

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: P196256

Luminaire Tested: **NAV-AF-02-D-UNV-T2-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196256
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
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-T2-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9854.1 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

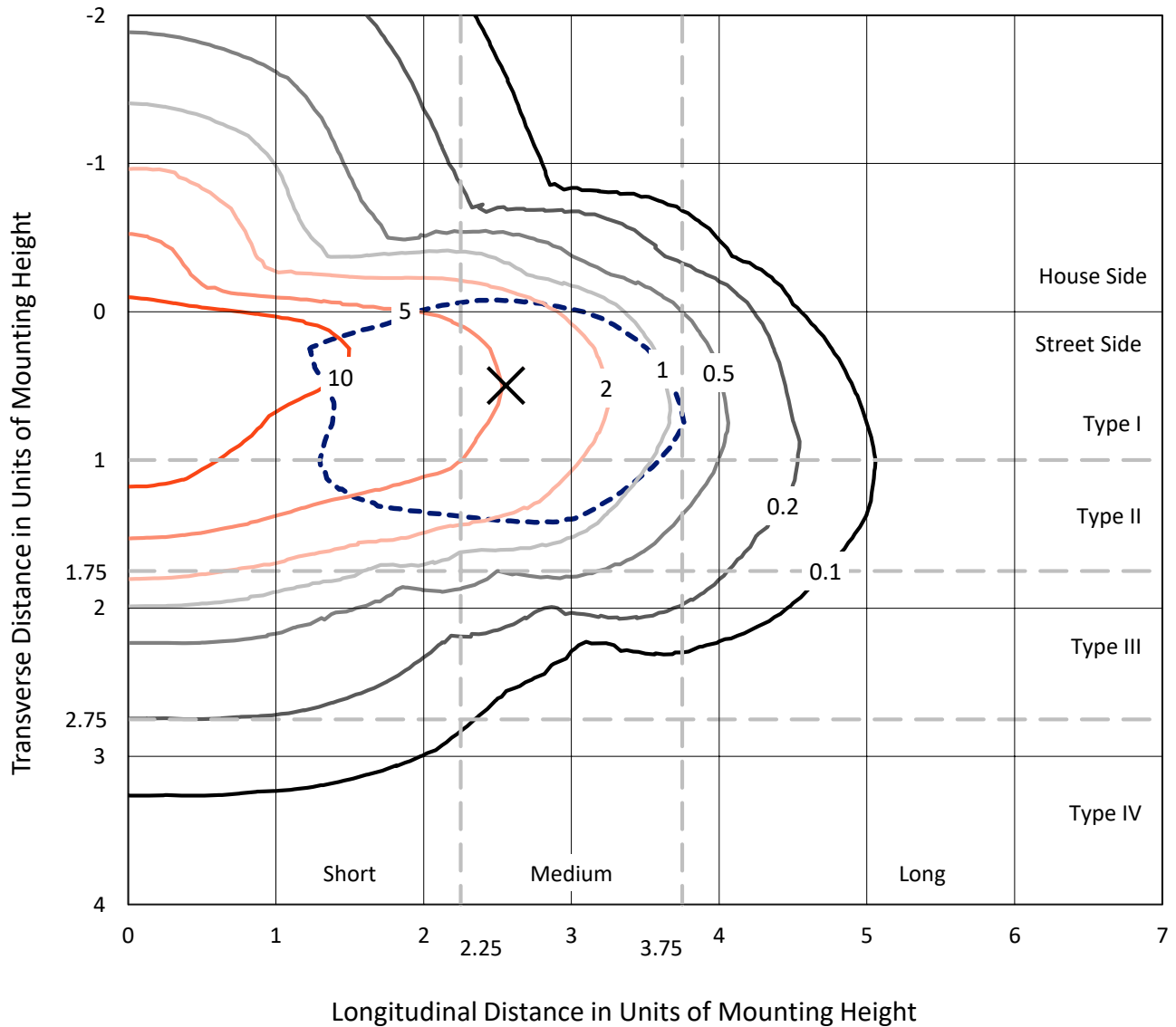
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

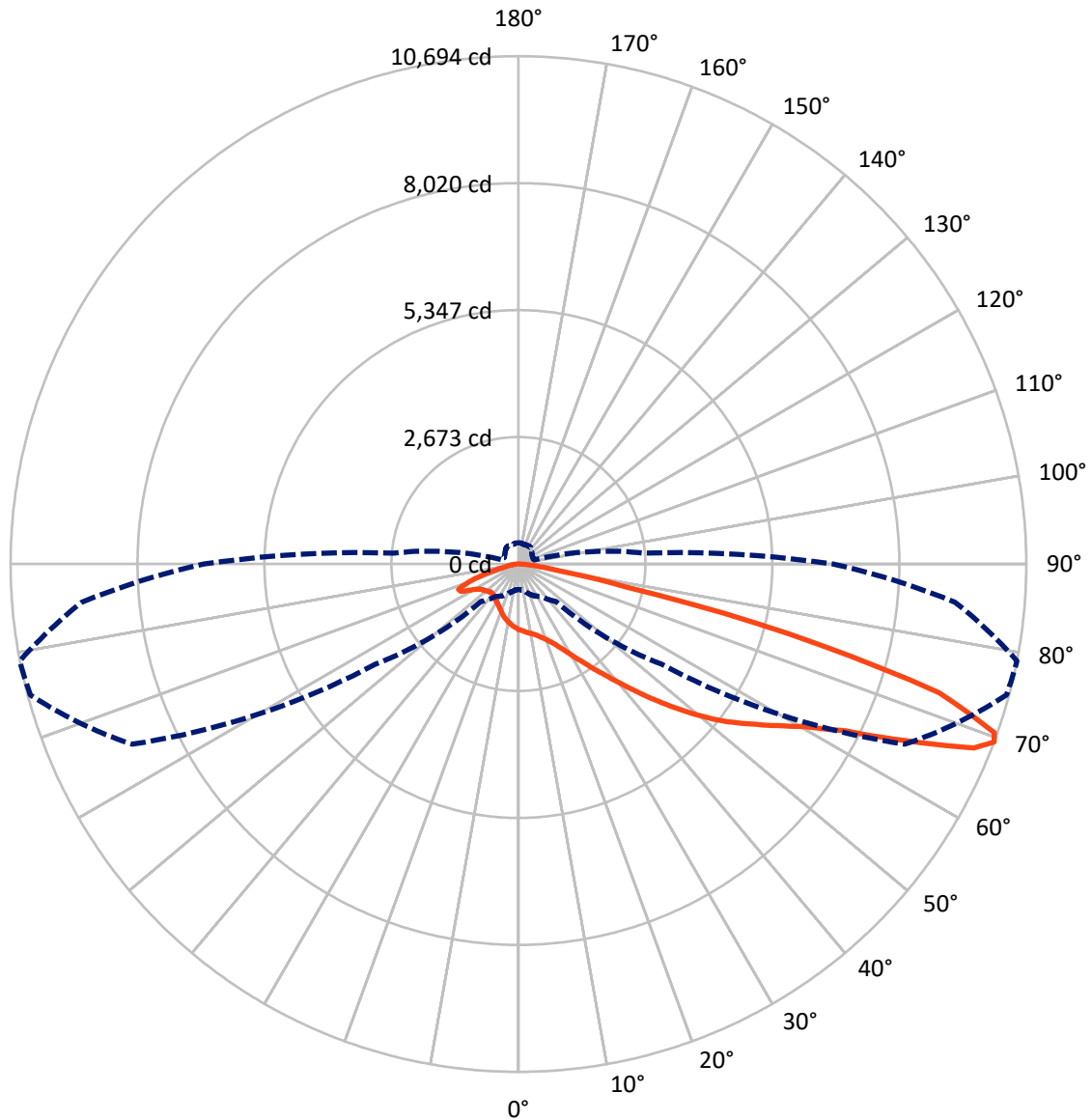
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.7 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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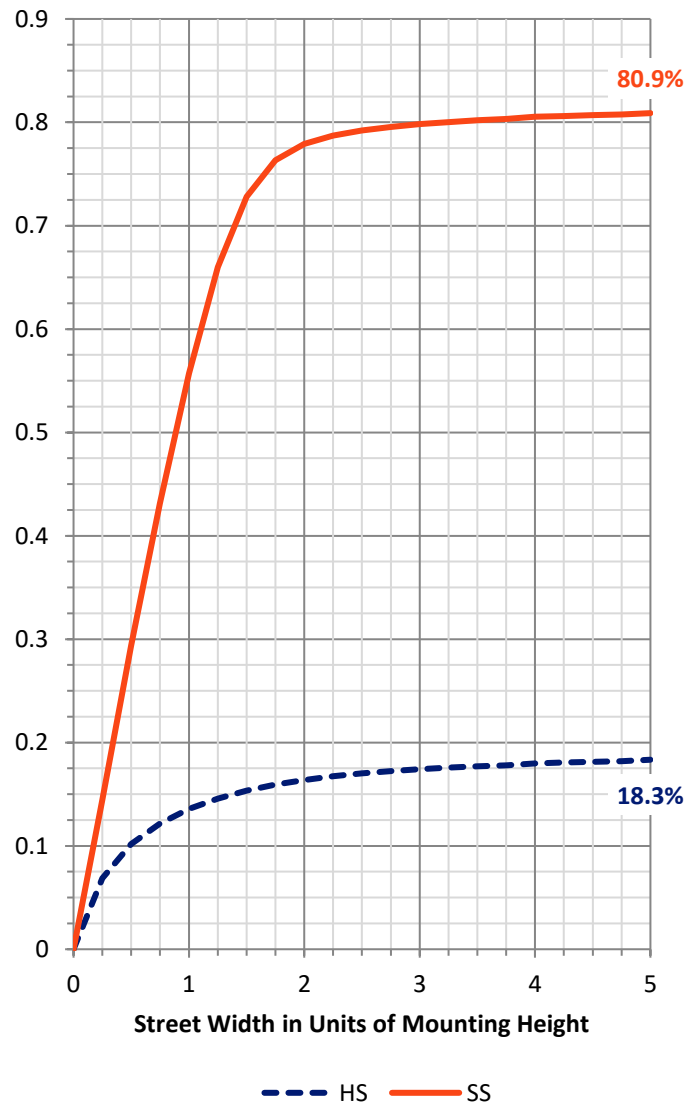
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1853.7	0.0	1853.7
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	8000.4	0.0	8000.4
	% Fixture	81.2	0.0	81.2
Total	Lumens	9854.1	0.0	9854.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.2	1.3
10°-20°	367.5	3.7
20°-30°	607.3	6.2
30°-40°	983.4	10.0
40°-50°	1571.0	15.9
50°-60°	2249.8	22.8
60°-70°	2506.6	25.4
70°-80°	1254.0	12.7
80°-90°	186.1	1.9
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°	9854.1	100.0
0°-180°	9854.1	100.0



