

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: P197225

Luminaire Tested: **NAV-AF-05-D-UNV-T2-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197225
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-05-D-UNV-T2-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24017 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

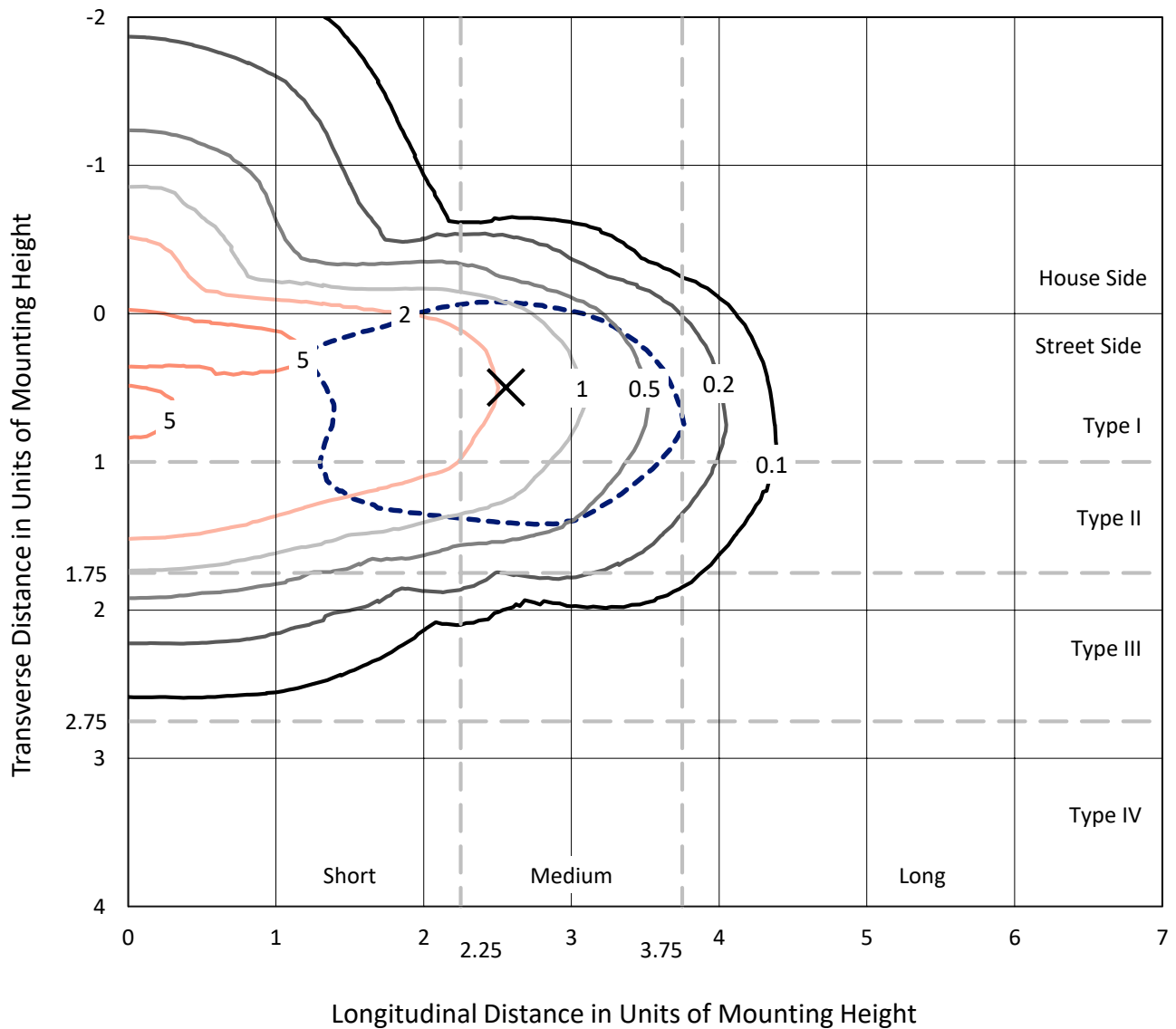
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

