

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: P197324

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197324
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10990 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 129
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

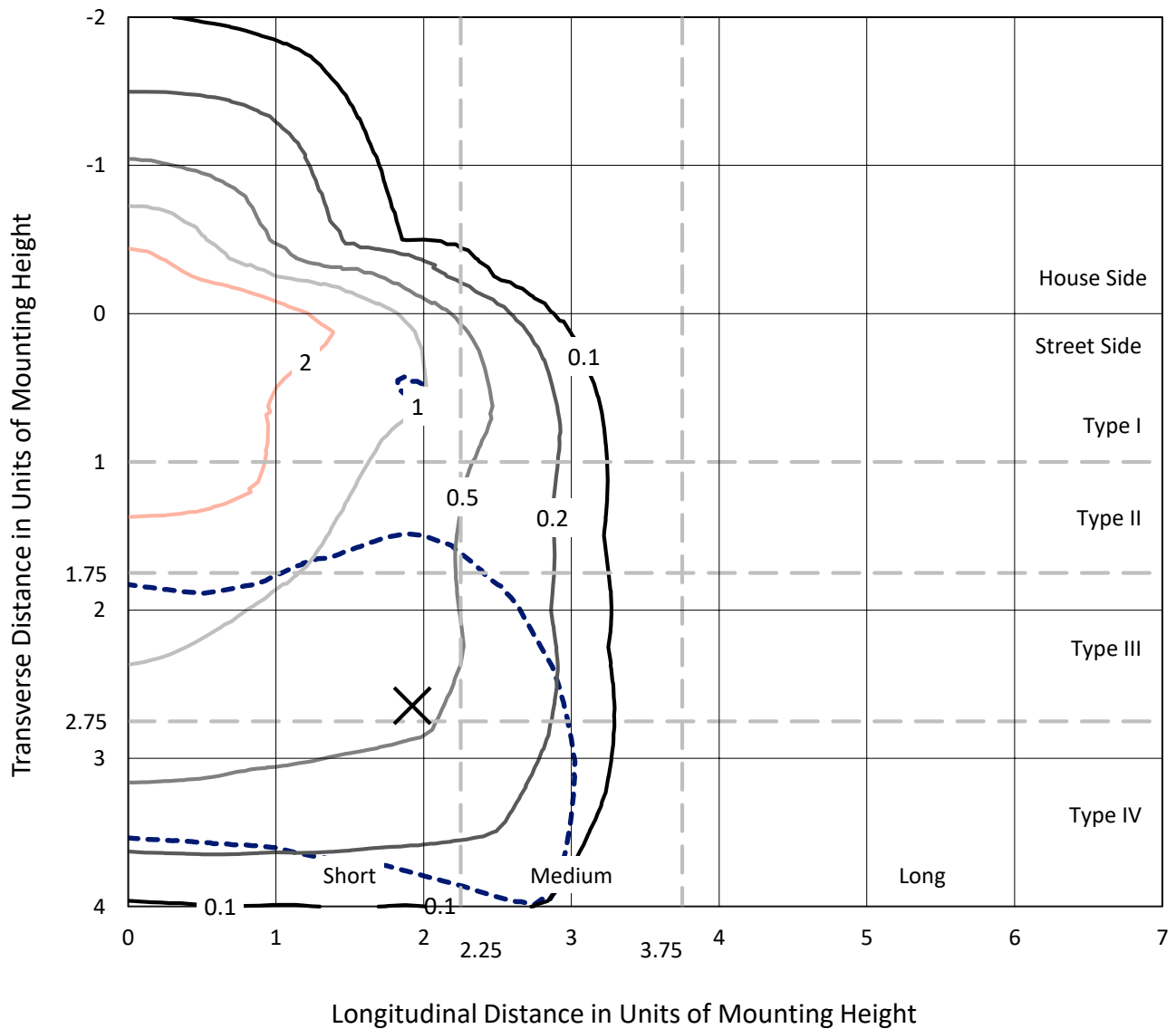


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Iso-Footcandle Lines of Horizontal Illumination

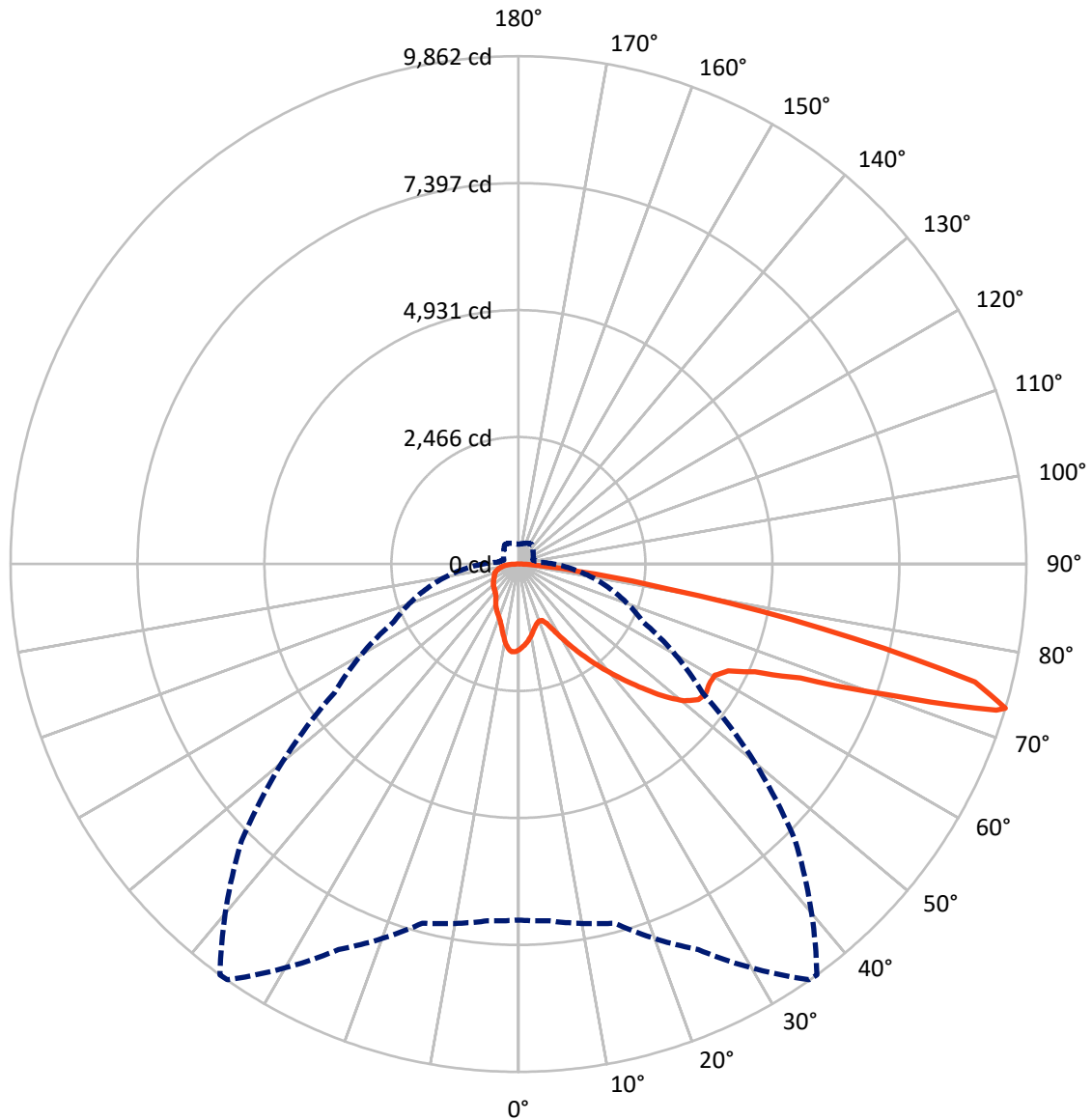
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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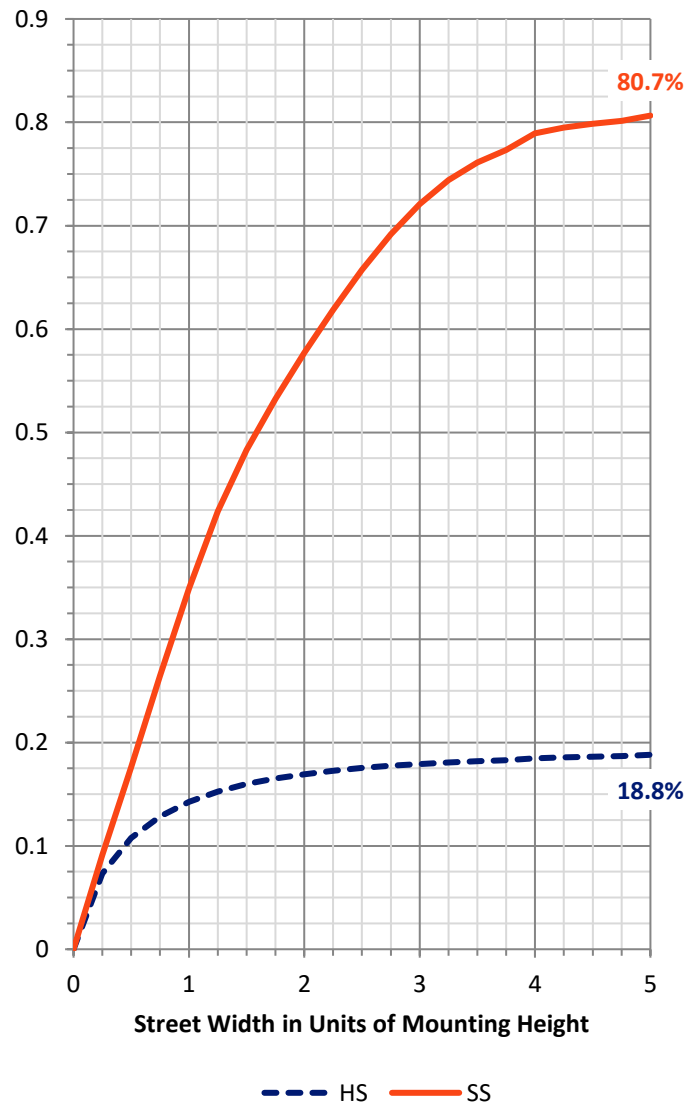
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2119.2	0.0	2119.2
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	8870.8	0.0	8870.8
	% Fixture	80.7	0.0	80.7
Total	Lumens	10990.0	0.0	10990.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.2	1.4
10°-20°	379.7	3.5
20°-30°	608.8	5.5
30°-40°	1007.0	9.2
40°-50°	1558.3	14.2
50°-60°	2086.1	19.0
60°-70°	2725.1	24.8
70°-80°	2225.9	20.3
80°-90°	247.8	2.3
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°	10990.0	100.0
0°-180°	10990.0	100.0



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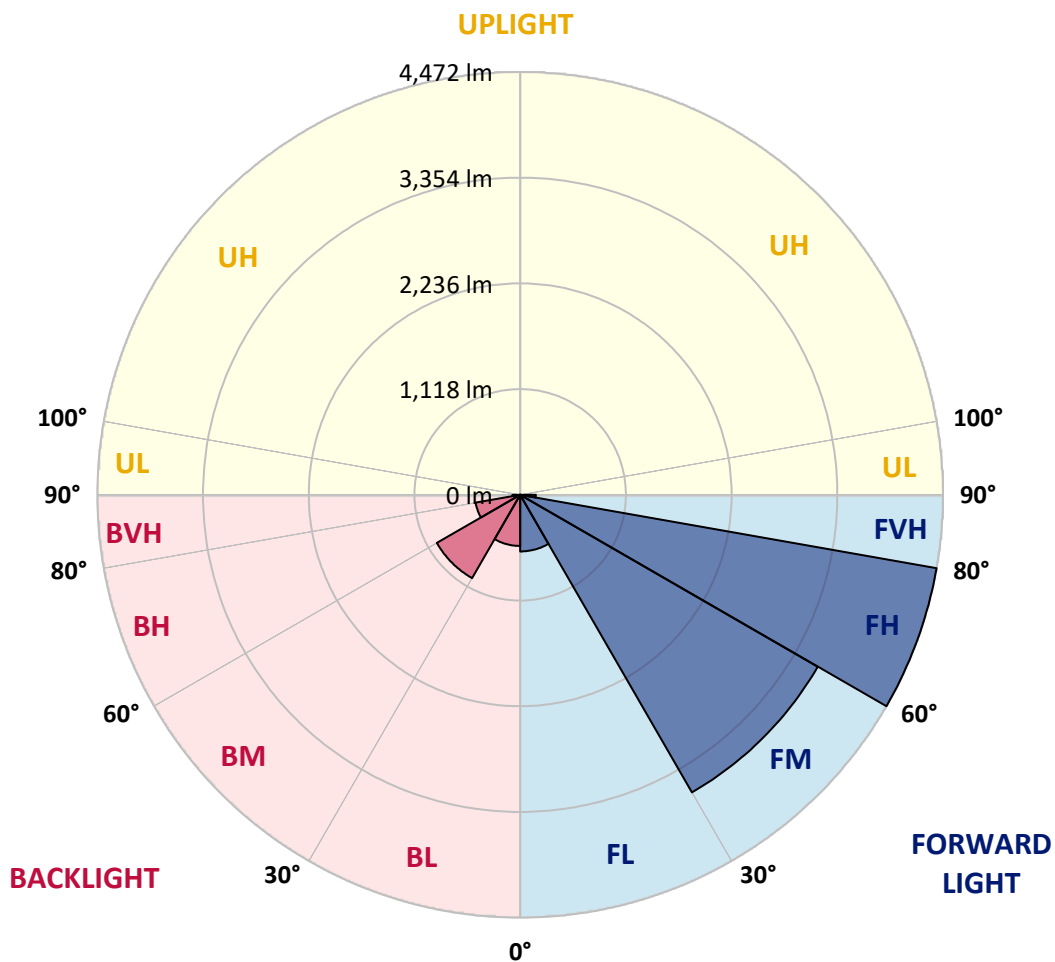
