

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: P197294

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197294
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10109 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B1 - U0 - G2

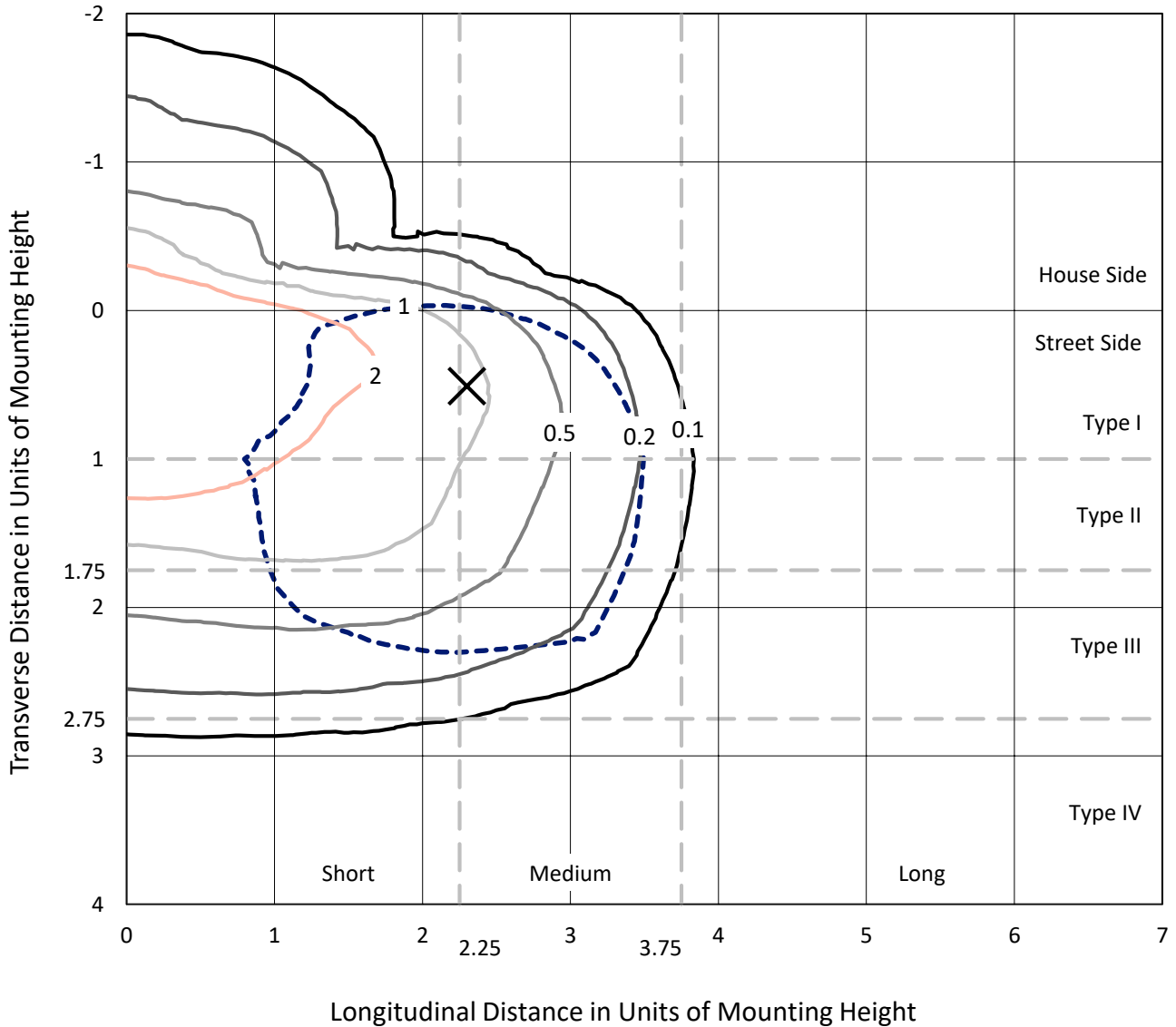
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

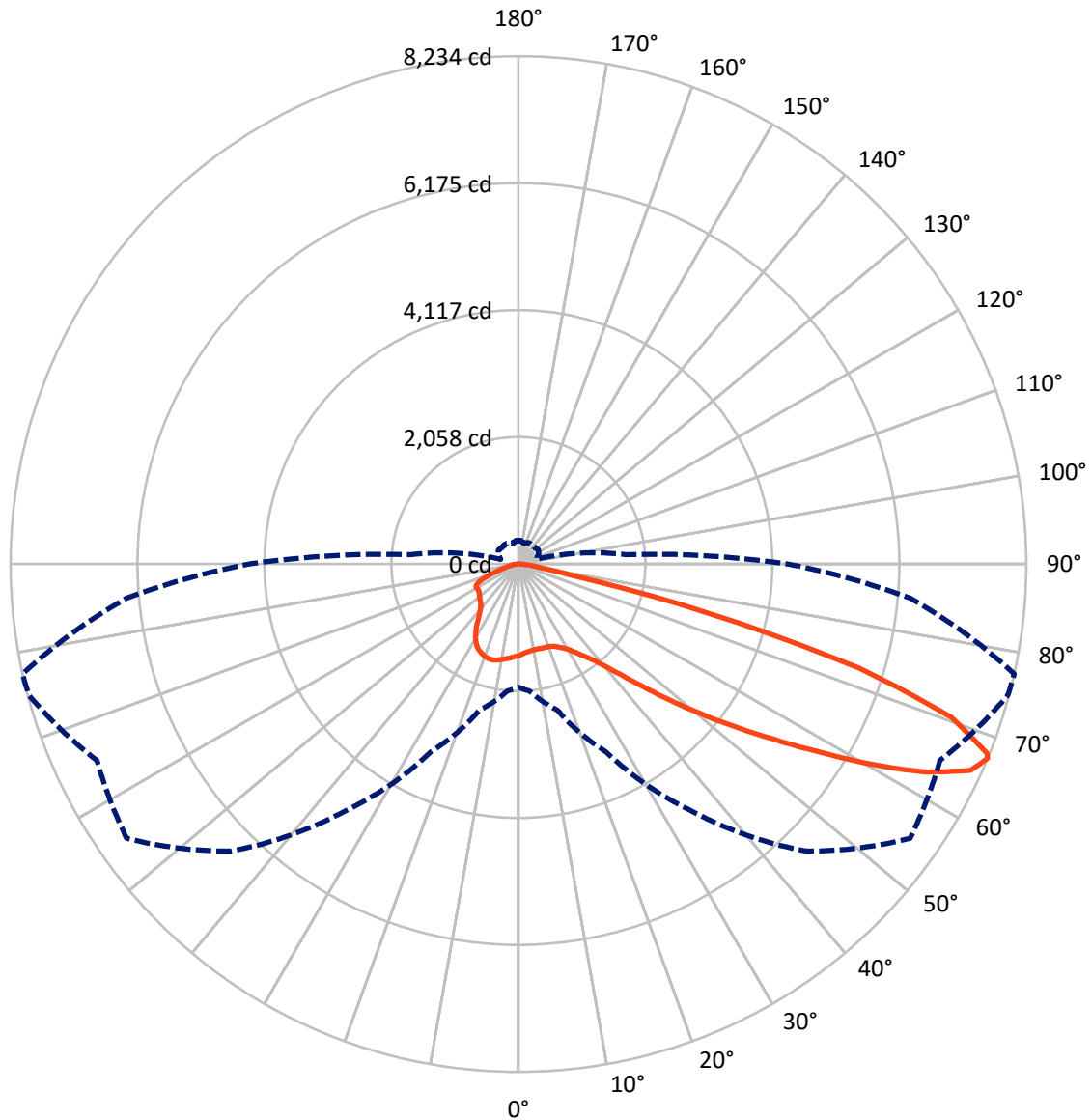
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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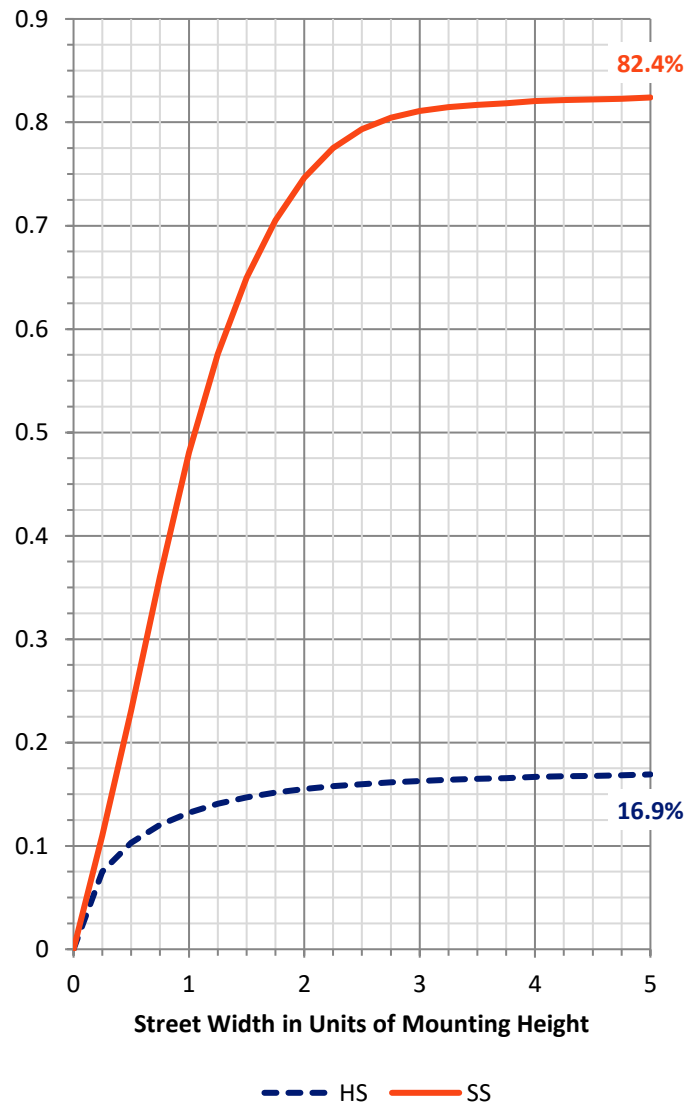
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1737.2	0.0	1737.2
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	8371.8	0.0	8371.8
	% Fixture	82.8	0.0	82.8
Total	Lumens	10109.0	0.0	10109.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.5	1.3
10°-20°	367.0	3.6
20°-30°	623.5	6.2
30°-40°	997.5	9.9
40°-50°	1535.6	15.2
50°-60°	2130.5	21.1
60°-70°	2841.9	28.1
70°-80°	1352.5	13.4
80°-90°	128.1	1.3
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°	10109.0	100.0
0°-180°	10109.0	100.0



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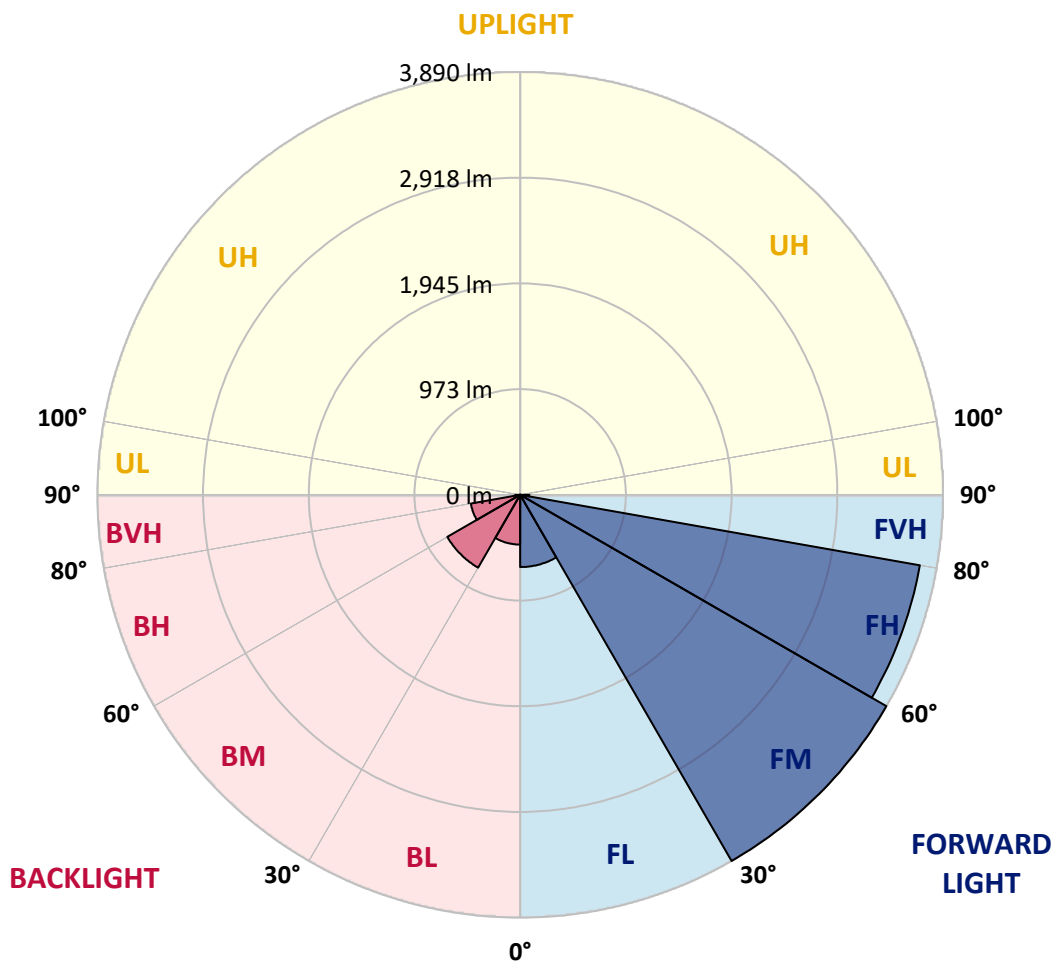
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	664.8	6.6			