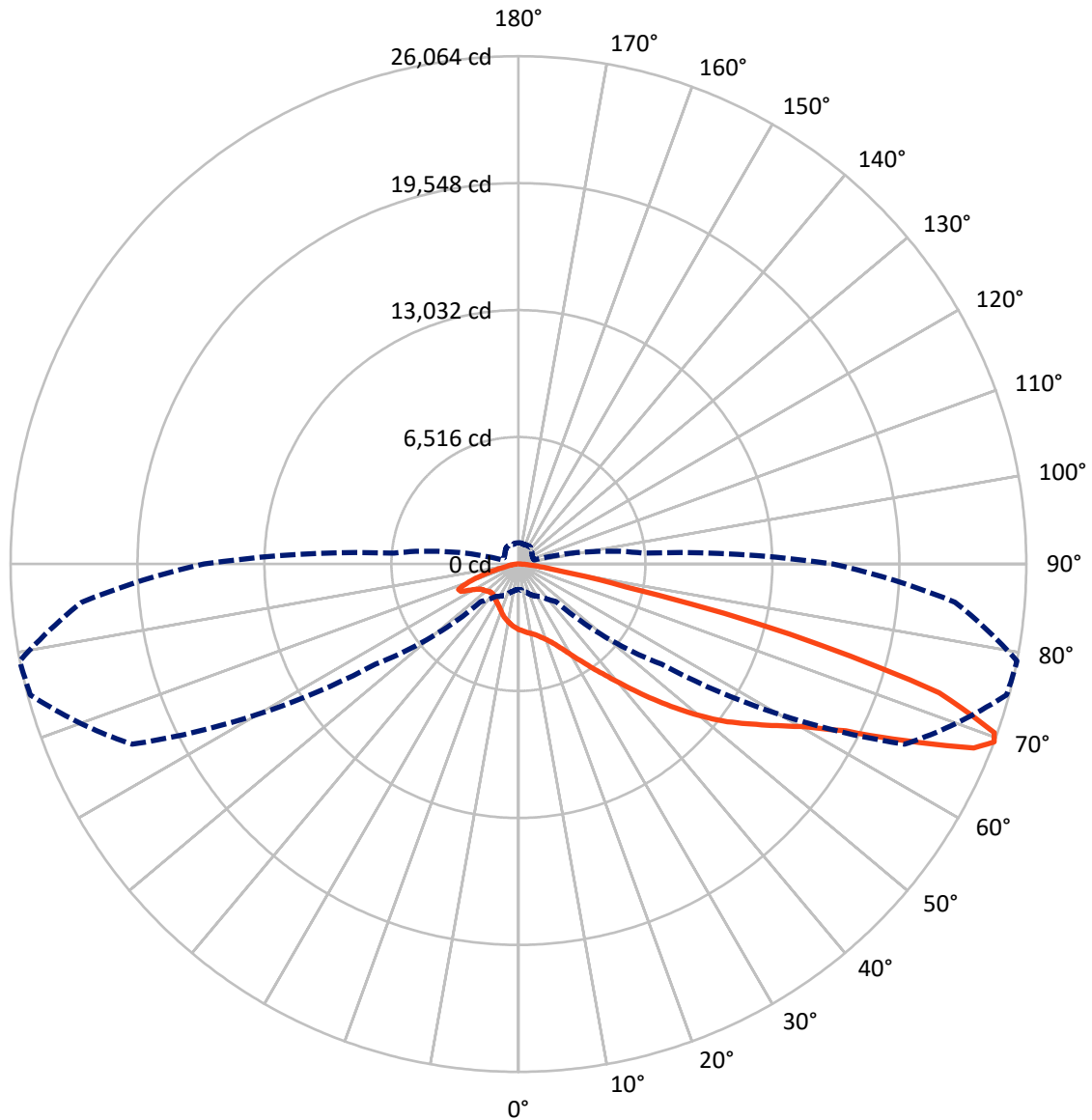
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.5 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	4518.0	0.0	4518.0
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	19499.0	0.0	19499.0
	% Fixture	81.2	0.0	81.2
Total	Lumens	24017.0	0.0	24017.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	312.4	1.3
10°-20°	895.8	3.7
20°-30°	1480.2	6.2
30°-40°	2396.8	10.0
40°-50°	3828.9	15.9
50°-60°	5483.4	22.8
60°-70°	6109.4	25.4
70°-80°	3056.4	12.7
80°-90°	453.6	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°	24017.0	100.0
0°-180°	24017.0	100.0