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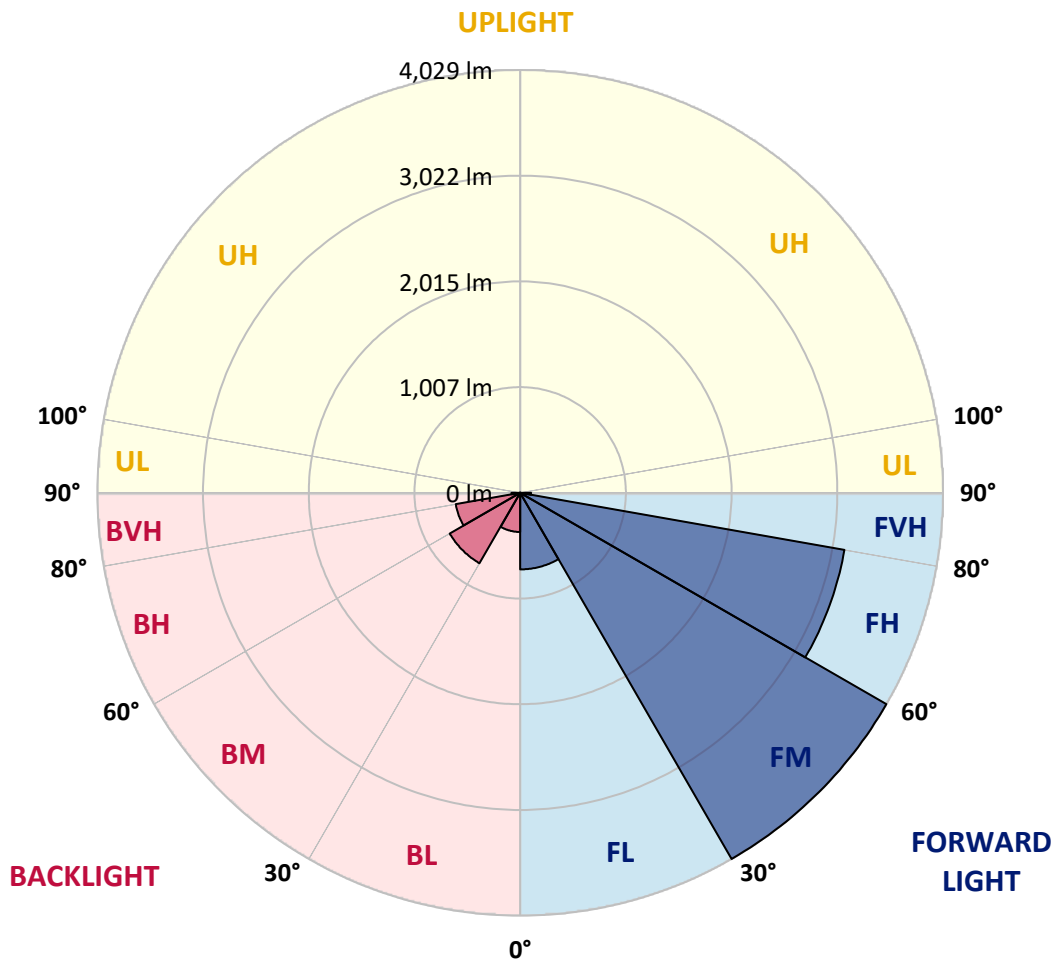
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	729.6	7.4			
FM (30°-60°)	4029.4	40.9			
FH (60°-80°)	3137.4	31.8			G2/5000
FVH (80°-90°)	104.0	1.1			G2/225
BL (0°-30°)	373.4	3.8	B1/500		
BM (30°-60°)	774.9	7.9	B1/1000		
BH (60°-80°)	623.3	6.3	B2/1000		G2/1000
BVH (80°-90°)	82.1	0.8			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8
2.5°	1518.3	1515.0	1514.4	1504.7	1499.5	1488.6	1462.8	1436.3	1411.9	1399.0	1385.4
5°	1645.2	1638.8	1635.6	1619.4	1605.2	1580.8	1540.2	1498.2	1454.4	1431.8	1404.7
7.5°	1721.9	1722.5	1722.5	1709.7	1695.5	1665.9	1614.3	1556.9	1491.8	1462.1	1419.5
10°	1728.4	1729.0	1738.7	1741.9	1745.2	1729.7	1681.9	1609.8	1525.9	1487.3	1431.8
12.5°	1664.5	1669.0	1685.2	1708.4	1741.3	1758.0	1737.4	1666.5	1569.8	1522.8	1455.0
15°	1578.8	1583.3	1604.0	1639.4	1692.3	1748.3	1777.4	1731.7	1627.2	1571.8	1489.2
17.5°	1536.9	1542.1	1556.2	1584.7	1636.2	1711.6	1798.7	1801.2	1694.8	1631.0	1529.8
20°	1516.9	1520.8	1538.8	1562.0	1601.4	1673.5	1800.6	1874.8	1775.4	1701.3	1579.4
22.5°	1562.7	1564.0	1573.0	1585.9	1612.4	1667.8	1799.3	1950.8	1876.0	1789.7	1643.3
