

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: P195292

Luminaire Tested: **NAV-AF-04-D-UNV-T2-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195292
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-04-D-UNV-T2-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15734 lumens
Efficiency: N/A
Efficacy: 122.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

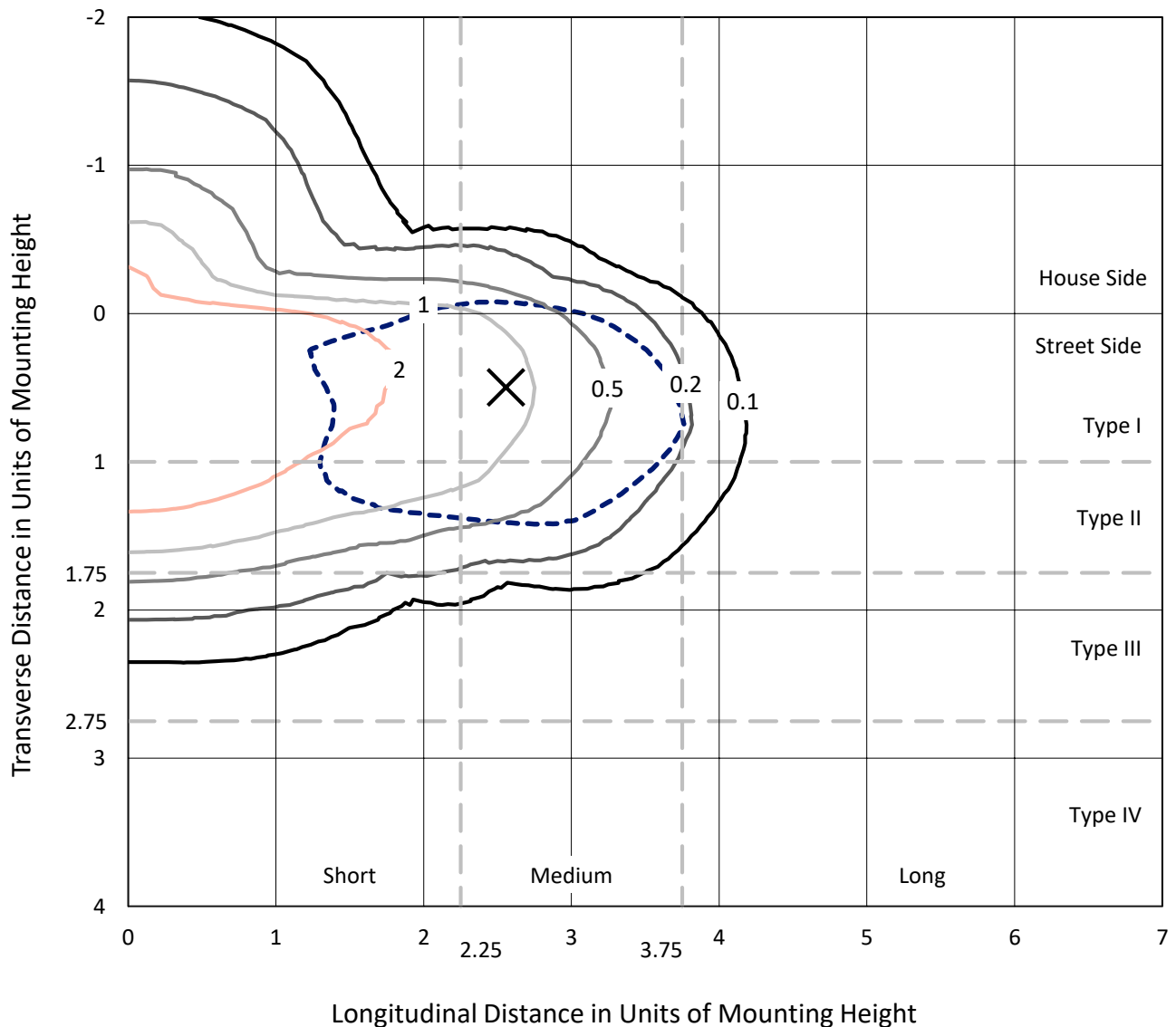
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

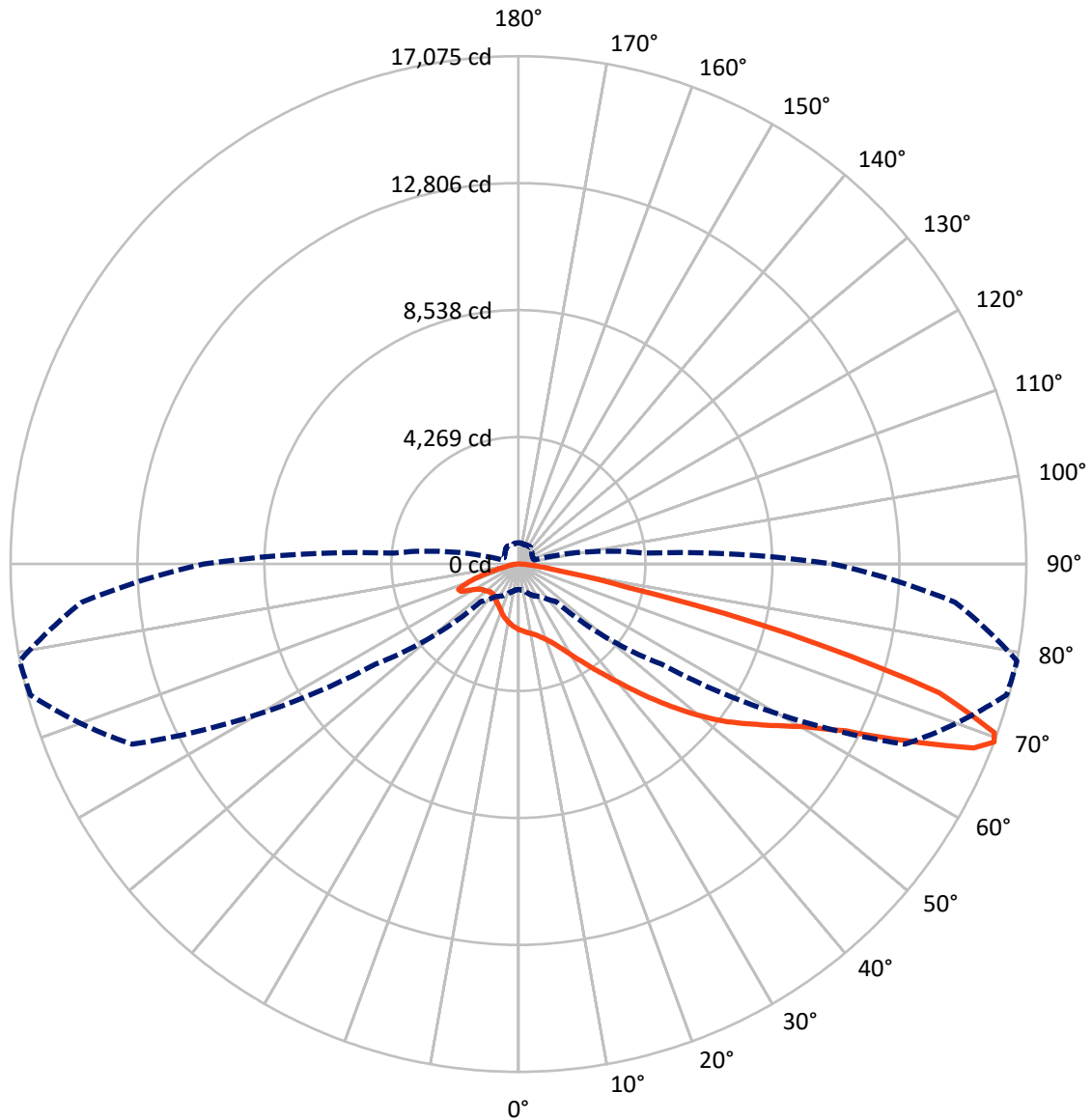
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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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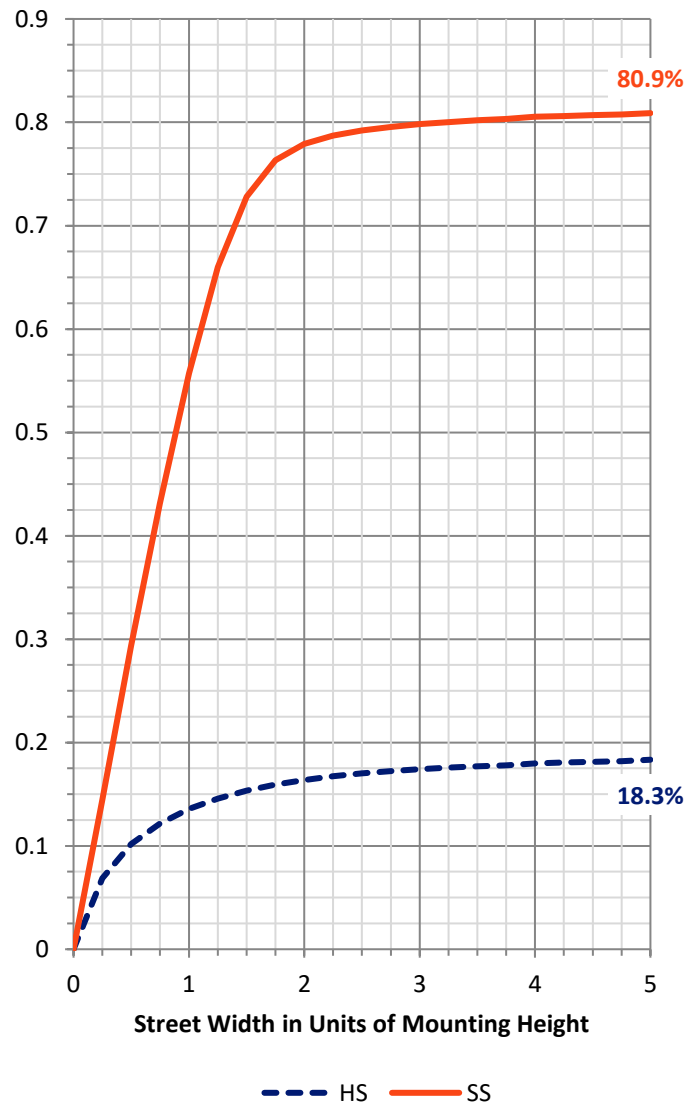
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2959.9	0.0	2959.9
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	12774.1	0.0	12774.1
	% Fixture	81.2	0.0	81.2
Total	Lumens	15734.0	0.0	15734.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.7	1.3
10°-20°	586.8	3.7
20°-30°	969.7	6.2
30°-40°	1570.2	10.0
40°-50°	2508.4	15.9
50°-60°	3592.3	22.8
60°-70°	4002.4	25.4
70°-80°	2002.3	12.7
80°-90°	297.2	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°	15734.0	100.0
0°-180°	15734.0	100.0

Coefficient of Utilization