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	598.8	5.4			
FM (30°-60°)	3633.7	33.1			
FH (60°-80°)	4472.1	40.7			G2/5000
FVH (80°-90°)	166.2	1.5			G2/225
BL (0°-30°)	541.0	4.9	B2/1000		
BM (30°-60°)	1017.8	9.3	B2/2500		
BH (60°-80°)	478.9	4.4	B1/500		G1/500
BVH (80°-90°)	81.6	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7
2.5°	1601.1	1605.3	1606.0	1610.9	1610.9	1610.2	1612.3	1620.7	1624.9	1634.6	1643.0
5°	1522.2	1527.1	1529.2	1537.6	1548.1	1548.8	1556.4	1572.5	1587.9	1609.5	1627.7
7.5°	1433.5	1439.1	1444.7	1462.2	1477.5	1478.9	1493.6	1519.4	1539.7	1566.2	1599.0
10°	1347.7	1349.0	1354.6	1377.0	1397.2	1399.3	1420.3	1449.6	1476.8	1513.8	1550.8
12.5°	1277.1	1281.3	1279.9	1296.7	1314.1	1315.5	1343.5	1380.5	1420.3	1462.2	1506.2
15°	1252.7	1252.0	1237.3	1236.6	1244.3	1245.7	1272.9	1316.2	1360.9	1412.6	1469.2
17.5°	1269.4	1263.9	1225.5	1201.7	1196.8	1198.2	1218.5	1266.0	1313.4	1372.8	1440.5
20°	1361.6	1340.0	1249.9	1192.6	1176.6	1176.6	1188.4	1226.9	1279.2	1348.4	1433.5
22.5°	1580.2	1546.7	1354.6	1252.7	1196.1	1190.5	1181.5	1210.8	1268.7	1351.8	1462.2
25°	1855.3	1839.2	1546.7	1412.6	1296.0	1277.8	1217.8	1228.2	1290.4	1389.5	1540.4
