
	% Fixture	50.0	0.0	50.0
Total	Lumens	10878.7	0.0	10878.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.5	1.1
10°-20°	386.2	3.6
20°-30°	720.5	6.6
30°-40°	1214.8	11.2
40°-50°	1973.3	18.1
50°-60°	3091.8	28.4
60°-70°	2918.5	26.8
70°-80°	393.3	3.6
80°-90°	59.9	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°	10878.7	100.0
0°-180°	10878.7	100.0



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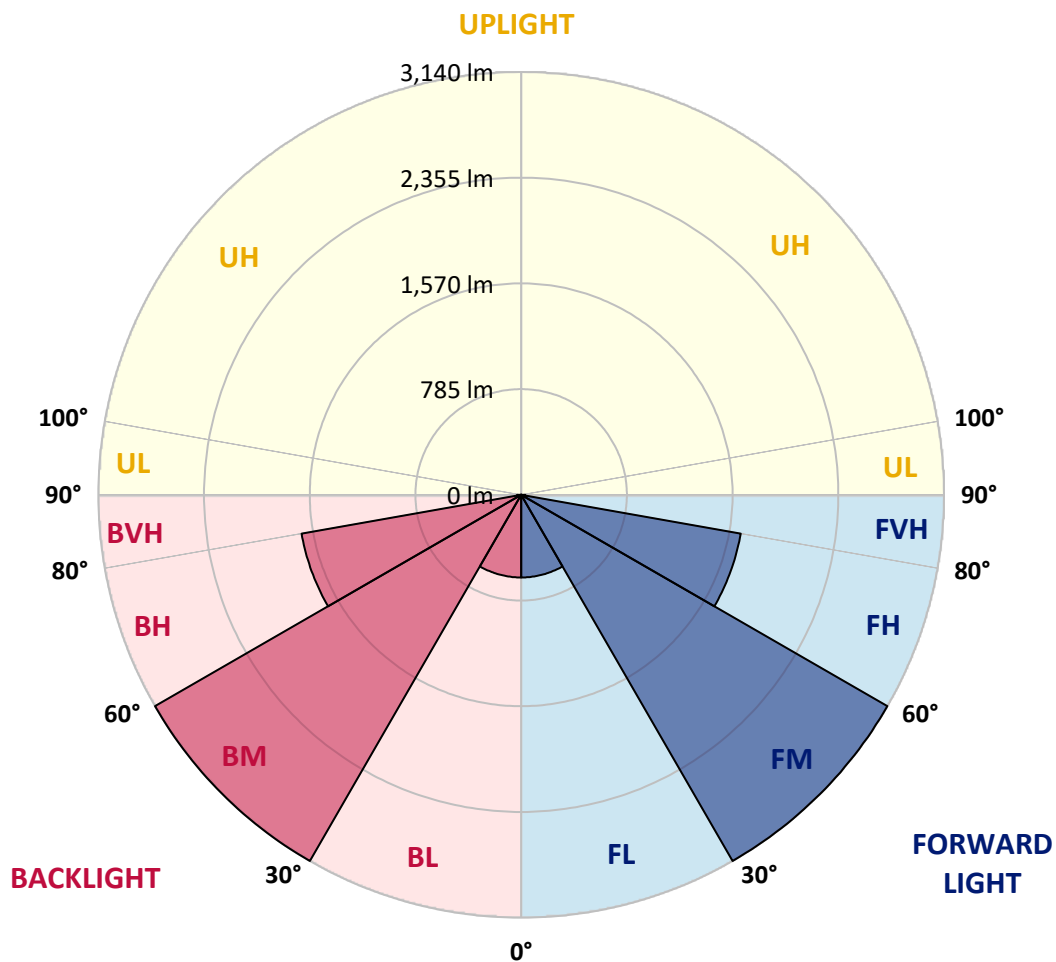
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	613.6	5.6			
FM (30°-60°)	3139.9	28.9			
FH (60°-80°)	1655.9	15.2			G1/1800
FVH (80°-90°)	29.9	0.3			G1/100
BL (0°-30°)	613.6	5.6	B2/1000		
BM (30°-60°)	3139.9	28.9	B3/5000		
BH (60°-80°)	1655.9	15.2	B3/2500		G1/1800
BVH (80°-90°)	29.9	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°	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4
2.5°	1247.6	1247.6	1249.6	1249.0	1246.3	1244.2	1242.1	1239.5	1238.1	1236.7	1236.1
5°	1254.5	1254.5	1256.4	1255.7	1253.8	1251.0	1249.6	1247.6	1245.6	1244.2	1245.0
7.5°	1271.3	1272.0	1272.7	1272.0	1269.9	1268.0	1265.3	1264.5	1261.8	1259.9	1261.2
10°	1297.2	1297.2	1297.7	1298.4	1297.2	1292.3	1292.3	1291.0	1288.3	1285.6	1286.3
12.5°	1325.5	1325.5	1326.2	1326.2	1326.2	1323.6	1324.2	1323.6	1320.1	1318.7	1320.1
15°	1353.3	1354.0	1354.0	1355.4	1355.4	1356.0	1358.7	1358.7	1357.3	1356.7	1356.7
17.5°	1385.8	1387.3	1387.9	1389.9	1390.5	1392.0	1394.7	1395.3	1396.1	1394.0	1394.7
20°	1429.3	1429.9	1432.0	1432.5	1435.3	1435.3	1436.7	1436.0	1434.7	1432.0	1432.0
22.5°	1478.0	1479.4	1483.5	1483.5	1486.9	1484.8	1485.4	1483.5	1480.0	1478.7	1477.4
25°	1541.8	1543.7	1547.2	1545.9	1547.2	1543.7	1543.7	1543.7	1541.8	1539.7	1538.9
27.5°	1622.3	1618.9	1622.3	1619.6	1618.9	1616.3	1616.9	1615.6	1613.5	1612.8	1610.1
30°	1706.4	1702.4	1704.4	1705.1	1703.6	1702.9	1700.3	1698.2	1694.9	1695.6	1693.6
32.5°	1802.5	1798.5	1800.7	1801.3	1799.9	1801.3	1800.7	1795.8	1791.8	1794.5	1794.5