FM	(30°-60°)	3890.0	38.5			
FH	(60°-80°)	3733.8	36.9			G2/5000
FVH	(80°-90°)	83.2	0.8			G1/100
BL	(0°-30°)	458.2	4.5	B1/500		
BM	(30°-60°)	773.5	7.7	B1/1000		
BH	(60°-80°)	460.6	4.6	B1/500		G1/500
BVH	(80°-90°)	44.9	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8
2.5°	1334.1	1340.3	1340.9	1359.1	1367.2	1387.8	1410.3	1430.3	1447.8	1454.0	1465.3
5°	1200.3	1200.3	1202.2	1214.1	1237.2	1270.3	1317.2	1368.4	1422.2	1435.3	1468.4
7.5°	1130.4	1131.6	1132.9	1144.7	1162.9	1192.2	1239.1	1309.1	1398.4	1420.3	1478.4
10°	1136.6	1134.7	1128.5	1126.0	1133.5	1152.2	1192.8	1264.7	1378.4	1412.2	1496.5
12.5°	1234.7	1231.0	1210.3	1180.4	1152.9	1146.0	1174.1	1242.2	1369.1	1412.2	1527.1
15°	1402.8	1405.3	1364.7	1302.2	1230.3	1181.6	1177.9	1234.1	1365.9	1415.9	1562.8
17.5°	1621.5	1622.7	1566.5	1475.9	1356.6	1256.0	1203.5	1234.1	1365.9	1419.7	1597.1
20°	1853.9	1845.2	1781.5	1667.7	1512.8	1359.1	1250.3	1241.6	1369.7	1425.3	1629.6
22.5°	2053.3	2045.1	1978.3	1858.9	1681.5	1480.9	1313.4	1266.6	1390.3	1448.4	1675.2
25°	2227.6	2232.6	2167.6	2033.3	1849.6	1618.4	1407.8	1324.1	1433.4	1490.3	1731.5
27.5°	2439.4	2430.1	2355.1	2227.0	2022.7	1760.8	1525.9	1396.6	1484.7	1540.9	1800.2
