

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: P196269

Luminaire Tested: **NAV-AF-03-D-UNV-T2-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196269
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-03-D-UNV-T2-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19896.4 lumens
Efficiency: N/A
Efficacy: 104.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

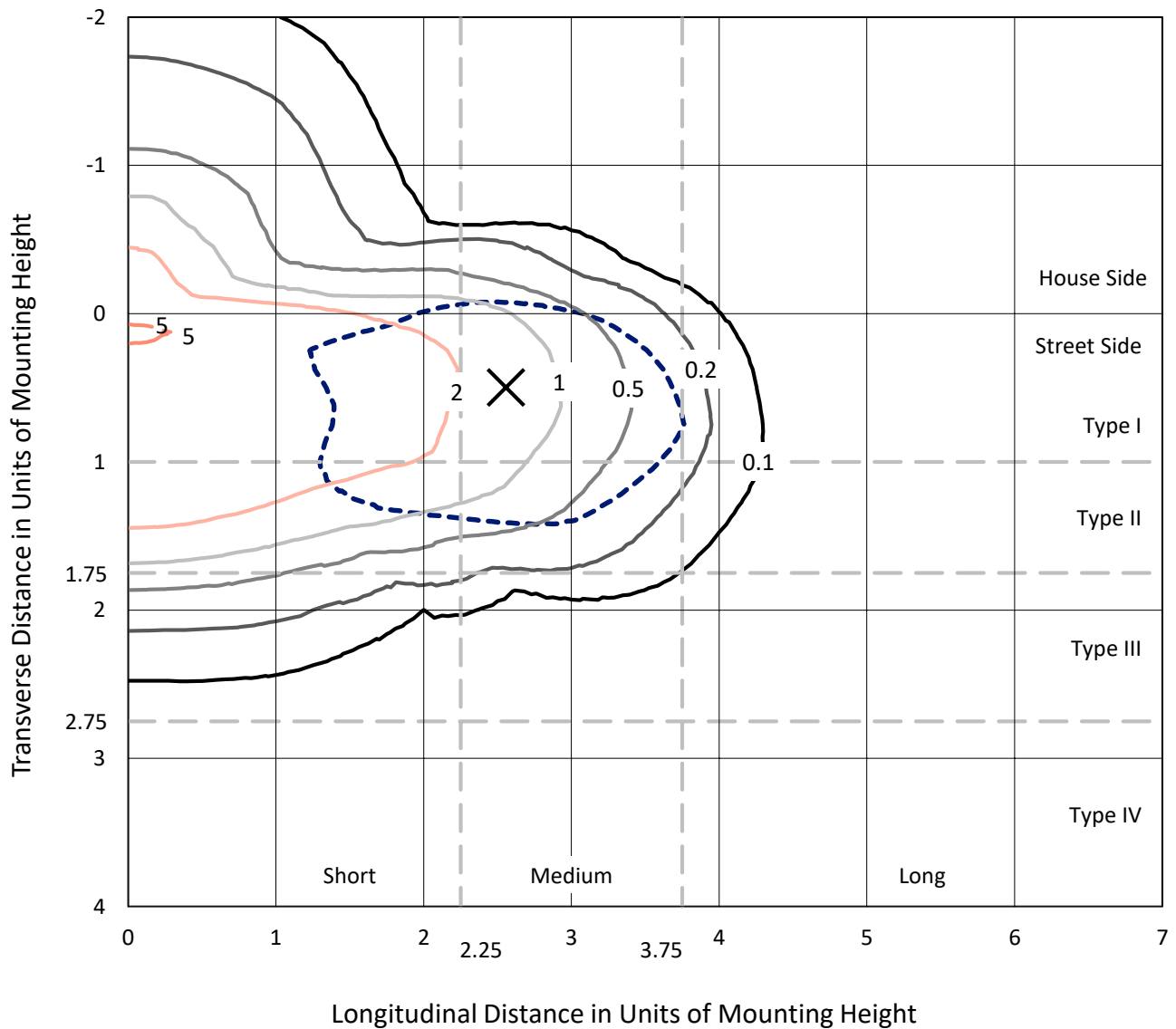
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196269
 CATALOG NUMBER: NAV-AF-03-D-UNV-T2-1200