27.5°	2110.2	2082.2	1798.7	1645.1	1480.3	1452.4	1325.3	1282.7	1342.1	1459.4	1653.5
30°	2258.9	2240.0	2057.8	1911.2	1714.9	1679.3	1497.1	1390.2	1434.2	1574.6	1814.1
32.5°	2420.9	2409.7	2317.5	2184.2	1969.1	1927.9	1719.1	1565.5	1575.3	1727.5	2007.5
35°	2578.0	2592.7	2540.3	2442.5	2242.8	2204.4	2017.3	1794.5	1749.2	1899.3	2214.2
37.5°	2766.5	2770.0	2737.2	2673.7	2530.5	2499.1	2344.8	2038.9	1938.4	2082.2	2413.9
40°	3142.9	3087.7	2959.2	2909.0	2823.8	2804.2	2628.3	2263.1	2114.3	2270.1	2602.4
42.5°	3550.0	3464.1	3263.0	3180.6	3146.4	3128.2	2864.3	2412.5	2279.1	2457.9	2787.5
45°	3878.2	3808.3	3611.4	3509.5	3513.7	3484.3	3070.3	2545.9	2457.9	2646.4	2994.2
47.5°	4201.5	4084.9	3864.2	3849.5	3898.4	3855.1	3267.2	2679.2	2644.3	2851.7	3200.8
50°	4222.4	4116.3	4026.9	4144.2	4228.0	4174.2	3445.9	2853.8	2837.8	3100.3	3467.6
52.5°	3967.5	3952.2	4088.3	4286.0	4424.9	4376.7	3591.9	3033.3	3035.4	3411.0	3792.3
55°	3874.7	3855.1	4018.5	4261.5	4449.3	4420.7	3700.8	3235.8	3254.6	3788.1	4140.7
57.5°	4031.1	3982.2	4014.3	4215.4	4392.1	4375.3	3813.9	3460.6	3494.8	4222.4	4462.6
60°	4516.4	4416.5	4246.2	4283.9	4394.2	4384.4	3975.9	3711.3	3768.5	4674.9	4666.5
62.5°	5243.3	5130.2	4783.1	4615.5	4591.1	4572.2	4243.4	4019.2	4047.8	5001.7	4547.8