30°	2684.4	2680.0	2578.8	2446.9	2213.2	1920.2	1642.7	1474.7	1551.5	1610.3	1886.4
32.5°	2981.8	2981.2	2872.5	2710.6	2427.6	2100.1	1780.8	1581.5	1649.0	1708.4	2000.8
35°	3318.6	3318.0	3205.5	2991.8	2674.4	2299.5	1943.3	1711.5	1769.6	1832.1	2137.0
37.5°	3552.3	3548.6	3489.8	3282.4	2947.4	2531.3	2146.4	1886.4	1906.4	1976.4	2301.3
40°	3597.3	3619.8	3670.4	3547.9	3245.5	2788.7	2350.1	2074.5	2093.3	2183.2	2508.2
42.5°	3548.6	3577.9	3746.0	3780.4	3543.6	3100.5	2605.0	2335.1	2358.8	2470.7	2751.2
45°	3506.1	3531.7	3742.3	3909.1	3837.9	3440.5	2923.1	2653.1	2698.1	2836.8	3028.7
47.5°	3433.6	3457.3	3668.5	3932.2	4005.9	3767.9	3306.1	3035.5	3113.0	3281.1	3344.8
50°	3429.8	3440.5	3567.9	3854.7	4064.1	4016.6	3730.4	3482.9	3601.7	3795.4	3694.8
52.5°	3334.8	3409.2	3524.8	3731.0	4065.3	4161.5	4148.4	3973.5	4156.5	4370.9	4078.4
55°	2753.7	2839.3	3381.1	3670.4	4057.8	4285.9	4530.2	4495.2	4781.4	5007.0	4508.3
57.5°	2571.3	2607.5	2966.2	3688.5	4120.3	4491.5	4912.0	5055.7	5496.2	5742.4	5023.8
60°	2521.3	2559.4	2883.1	3697.3	4289.6	4865.7	5430.0	5688.7	6336.7	6597.8	5609.3
62.5°	2465.7	2515.0	2889.3	3705.4	4587.1	5419.4	6117.3	6375.4	7199.6	7432.6	6157.9