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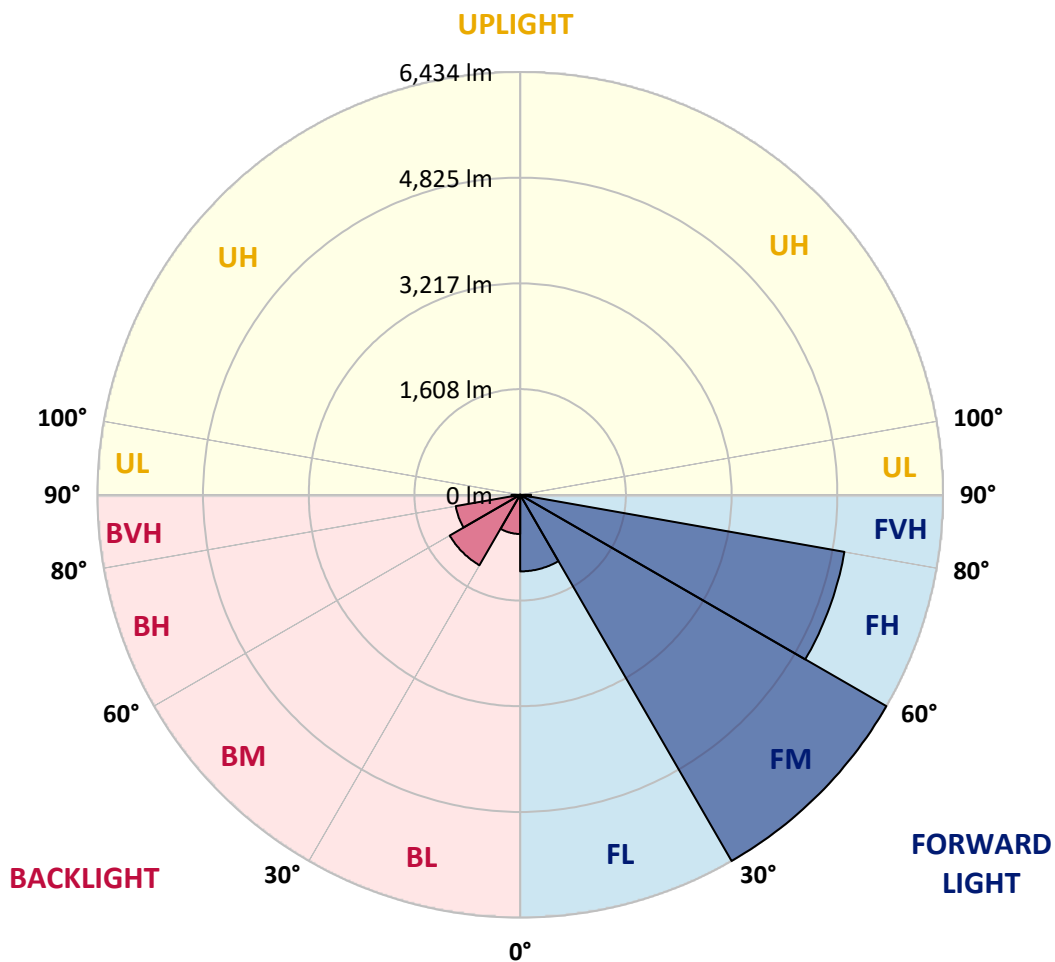
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1165.0	7.4			
FM (30°-60°)	6433.7	40.9			
FH (60°-80°)	5009.5	31.8			G3/7500
FVH (80°-90°)	166.0	1.1			G2/225
BL (0°-30°)	596.3	3.8	B2/1000		
BM (30°-60°)	1237.3	7.9	B2/2500		
BH (60°-80°)	995.2	6.3	B2/1000		G2/1000
BVH (80°-90°)	131.1	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0
2.5°	2424.1	2419.0	2418.0	2402.5	2394.3	2376.8	2335.6	2293.4	2254.3	2233.7	2212.1
5°	2626.9	2616.6	2611.5	2585.8	2563.1	2524.0	2459.1	2392.2	2322.2	2286.2	2243.0
7.5°	2749.4	2750.5	2750.5	2729.9	2707.2	2659.9	2577.5	2485.9	2381.9	2334.6	2266.7
10°	2759.7	2760.7	2776.2	2781.3	2786.5	2761.8	2685.6	2570.3	2436.5	2374.7	2286.2
12.5°	2657.8	2665.0	2690.7	2727.8	2780.3	2807.1	2774.1	2660.9	2506.5	2431.3	2323.3
15°	2520.9	2528.1	2561.0	2617.7	2702.1	2791.6	2837.9	2764.9	2598.1	2509.6	2377.8
17.5°	2454.0	2462.2	2484.9	2530.2	2612.5	2733.0	2871.9	2876.0	2706.2	2604.3	2442.7
20°	2422.1	2428.3	2457.1	2494.1	2556.9	2672.2	2875.0	2993.4	2834.9	2716.5	2521.9
22.5°	2495.2	2497.2	2511.6	2532.2	2574.4	2663.0	2872.9	3114.8	2995.4	2857.5	2623.8
25°	2709.3	2695.9	2685.6	2659.9	2670.2	2733.0	2905.9	3244.5	3201.3	3042.8	2759.7