65°	6040.7	5919.2	5506.5	5232.1	5088.3	5047.8	4674.9	4390.7	4211.2	5001.0	4085.6
67.5°	6935.9	6807.4	6396.1	6134.3	5978.6	5909.4	5375.2	4690.9	4158.2	4577.8	3269.3
70°	7852.7	7730.5	7542.0	7633.4	7701.9	7596.4	6478.5	4790.8	3776.9	3589.1	2195.3
72.5°	7366.0	7356.2	7499.4	8366.6	9685.6	9706.6	7580.4	4508.7	2918.1	2133.2	1170.3
73°	6914.2	6955.4	7220.8	8258.4	9855.3	9862.3	7602.0	4362.8	2679.2	1837.8	1027.8
75°	3582.1	3861.4	4846.0	6696.4	9125.6	9158.5	6701.3	3302.8	1596.9	1020.9	692.7
77.5°	959.4	946.8	1561.3	3262.3	6084.0	6040.7	4234.3	1599.0	765.3	640.3	486.0
80°	328.9	333.1	531.4	1193.3	2839.8	2941.1	1837.8	697.6	503.4	446.2	344.2
82.5°	167.6	173.2	277.9	507.6	1187.7	1162.6	591.4	410.6	337.3	270.9	192.7
85°	89.4	92.2	152.9	263.2	435.7	440.6	208.1	219.3	214.4	153.6	95.0
87.5°	44.0	45.4	73.3	115.9	161.3	155.7	72.6	95.0	105.4	86.6	52.4
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7	1664.7
2.5°	1653.5	1653.5	1662.6	1677.9	1689.1	1699.6	1706.6	1717.7	1724.0	1723.3	1722.6
5°	1642.3	1649.3	1667.5	1686.3	1698.9	1707.3	1707.3	1712.1	1712.1	1710.1	1707.3
7.5°	1616.5	1628.4	1654.9	1671.6	1675.1	1666.1	1647.9	1633.9	1616.5	1607.4	1603.9
10°	1575.3	1590.6	1624.2	1631.8	1613.7	1581.6	1537.6	1499.9	1466.4	1451.0	1446.1