65°	2303.2	2368.8	2773.7	3654.2	4912.6	6114.2	7025.9	7091.5	7912.5	8060.6	6489.1
67°	1995.2	2067.0	2456.3	3358.0	4882.6	6582.2	7752.6	7539.5	8215.6	8233.7	6381.6
67.5°	1897.7	1972.0	2348.8	3234.9	4797.0	6643.5	7881.3	7601.4	8213.1	8193.1	6281.7
70°	1277.8	1361.6	1663.4	2375.1	3847.9	6182.9	7850.1	7410.8	7674.5	7445.1	5396.9
72.5°	634.2	636.7	829.8	1300.9	2331.3	4434.6	6548.5	6339.8	6221.1	5788.0	3960.3
75°	305.6	311.2	391.8	574.9	982.9	2289.5	4465.8	4277.8	3642.3	3153.6	1982.0
77.5°	233.1	238.7	304.3	374.3	409.9	746.7	2212.0	1787.7	1055.4	842.9	558.6
80°	180.0	190.6	256.8	287.4	271.2	299.3	695.5	547.4	410.5	376.8	276.8
82.5°	140.6	146.8	218.1	218.1	187.5	200.6	323.7	316.2	254.9	229.9	148.7
85°	99.4	111.8	175.6	162.5	123.1	124.3	193.7	185.6	131.2	105.6	58.1
87.5°	44.4	56.9	125.0	106.2	65.6	50.6	79.4	68.1	51.9	40.0	26.9
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8	1487.8
2.5°	1477.8	1487.8	1503.4	1512.8	1525.3	1530.3	1535.3	1544.0	1550.9	1549.0	1545.9
5°	1491.5	1508.4	1527.8	1534.0	1534.0	1527.8	1524.0	1524.6	1522.8	1521.5	1517.8
7.5°	1511.5	1534.6	1548.4	1542.1	1522.8	1498.4	1475.3	1461.5	1448.4	1440.3	1442.8
10°	1539.6	1565.3	1565.9	1538.4	1492.2	1439.0	1393.4	1364.1	1335.9	1323.4	1327.2