Iso-Footcandle Lines of Horizontal Illumination

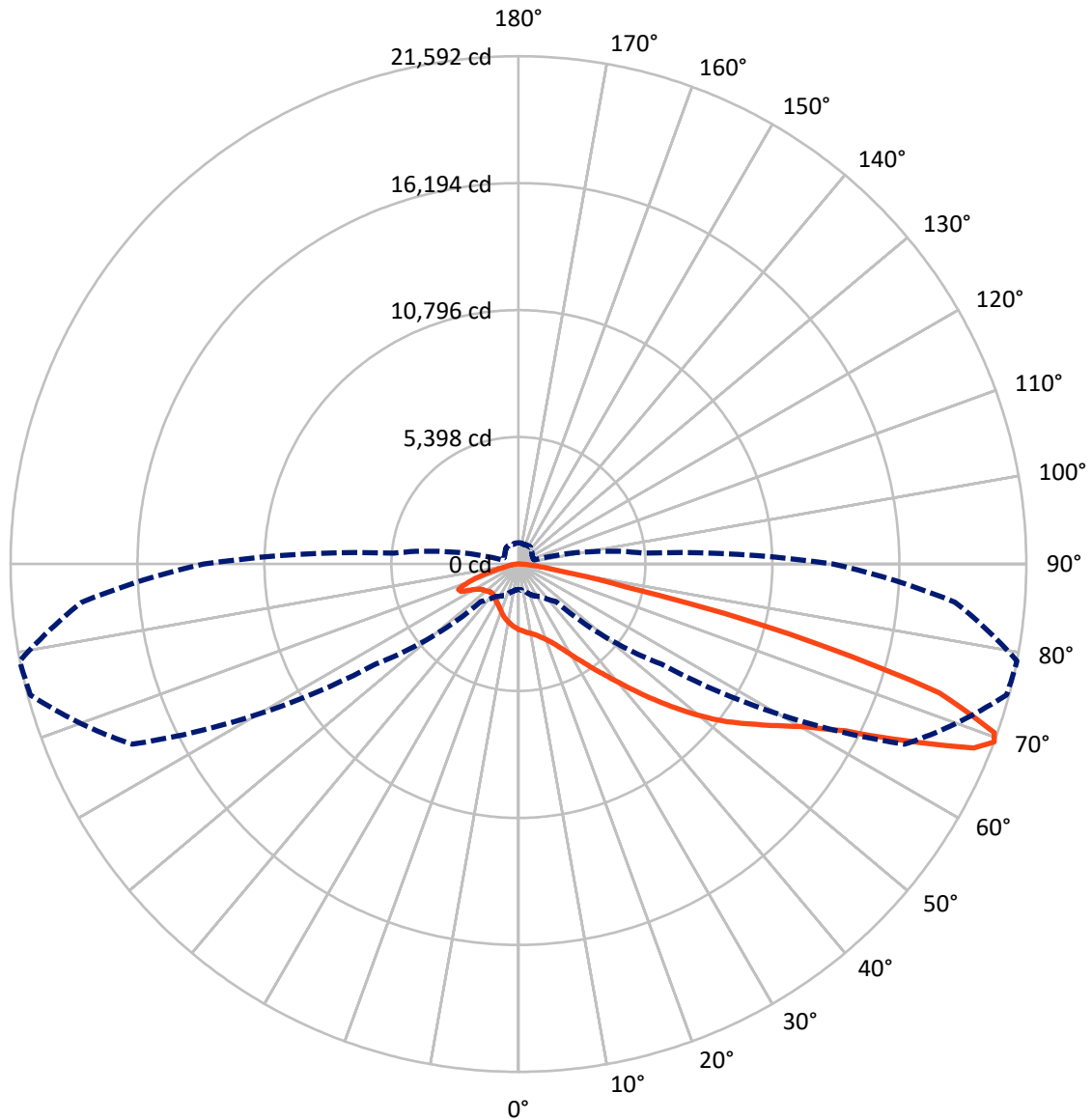
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 fc
 Type II - Medium - Full Cutoff