27.5°	2962.5	2960.4	2933.7	2874.0	2835.9	2876.0	2999.6	3389.7	3453.5	3278.5	2937.8
30°	3244.5	3245.6	3217.8	3144.7	3067.5	3071.6	3148.8	3557.5	3755.1	3562.6	3157.0
32.5°	3540.0	3558.5	3507.0	3433.9	3340.3	3310.4	3362.9	3760.3	4104.1	3898.2	3411.3
35°	3893.0	3896.1	3839.5	3732.5	3638.8	3591.4	3639.8	4013.5	4506.5	4292.4	3721.1
37.5°	4259.5	4261.6	4202.9	4066.0	3947.6	3916.7	3970.2	4321.3	4932.7	4741.2	4085.5
40°	4559.0	4580.7	4534.3	4405.7	4286.3	4267.7	4344.9	4689.8	5477.2	5272.4	4518.9
42.5°	4898.7	4923.4	4867.8	4734.0	4639.3	4633.1	4753.6	5109.7	6018.7	5886.9	5009.9
45°	5281.6	5316.6	5239.4	5089.2	5008.9	5144.7	5151.9	5575.0	6642.5	6574.5	5562.7
47.5°	5699.6	5728.4	5665.6	5504.0	5416.5	5613.1	5542.1	6078.4	7316.7	7311.5	6160.7
50°	6021.8	6053.7	6059.8	5988.8	5897.2	5921.9	5970.3	6607.5	7988.9	8069.2	6779.4
52.5°	5963.1	5994.0	6132.9	6319.2	6466.4	6402.6	6461.3	7169.5	8638.4	8808.2	7367.1
55°	5489.6	5506.0	5766.5	6209.1	6836.0	7140.7	7144.8	7780.9	9256.0	9493.8	7925.0
57.5°	4636.2	4638.3	4977.0	5629.6	6620.8	7619.3	8223.6	8548.8	9900.4	10251.4	8616.8
60°	3280.6	3288.8	3683.1	4536.4	5849.9	7561.7	9383.6	9923.0	10646.7	11102.7	9508.2
62.5°	1947.5	1966.1	2263.6	2948.1	4344.9	6820.5	10069.2	12367.8	11746.0	12351.3	10934.9