12.5°	1580.3	1605.9	1584.0	1524.6	1443.4	1360.3	1276.6	1216.0	1161.6	1148.5	1144.7
15°	1624.0	1644.0	1595.3	1495.3	1373.4	1236.6	1096.0	1005.4	944.8	934.2	930.4
17.5°	1662.1	1673.4	1589.6	1442.8	1262.8	1047.3	883.5	822.3	809.8	816.1	816.1
20°	1695.9	1692.1	1565.3	1361.6	1088.5	837.3	742.3	741.7	758.6	774.2	775.4
22.5°	1738.3	1709.0	1526.5	1241.0	880.4	698.6	682.3	698.6	717.3	734.8	736.7
25°	1789.0	1727.7	1474.7	1069.1	708.0	634.2	641.1	654.8	666.7	680.5	681.1
27.5°	1839.6	1742.1	1401.5	867.3	614.2	593.0	600.5	606.1	609.2	618.0	618.0
30°	1898.3	1753.3	1295.9	694.8	571.1	556.7	552.4	549.9	552.4	564.2	564.9
32.5°	1972.0	1773.3	1151.6	596.1	551.1	531.1	508.6	496.1	504.9	526.1	529.9
35°	2055.8	1797.1	978.5	556.7	544.2	518.6	477.4	458.0	461.1	480.5	483.6
37.5°	2160.7	1827.7	807.9	547.4	551.1	517.4	463.0	435.5	421.8	422.4	421.8
40°	2295.1	1858.3	673.0	549.9	566.1	520.5	456.1	413.0	384.3	385.5	388.0
42.5°	2435.7	1878.3	587.4	557.4	584.2	524.9	453.6	391.2	366.2	387.4	406.8
45°	2600.0	1872.7	543.0	564.2	598.0	526.8	444.3	388.7	368.0	431.8	468.0
47.5°	2788.7	1848.3	518.0	567.4	601.7	526.1	437.4	396.8	383.7	494.3	535.5
50°	2993.7	1810.2	498.0	562.4	599.9	523.6	444.9	406.8	389.9	508.0	539.9