REPORT NUMBER: P196269
CATALOG NUMBER: NAV-AF-03-D-UNV-T2-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196269

CATALOG NUMBER: NAV-AF-03-D-UNV-T2-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3742.9	0.0	3742.9
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	16153.5	0.0	16153.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	19896.4	0.0	19896.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.8	1.3
10°-20°	742.1	3.7
20°-30°	1226.2	6.2
30°-40°	1985.6	10.0
40°-50°	3172.0	15.9
50°-60°	4542.6	22.8
60°-70°	5061.2	25.4
70°-80°	2532.0	12.7
80°-90°	375.8	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°	19896.4	100.0
0°-180°	19896.4	100.0

Coefficient of Utilization



REPORT NUMBER: P196269

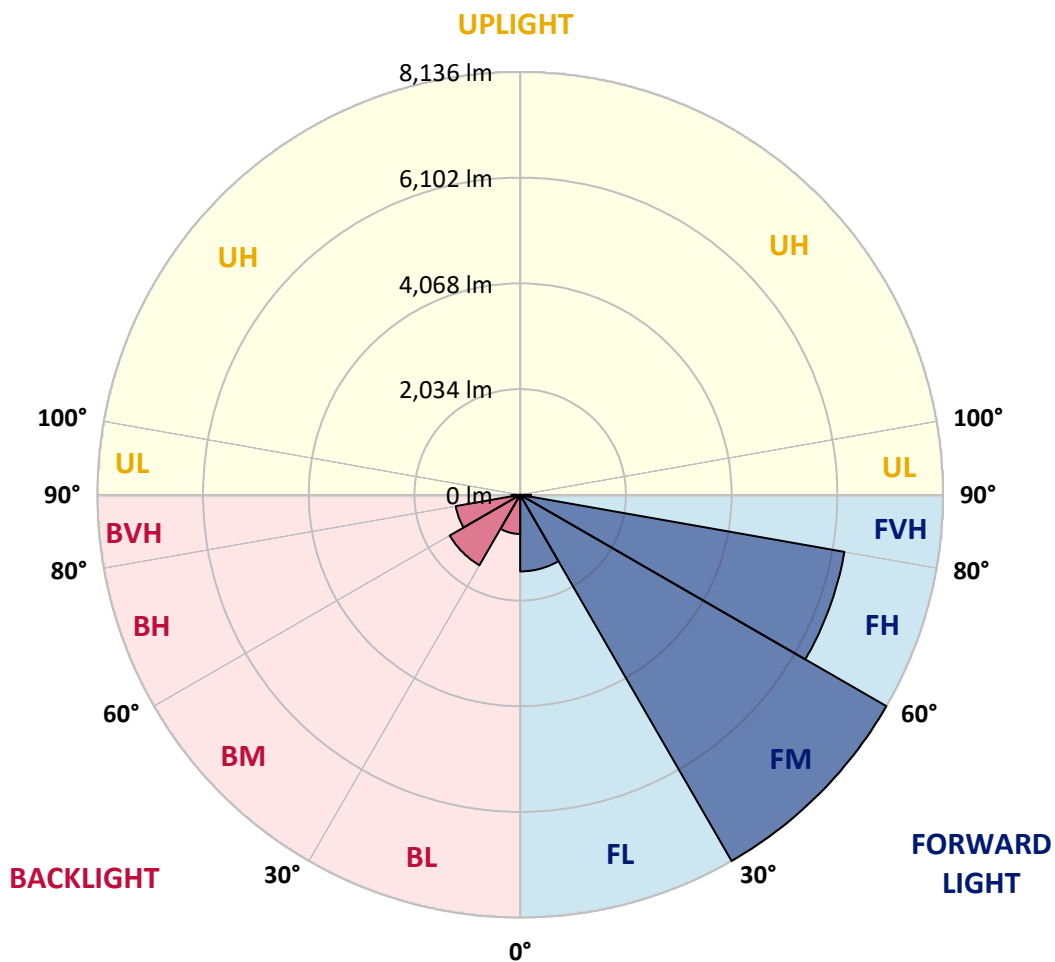
CATALOG NUMBER: NAV-AF-03-D-UNV-T2-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1473.2	7.4			
FM (30°-60°)	8135.7	40.9			
FH (60°-80°)	6334.7	31.8			G3/7500
FVH (80°-90°)	210.0	1.1			G2/225
BL (0°-30°)	754.0	3.8	B2/1000		
BM (30°-60°)	1564.6	7.9	B2/2500		
BH (60°-80°)	1258.5	6.3	B3/2500		G3/2500
BVH (80°-90°)	165.8	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Medium