35°	1917.2	1914.5	1919.9	1922.0	1917.8	1915.7	1913.1	1907.7	1901.5	1905.7	1906.4
37.5°	2054.8	2051.3	2055.4	2060.8	2053.3	2049.4	2038.4	2030.3	2026.2	2028.4	2031.0
40°	2197.8	2198.4	2209.9	2211.3	2203.2	2198.4	2187.6	2175.3	2163.8	2163.8	2167.3
42.5°	2348.2	2350.1	2363.7	2368.6	2365.7	2357.0	2342.2	2327.1	2312.2	2314.9	2319.1
45°	2518.3	2515.6	2529.7	2541.2	2539.2	2536.5	2522.4	2495.2	2481.7	2480.9	2487.8
47.5°	2697.3	2702.6	2717.6	2737.1	2736.4	2729.7	2711.4	2686.3	2661.3	2663.3	2671.4
50°	2905.8	2913.4	2938.4	2958.1	2960.8	2958.7	2937.1	2908.0	2872.7	2874.8	2885.5
52.5°	3093.0	3103.7	3132.8	3173.6	3198.7	3210.2	3195.9	3168.9	3132.8	3134.9	3146.5
55°	3262.4	3279.4	3322.7	3378.3	3428.4	3475.2	3496.2	3495.5	3469.1	3475.2	3490.1
57.5°	3368.7	3392.4	3458.2	3547.6	3647.3	3741.5	3822.7	3899.4	3916.3	3948.2	3948.2
60°	3225.8	3281.2	3368.7	3522.0	3717.7	3929.1	4158.3	4381.3	4524.9	4638.0	4577.0
62.5°	2693.7	2775.9	2898.4	3100.4	3405.4	3782.9	4243.0	4761.3	5302.2	5632.9	5390.3
65°	1743.0	1845.9	1979.5	2206.5	2590.8	3076.7	3746.9	4678.7	5810.4	6397.3	5855.2
67.5°	690.5	760.3	841.7	1003.0	1336.4	1813.5	2565.6	3715.0	5130.7	5684.4	5076.5
70°	330.0	341.5	357.2	391.8	475.1	641.1	1030.7	1830.3	3146.5	3729.9	3071.2
72.5°	238.5	240.6	248.0	259.5	284.0	317.8	386.4	559.7	1085.0	1577.7	1086.3
75°	181.0	183.7	187.7	193.9	206.7	223.0	248.7	298.1	371.4	428.3	370.7
77.5°	137.6	140.2	143.6	149.7	156.6	168.1	177.5	197.2	228.3	240.6	239.2
80°	100.3	105.0	110.4	115.9	120.6	126.0	126.8	136.3	153.8	165.4	162.0
82.5°	63.7	67.7	81.9	88.2	88.8	90.1	89.4	90.1	99.6	107.7	105.0
85°	40.7	43.4	50.8	57.6	56.2	59.0	59.0	57.6	53.4	46.2	54.8
87.5°	20.3	21.0	24.4	30.5	29.1	25.7	25.1	25.1	18.2	15.6	17.0
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°	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4
2.5°	1234.0	1235.3	1233.4	1233.4	1232.7	1234.0	1232.0	1232.0
5°	1243.6	1245.6	1245.0	1245.0	1246.3	1247.6	1246.9	1246.3
7.5°	1260.5	1261.8	1263.1	1263.8	1265.3	1264.5	1265.9	1265.3