65°	1267.1	1282.6	1460.7	1804.5	2567.2	4962.5	9843.8	14735.3	13826.4	14315.3	12985.4
67.5°	975.8	988.2	1128.2	1336.1	1574.9	2682.5	7870.5	15231.4	16358.6	16510.9	14715.7
69°	857.5	867.8	970.7	1170.4	1325.8	1775.6	5865.3	14330.8	16991.6	17075.0	14737.3
70°	794.7	802.9	899.7	1072.6	1217.7	1417.4	4489.0	13284.9	16760.0	16973.1	14312.2
72.5°	654.7	661.9	730.8	863.6	995.4	1009.8	1988.7	9700.7	14112.5	14794.0	12111.5
75°	546.6	550.7	596.0	692.8	806.0	803.9	1016.0	5494.7	8611.6	9423.8	7478.3
77.5°	456.0	459.1	488.9	548.6	636.1	633.1	715.4	2371.6	3802.5	3668.6	2574.4
80°	402.5	404.5	420.0	435.4	491.0	487.9	530.1	1089.1	1547.1	1429.8	973.8
82.5°	305.7	309.8	388.1	395.3	380.9	367.5	369.5	634.1	792.6	721.6	522.9
85°	172.9	174.0	249.1	291.3	331.5	249.1	239.8	327.3	391.2	342.8	228.5
87.5°	77.2	80.3	119.4	137.9	179.1	146.2	136.9	139.0	168.8	140.0	90.6
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°	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0
2.5°	2191.5	2174.0	2132.8	2090.6	2048.4	2021.7	1993.9	1968.1	1957.8	1956.8	1937.3
5°	2200.8	2159.6	2065.9	1963.0	1865.2	1789.0	1725.2	1684.0	1643.9	1636.7	1619.2
7.5°	2203.9	2137.0	1984.6	1819.9	1670.7	1565.7	1501.8	1474.0	1454.5	1449.3	1443.2
10°	2202.8	2108.1	1894.0	1668.6	1498.7	1419.5	1395.8	1402.0	1410.2	1414.3	1414.3