REPORT NUMBER: P196269

CATALOG NUMBER: NAV-AF-03-D-UNV-T2-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0
2.5°	3065.5	3058.9	3057.6	3038.1	3027.7	3005.5	2953.5	2900.2	2850.7	2824.7	2797.3
5°	3321.8	3308.8	3302.4	3269.8	3241.2	3191.7	3109.7	3025.1	2936.6	2891.1	2836.3
7.5°	3476.8	3478.0	3478.0	3452.0	3423.4	3363.6	3259.4	3143.5	3012.1	2952.2	2866.3
10°	3489.8	3491.1	3510.7	3517.1	3523.7	3492.4	3396.1	3250.3	3081.0	3003.0	2891.1
12.5°	3360.9	3370.0	3402.5	3449.4	3515.8	3549.6	3508.0	3364.8	3169.6	3074.6	2937.9
15°	3187.8	3196.9	3238.6	3310.2	3416.9	3530.1	3588.7	3496.3	3285.4	3173.5	3006.9
17.5°	3103.2	3113.6	3142.2	3199.5	3303.6	3455.9	3631.7	3636.9	3422.1	3293.3	3088.9
20°	3062.8	3070.7	3107.1	3154.0	3233.3	3379.1	3635.6	3785.2	3584.8	3435.2	3189.2
22.5°	3155.3	3157.8	3176.1	3202.1	3255.4	3367.5	3633.0	3938.9	3787.9	3613.5	3317.9
25°	3426.0	3409.1	3396.1	3363.6	3376.6	3455.9	3674.6	4102.9	4048.2	3847.7	3489.8
27.5°	3746.3	3743.6	3709.7	3634.2	3586.2	3636.9	3793.1	4286.4	4367.1	4145.8	3714.9
30°	4102.9	4104.2	4069.0	3976.6	3879.0	3884.2	3981.8	4498.6	4748.5	4505.1	3992.3
32.5°	4476.4	4499.9	4434.8	4342.4	4224.0	4186.2	4252.6	4755.0	5189.7	4929.4	4313.8
35°	4923.0	4926.8	4855.2	4719.9	4601.4	4541.6	4602.8	5075.3	5698.8	5428.0	4705.6
37.5°	5386.3	5388.9	5314.7	5141.7	4991.9	4952.9	5020.5	5464.4	6237.6	5995.5	5166.3
40°	5765.1	5792.5	5733.8	5571.2	5420.2	5396.8	5494.4	5930.5	6926.2	6667.2	5714.3
42.5°	6194.7	6225.9	6155.6	5986.4	5866.6	5858.8	6011.2	6461.5	7610.9	7444.3	6335.2
45°	6678.8	6723.1	6625.6	6435.5	6333.9	6505.8	6514.9	7049.9	8399.8	8313.8	7034.2