10°	1286.3	1284.8	1286.9	1284.8	1285.6	1284.1	1284.8	1284.8
12.5°	1318.7	1316.7	1315.4	1314.0	1314.0	1311.3	1311.3	1312.0
15°	1356.0	1352.7	1350.0	1348.5	1347.2	1347.2	1345.2	1346.6
17.5°	1392.6	1389.3	1384.5	1384.5	1382.5	1381.1	1379.7	1383.1
20°	1431.3	1427.9	1425.3	1424.5	1420.4	1419.1	1419.7	1423.9
22.5°	1475.9	1473.9	1473.9	1472.6	1469.8	1467.9	1467.9	1472.6
25°	1536.3	1532.1	1532.9	1533.5	1532.1	1532.1	1530.9	1534.2
27.5°	1610.1	1606.8	1608.9	1610.1	1608.9	1610.8	1608.9	1611.5
30°	1696.9	1694.9	1696.9	1699.0	1695.6	1695.6	1694.3	1696.2
32.5°	1800.7	1797.9	1799.2	1799.2	1794.5	1790.4	1785.0	1789.1
35°	1914.5	1911.1	1913.7	1915.7	1910.3	1906.4	1898.2	1901.5
37.5°	2039.8	2041.2	2044.5	2053.3	2052.0	2045.3	2039.2	2041.8
40°	2180.0	2186.8	2201.7	2207.9	2206.5	2199.8	2191.7	2192.9
42.5°	2338.6	2347.5	2363.1	2373.2	2368.6	2358.9	2348.9	2352.9
45°	2511.5	2525.0	2545.3	2555.5	2549.4	2539.2	2525.0	2532.5
47.5°	2694.5	2721.5	2748.6	2762.2	2760.2	2745.9	2727.7	2729.7
50°	2913.4	2949.2	2983.8	2997.4	2987.3	2965.6	2939.8	2939.2
52.5°	3185.7	3224.3	3252.9	3249.4	3224.3	3190.5	3161.3	3160.0
55°	3525.9	3538.9	3534.8	3505.6	3461.6	3408.7	3371.5	3365.4
57.5°	3937.4	3894.0	3830.3	3742.2	3643.2	3542.9	3475.2	3450.1
60°	4440.1	4244.3	4016.6	3776.7	3557.7	3393.8	3290.1	3227.2
62.5°	4855.6	4288.4	3779.3	3362.6	3021.8	2819.2	2677.5	2590.2
65°	4713.2	3704.9	2967.6	2430.2	2058.0	1848.7	1699.0	1599.3
67.5°	3641.2	2475.5	1722.7	1194.0	905.4	766.4	669.5	606.5
70°	1835.9	949.4	575.4	405.9	346.9	322.6	306.3	296.8
72.5°	538.8	359.9	298.9	264.3	243.4	228.3	218.8	214.2
75°	298.1	243.4	214.9	195.2	181.5	171.4	165.4	161.2
77.5°	205.4	176.8	162.7	149.7	138.9	131.5	126.8	122.7
80°	143.6	129.4	123.3	116.6	108.4	102.3	95.6	92.9
82.5°	95.6	89.4	88.2	82.6	78.0	71.1	59.0	54.8
85°	56.2	55.5	55.5	53.4	50.1	44.0	35.3	35.3
87.5°	19.7	20.3	21.0	22.4	21.6	18.2	14.9	14.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)