12.5°	2219.3	2094.7	1803.4	1526.5	1387.6	1349.5	1368.0	1399.9	1424.6	1434.9	1437.0
15°	2249.2	2086.5	1703.6	1403.0	1309.3	1318.6	1363.9	1410.2	1445.2	1460.7	1464.8
17.5°	2286.2	2075.2	1588.3	1301.1	1264.1	1296.0	1354.6	1413.3	1455.5	1475.1	1478.2
20°	2327.4	2058.7	1468.9	1224.9	1223.9	1264.1	1322.7	1388.6	1433.9	1455.5	1454.5
22.5°	2383.0	2043.3	1357.7	1169.4	1179.6	1216.7	1265.1	1324.8	1367.0	1386.5	1382.4
25°	2457.1	2028.9	1257.9	1119.9	1129.2	1153.9	1187.9	1233.2	1263.0	1273.3	1266.1
27.5°	2556.9	2017.5	1179.6	1074.7	1073.6	1084.9	1105.5	1130.2	1144.6	1141.6	1130.2
30°	2679.4	2006.2	1122.0	1034.5	1020.1	1019.1	1028.3	1042.7	1052.0	1033.5	1024.2
32.5°	2816.3	1986.7	1070.5	999.5	973.8	964.5	968.6	988.2	1026.3	1007.7	1000.5
35°	2977.9	1964.0	1019.1	961.4	941.9	924.4	927.5	969.7	1084.9	1071.6	1064.4
37.5°	3172.5	1943.4	971.7	920.2	919.2	897.6	895.5	946.0	1100.4	1071.6	1065.4
40°	3406.2	1939.3	929.5	875.0	891.4	883.2	876.0	906.9	1014.9	956.3	945.0
42.5°	3688.2	1957.8	898.6	831.7	859.5	879.1	865.7	872.9	917.2	864.7	855.4
45°	4017.6	2008.3	876.0	793.6	825.5	876.0	860.5	854.4	861.6	832.8	826.6
47.5°	4401.5	2097.8	860.5	761.7	793.6	867.8	858.5	846.1	843.0	826.6	822.5