25°	1696.8	1688.4	1681.9	1665.9	1672.3	1711.6	1819.9	2032.0	2005.0	1905.7	1728.4
27.5°	1855.4	1854.1	1837.3	1800.0	1776.0	1801.2	1878.6	2122.9	2162.9	2053.3	1839.9
30°	2032.0	2032.7	2015.3	1969.5	1921.1	1923.8	1972.0	2228.0	2351.8	2231.3	1977.3
32.5°	2217.0	2228.7	2196.4	2150.7	2092.0	2073.3	2106.2	2355.0	2570.4	2441.4	2136.4
35°	2438.2	2440.1	2404.7	2337.6	2278.9	2249.3	2279.5	2513.6	2822.4	2688.3	2330.5
37.5°	2667.7	2669.0	2632.3	2546.5	2472.4	2453.0	2486.5	2706.3	3089.3	2969.4	2558.7
40°	2855.3	2868.9	2839.8	2759.2	2684.4	2672.9	2721.2	2937.2	3430.4	3302.1	2830.2
42.5°	3068.0	3083.5	3048.7	2964.9	2905.6	2901.7	2977.1	3200.2	3769.5	3686.9	3137.7
45°	3307.8	3329.8	3281.4	3187.3	3137.0	3222.1	3226.6	3491.6	4160.1	4117.6	3483.9
47.5°	3569.6	3587.7	3548.3	3447.1	3392.3	3515.5	3471.0	3806.8	4582.4	4579.1	3858.4
50°	3771.4	3791.4	3795.2	3750.8	3693.4	3708.8	3739.2	4138.2	5003.4	5053.7	4245.9
52.5°	3734.6	3754.0	3841.0	3957.7	4049.9	4009.9	4046.7	4490.2	5410.2	5516.6	4614.0
55°	3438.0	3448.4	3611.5	3888.7	4281.4	4472.1	4474.7	4873.1	5797.0	5945.9	4963.4
57.5°	2903.6	2905.0	3117.0	3525.8	4146.6	4772.0	5150.4	5354.0	6200.5	6420.3	5396.6
60°	2054.6	2059.7	2306.7	2841.1	3663.7	4735.9	5877.0	6214.7	6667.9	6953.5	5954.9