52.5°	3218.0	1775.2	477.4	551.1	590.5	516.1	454.3	402.4	372.4	468.0	492.4
55°	3483.6	1767.1	454.3	531.8	574.9	508.0	449.3	388.7	353.0	414.9	429.9
57.5°	3787.2	1817.7	424.3	508.0	553.6	491.8	437.4	381.2	346.2	377.4	385.5
60°	4172.8	1929.6	392.4	483.0	527.4	467.4	426.8	383.0	348.0	371.8	373.7
62.5°	4474.0	2030.2	363.7	452.4	492.4	438.0	415.5	384.9	353.7	379.3	376.2
65°	4583.3	1980.8	328.0	406.8	443.0	405.5	399.9	386.2	353.7	383.7	376.8
67°	4359.0	1745.2	294.3	361.2	396.2	376.8	384.9	381.2	347.4	383.0	371.2
67.5°	4252.1	1662.1	285.6	353.7	383.7	368.0	381.2	378.7	345.5	381.8	368.0
70°	3506.7	1192.2	241.2	296.8	321.2	324.3	358.0	362.4	330.5	358.7	333.7
72.5°	2495.0	746.1	208.1	229.9	259.3	277.4	326.8	340.5	310.6	311.8	291.2
75°	1234.7	400.5	185.6	177.5	201.8	231.2	284.9	310.6	281.2	259.9	253.1
77.5°	416.8	226.8	156.8	143.1	156.8	185.6	236.2	271.2	248.1	219.9	215.6
80°	215.6	165.0	122.5	115.0	123.7	143.7	185.0	225.6	211.8	213.1	175.6
82.5°	134.3	100.6	88.1	87.5	93.7	110.0	136.2	183.1	181.8	155.6	113.1
85°	62.5	58.1	56.2	58.1	60.0	62.5	88.7	130.6	138.1	83.7	74.4
87.5°	26.2	25.6	22.5	24.4	26.9	26.2	35.6	55.6	77.5	52.5	48.1
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)