50°	4812.3	2218.3	850.3	732.9	764.8	853.3	857.5	840.0	834.8	827.6	825.5
52.5°	5219.9	2349.0	837.9	708.2	741.1	835.8	858.5	833.8	826.6	822.5	820.4
55°	5625.5	2484.9	815.3	686.6	723.6	815.3	857.5	825.5	817.3	817.3	817.3
57.5°	6151.5	2691.8	785.4	669.1	701.0	788.5	844.1	816.3	805.0	806.0	807.0
60°	6911.1	3038.7	752.5	649.5	671.1	757.6	823.5	799.8	786.4	790.5	791.6
62.5°	8180.3	3645.0	707.2	621.7	640.3	724.7	796.7	777.2	764.8	772.0	773.0
65°	9872.6	4378.9	647.5	586.7	608.4	687.6	762.8	750.4	737.0	754.5	753.5
67.5°	10905.0	4594.0	584.7	549.7	577.5	648.5	720.6	715.4	706.1	737.0	735.0
69°	10566.4	4204.9	548.6	526.0	555.9	621.7	693.8	691.7	684.5	714.4	712.3
70°	10040.4	3841.6	526.0	510.6	544.5	605.3	676.3	676.3	669.1	694.8	689.7
72.5°	8065.0	2849.3	473.5	471.4	505.4	560.0	628.9	634.1	630.0	639.2	634.1
75°	4735.1	1717.0	422.0	428.2	458.1	511.6	576.4	580.6	576.4	575.4	576.4
77.5°	1641.8	770.0	372.6	381.9	407.6	462.2	518.8	527.0	520.9	513.7	515.7
80°	642.3	447.8	319.1	332.5	354.1	406.6	461.2	466.3	457.0	456.0	447.8
82.5°	386.0	272.8	248.1	269.7	296.5	353.1	398.4	396.3	389.1	431.3	377.8
85°	167.8	151.3	181.2	202.8	216.2	264.5	336.6	327.3	309.8	272.8	266.6
87.5°	67.9	78.2	99.8	120.4	129.7	170.9	230.6	222.3	225.4	185.3	184.3
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)