62.5°	1219.8	1231.3	1417.6	1846.3	2721.2	4271.6	6306.3	7745.9	7356.4	7735.6	6848.5
65°	793.6	803.2	914.8	1130.2	1607.9	3108.0	6165.1	9228.6	8659.4	8965.6	8132.7
67.5°	611.1	618.9	706.6	836.8	986.3	1680.0	4929.2	9539.3	10245.3	10340.7	9216.4
69°	537.0	543.5	607.9	733.0	830.3	1112.0	3673.4	8975.3	10641.8	10693.9	9229.9
70°	497.7	502.9	563.4	671.8	762.6	887.7	2811.5	8320.3	10496.7	10630.1	8963.6
72.5°	410.0	414.5	457.8	540.9	623.4	632.4	1245.5	6075.5	8838.6	9265.4	7585.3
75°	342.3	344.9	373.3	433.8	504.8	503.5	636.3	3441.3	5393.4	5902.0	4683.6
77.5°	285.6	287.6	306.3	343.6	398.4	396.5	448.1	1485.3	2381.4	2297.6	1612.4
80°	252.1	253.4	263.0	272.7	307.5	305.6	332.0	682.1	968.9	895.5	609.9
82.5°	191.5	194.1	243.1	247.6	238.6	230.2	231.4	397.1	496.4	451.9	327.4
85°	108.3	108.9	156.0	182.5	207.6	156.0	150.2	205.0	245.0	214.7	143.1
87.5°	48.4	50.3	74.8	86.3	112.2	91.6	85.7	87.1	105.8	87.7	56.8
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°	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8	1382.8
2.5°	1372.5	1361.5	1335.8	1309.4	1282.9	1266.1	1248.7	1232.7	1226.2	1225.5	1213.3
5°	1378.3	1352.5	1293.8	1229.4	1168.2	1120.4	1080.4	1054.7	1029.6	1025.0	1014.1
7.5°	1380.3	1338.3	1243.0	1139.8	1046.3	980.6	940.6	923.2	910.9	907.7	903.9