47.5°	7207.4	7243.8	7164.4	6960.1	6849.4	7098.1	7008.2	7686.4	9252.3	9245.8	7790.5
50°	7614.8	7655.2	7662.9	7573.1	7457.3	7488.5	7549.7	8355.5	10102.3	10203.8	8572.8
52.5°	7540.6	7579.7	7755.4	7991.0	8177.2	8096.5	8170.6	9066.2	10923.7	11138.4	9316.1
55°	6941.8	6962.6	7292.0	7851.7	8644.4	9029.7	9034.9	9839.4	11704.7	12005.4	10021.6
57.5°	5862.7	5865.4	6293.6	7118.8	8372.3	9635.0	10399.1	10810.4	12519.5	12963.3	10896.4
60°	4148.5	4158.8	4657.4	5736.5	7397.5	9562.1	11866.0	12548.1	13463.3	14039.9	12023.6
62.5°	2462.8	2486.2	2862.4	3728.0	5494.4	8624.9	12733.0	15639.6	14853.5	15618.8	13827.7
65°	1602.4	1621.9	1847.0	2281.8	3246.3	6275.4	12447.9	18633.5	17484.1	18102.4	16420.6
67.5°	1234.0	1249.6	1426.6	1689.6	1991.6	3392.2	9952.6	19260.8	20686.2	20878.8	18608.7
69°	1084.3	1097.3	1227.4	1480.0	1676.5	2245.4	7416.9	18121.9	21486.8	21592.1	18636.1
70°	1004.8	1015.3	1137.6	1356.3	1539.8	1792.4	5676.6	16799.4	21193.9	21463.3	18098.5
72.5°	827.9	837.0	924.2	1092.1	1258.7	1276.9	2514.8	12267.0	17846.0	18707.6	15315.5
75°	691.2	696.4	753.7	876.1	1019.2	1016.6	1284.7	6948.3	10889.8	11916.9	9456.7
77.5°	576.6	580.5	618.3	693.8	804.4	800.6	904.7	2999.1	4808.4	4639.2	3255.4
80°	508.9	511.6	531.1	550.7	620.9	617.0	670.3	1377.2	1956.4	1808.1	1231.4
82.5°	386.6	391.8	490.7	499.8	481.6	464.7	467.3	801.8	1002.3	912.5	661.2
85°	218.7	219.9	315.0	368.4	419.1	315.0	303.3	413.9	494.6	433.4	289.0
87.5°	97.6	101.6	151.0	174.4	226.5	184.8	173.1	175.7	213.5	177.1	114.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196269