12.5°	1534.8	1555.0	1586.5	1574.6	1531.3	1468.5	1400.7	1349.0	1311.3	1296.7	1291.8
15°	1501.3	1525.7	1550.1	1513.1	1437.7	1350.4	1275.7	1227.6	1198.9	1187.7	1185.0
17.5°	1478.9	1507.6	1515.9	1446.8	1342.1	1244.3	1178.0	1146.6	1134.0	1129.1	1127.7
20°	1480.3	1512.4	1492.2	1382.6	1249.9	1151.4	1107.4	1098.4	1098.4	1098.4	1097.7
22.5°	1518.7	1546.7	1482.4	1322.5	1161.2	1073.2	1054.4	1062.1	1067.6	1067.6	1066.9
25°	1598.3	1613.7	1489.4	1264.6	1078.1	1005.5	1006.2	1020.9	1025.8	1025.8	1024.4
27.5°	1719.8	1707.3	1502.0	1200.3	996.4	944.1	953.8	967.1	970.6	968.5	967.8
30°	1872.1	1821.8	1512.4	1124.9	919.6	886.8	895.2	902.9	900.1	895.2	894.5
32.5°	2042.4	1938.4	1506.2	1040.4	851.9	827.4	832.3	836.5	832.3	820.5	820.5
35°	2211.4	2043.8	1471.9	948.2	798.1	770.2	769.5	782.8	782.1	768.1	768.8
37.5°	2359.4	2126.9	1405.6	863.8	752.0	728.3	731.1	739.5	743.7	724.8	722.7
40°	2488.6	2184.2	1312.0	791.8	715.0	716.4	708.7	695.5	690.6	682.2	680.8
42.5°	2610.1	2224.0	1212.9	731.8	696.2	712.2	686.4	655.0	641.7	649.4	654.3
45°	2729.5	2268.7	1117.2	682.2	672.4	699.7	664.1	629.1	613.8	617.3	622.2
47.5°	2875.5	2330.8	1002.0	629.1	636.1	676.6	650.1	612.4	589.3	575.4	571.2
50°	3067.5	2420.9	852.6	571.9	597.7	651.5	638.2	587.9	562.8	534.9	527.9