10°	1379.7	1320.3	1186.2	1045.0	938.7	889.0	874.2	878.1	883.2	885.8	885.8
12.5°	1389.9	1311.9	1129.4	956.0	869.0	845.2	856.8	876.8	892.2	898.7	900.0
15°	1408.6	1306.7	1066.9	878.7	820.0	825.8	854.2	883.2	905.1	914.8	917.4
17.5°	1431.8	1299.7	994.7	814.9	791.7	811.6	848.4	885.2	911.6	923.8	925.8
20°	1457.6	1289.3	919.9	767.2	766.5	791.7	828.4	869.7	898.0	911.6	910.9
22.5°	1492.5	1279.7	850.4	732.3	738.8	762.0	792.3	829.7	856.1	868.4	865.8
25°	1538.8	1270.7	787.8	701.4	707.2	722.7	744.0	772.3	791.0	797.5	793.0
27.5°	1601.4	1263.5	738.8	673.0	672.4	679.4	692.4	707.9	716.9	714.9	707.9
30°	1678.2	1256.5	702.7	647.9	638.8	638.2	644.0	653.1	658.9	647.2	641.5
32.5°	1763.9	1244.2	670.4	625.9	609.9	604.1	606.6	618.9	642.7	631.2	626.7
35°	1865.0	1230.1	638.2	602.1	589.8	578.9	580.8	607.3	679.4	671.2	666.6
37.5°	1986.9	1217.1	608.6	576.3	575.7	562.1	560.9	592.5	689.2	671.2	667.3
40°	2133.3	1214.5	582.2	548.0	558.3	553.1	548.6	567.9	635.7	598.9	591.8
42.5°	2309.9	1226.2	562.8	520.9	538.3	550.6	542.2	546.7	574.4	541.6	535.7
45°	2516.2	1257.8	548.6	497.1	517.0	548.6	539.0	535.1	539.6	521.5	517.7
47.5°	2756.6	1313.9	539.0	477.1	497.1	543.5	537.7	529.9	527.9	517.7	515.1
50°	3013.9	1389.3	532.5	459.0	479.0	534.4	537.0	526.1	522.8	518.3	517.0