CATALOG NUMBER: NAV-AF-03-D-UNV-T2-1200

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0	2792.0
2.5°	2771.3	2749.2	2697.1	2643.7	2590.3	2556.5	2521.4	2488.8	2475.7	2474.5	2449.8
5°	2782.9	2730.9	2612.4	2482.3	2358.6	2262.4	2181.6	2129.6	2078.7	2069.6	2047.5
7.5°	2786.9	2702.2	2509.6	2301.3	2112.6	1979.8	1899.1	1864.0	1839.3	1832.7	1824.9
10°	2785.6	2665.8	2395.0	2110.0	1895.2	1795.0	1765.1	1772.9	1783.3	1788.5	1788.5
12.5°	2806.4	2648.9	2280.6	1930.4	1754.7	1706.5	1729.9	1770.3	1801.5	1814.5	1817.2
15°	2844.1	2638.5	2154.2	1774.2	1655.7	1667.4	1724.7	1783.3	1827.5	1847.0	1852.3
17.5°	2891.1	2624.2	2008.5	1645.3	1598.5	1638.8	1713.0	1787.2	1840.6	1865.4	1869.2
20°	2943.1	2603.3	1857.5	1549.0	1547.7	1598.5	1672.6	1756.0	1813.3	1840.6	1839.3
22.5°	3013.4	2583.9	1716.9	1478.7	1491.8	1538.6	1599.8	1675.3	1728.6	1753.3	1748.1
25°	3107.1	2565.6	1590.7	1416.2	1427.9	1459.1	1502.1	1559.4	1597.1	1610.1	1601.0
27.5°	3233.3	2551.2	1491.8	1359.0	1357.7	1372.0	1398.0	1429.3	1447.5	1443.6	1429.3
30°	3388.2	2536.9	1418.8	1308.1	1289.9	1288.6	1300.4	1318.6	1330.3	1306.9	1295.2
32.5°	3561.4	2512.3	1353.8	1264.0	1231.4	1219.7	1224.9	1249.6	1297.8	1274.3	1265.2
35°	3765.8	2483.6	1288.6	1215.8	1191.0	1168.9	1172.8	1226.2	1372.0	1355.0	1345.9
37.5°	4011.8	2457.5	1228.8	1163.7	1162.4	1135.1	1132.4	1196.2	1391.5	1355.0	1347.2
40°	4307.2	2452.3	1175.4	1106.4	1127.3	1116.9	1107.8	1146.7	1283.5	1209.2	1194.9
42.5°	4663.9	2475.7	1136.4	1051.8	1086.9	1111.6	1094.7	1103.9	1159.8	1093.4	1081.7
45°	5080.5	2539.6	1107.8	1003.6	1043.9	1107.8	1088.2	1080.4	1089.5	1053.0	1045.3
47.5°	5566.0	2652.8	1088.2	963.2	1003.6	1097.3	1085.6	1070.0	1066.1	1045.3	1040.0
50°	6085.3	2805.1	1075.2	926.8	967.1	1079.1	1084.3	1062.1	1055.7	1046.6	1043.9
52.5°	6600.8	2970.4	1059.6	895.6	937.2	1056.9	1085.6	1054.4	1045.3	1040.0	1037.5
55°	7113.7	3142.2	1030.9	868.2	915.0	1030.9	1084.3	1043.9	1033.5	1033.5	1033.5
57.5°	7778.8	3403.9	993.2	846.1	886.5	997.1	1067.3	1032.3	1017.9	1019.2	1020.5
60°	8739.5	3842.5	951.5	821.3	848.7	958.0	1041.4	1011.4	994.5	999.7	1001.0
62.5°	10344.4	4609.2	894.3	786.2	809.7	916.4	1007.5	982.7	967.1	976.3	977.5
65°	12484.4	5537.3	818.8	741.9	769.3	869.5	964.5	948.9	932.0	954.1	952.8
67.5°	13790.0	5809.3	739.4	695.1	730.3	820.1	911.1	904.7	892.9	932.0	929.4
69°	13361.7	5317.3	693.8	665.1	702.9	786.2	877.3	874.7	865.6	903.4	900.7
70°	12696.6	4857.9	665.1	645.6	688.5	765.4	855.2	855.2	846.1	878.6	872.2
72.5°	10198.6	3603.0	598.7	596.2	639.1	708.1	795.3	801.8	796.7	808.3	801.8
75°	5987.7	2171.2	533.7	541.4	579.2	646.9	729.0	734.2	729.0	727.6	729.0
77.5°	2076.2	973.6	471.2	482.9	515.5	584.4	656.0	666.5	658.7	649.6	652.1
80°	812.2	566.2	403.6	420.4	447.7	514.1	583.2	589.6	578.0	576.6	566.2
82.5°	488.2	344.9	313.7	341.1	374.9	446.5	503.7	501.1	492.0	545.4	477.7
85°	212.2	191.4	229.1	256.5	273.3	334.5	425.6	413.9	391.8	344.9	337.2
87.5°	85.9	98.9	126.2	152.3	164.0	216.0	291.5	281.2	285.1	234.3	233.0
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)