52.5°	3307.7	2506.1	701.8	525.8	566.3	629.8	618.7	567.0	536.3	502.8	497.2
55°	3547.2	2517.9	571.9	486.0	530.7	600.5	594.9	550.2	506.9	479.7	474.1
57.5°	3714.8	2405.5	484.6	452.5	496.5	564.2	573.3	530.0	482.5	461.6	458.1
60°	3717.6	2136.7	431.5	430.1	470.6	532.8	550.9	506.2	467.1	453.2	450.4
62.5°	3422.2	1721.9	397.3	413.4	451.8	506.9	534.2	493.0	463.6	458.1	455.3
65°	2868.5	1272.2	370.1	398.0	434.3	485.3	520.2	488.8	462.3	460.2	458.1
67.5°	2117.8	872.1	347.0	378.5	414.8	463.0	506.9	482.5	453.9	462.3	459.5
70°	1332.3	582.4	325.4	356.1	388.9	437.1	489.5	471.3	443.4	438.5	429.4
72.5°	752.0	421.1	299.6	327.5	355.4	402.9	465.7	452.5	419.7	400.1	391.0
73°	679.4	398.7	293.3	320.5	347.7	395.9	460.2	446.9	412.7	391.0	382.6
75°	497.2	326.1	264.6	291.9	315.6	363.8	433.6	419.0	382.0	356.1	350.5
77.5°	360.3	251.4	227.6	252.1	273.0	319.1	393.8	377.1	340.8	326.8	321.2
80°	259.8	190.6	188.5	212.3	230.4	277.2	351.2	333.8	298.9	340.1	331.0
82.5°	155.0	122.2	138.3	164.8	183.6	232.5	305.1	284.9	251.4	254.2	216.5
85°	74.0	69.1	85.9	108.2	121.5	159.2	254.2	238.1	201.1	164.8	161.3
87.5°	32.8	31.4	41.2	48.2	64.9	95.7	173.9	154.3	145.9	87.3	68.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)