52.5°	3269.1	1471.2	524.8	443.6	464.2	523.4	537.7	522.2	517.7	515.1	513.8
55°	3523.1	1556.2	510.6	430.0	453.2	510.6	537.0	517.0	511.9	511.9	511.9
57.5°	3852.6	1685.8	491.9	419.0	439.1	493.8	528.7	511.3	504.1	504.8	505.4
60°	4328.4	1903.1	471.3	406.8	420.3	474.4	515.8	500.9	492.6	495.1	495.7
62.5°	5123.2	2282.8	442.9	389.4	401.0	453.9	499.0	486.7	479.0	483.5	484.2
65°	6183.1	2742.4	405.5	367.4	381.0	430.7	477.7	469.9	461.6	472.5	471.9
67.5°	6829.7	2877.3	366.2	344.2	361.7	406.1	451.3	448.1	442.2	461.6	460.3
69°	6617.7	2633.5	343.6	329.4	348.1	389.4	434.5	433.2	428.7	447.4	446.1
70°	6288.2	2406.0	329.4	319.8	341.1	379.1	423.6	423.6	419.0	435.2	431.9
72.5°	5051.0	1784.4	296.6	295.2	316.5	350.7	393.9	397.1	394.6	400.4	397.1
75°	2965.5	1075.3	264.3	268.2	286.8	320.4	361.0	363.6	361.0	360.4	361.0
77.5°	1028.3	482.2	233.3	239.2	255.3	289.5	324.9	330.1	326.2	321.7	322.9
80°	402.3	280.4	199.9	208.3	221.8	254.6	288.8	292.1	286.2	285.6	280.4
82.5°	241.7	170.8	155.4	168.9	185.7	221.2	249.5	248.2	243.7	270.2	236.6
85°	105.1	94.7	113.4	127.1	135.3	165.7	210.8	205.0	194.1	170.8	166.9
87.5°	42.6	49.0	62.5	75.4	81.2	107.0	144.4	139.2	141.2	116.0	115.4
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)