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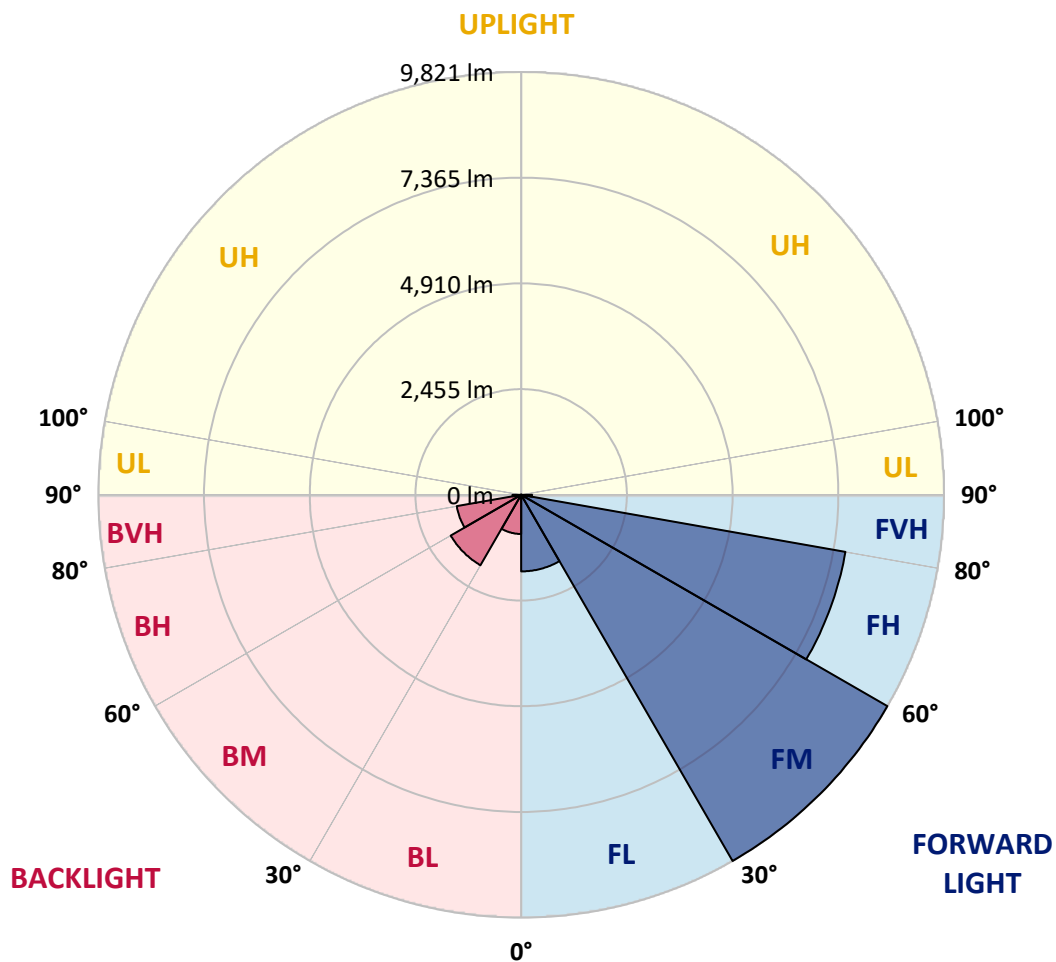
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1778.2	7.4			
FM (30°-60°)	9820.6	40.9			
FH (60°-80°)	7646.7	31.8			G4/12000
FVH (80°-90°)	253.5	1.1			G3/500
BL (0°-30°)	910.2	3.8	B2/1000		
BM (30°-60°)	1888.6	7.9	B2/2500		
BH (60°-80°)	1519.1	6.3	B3/2500		G3/2500
BVH (80°-90°)	200.1	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3
2.5°	3700.3	3692.5	3690.9	3667.3	3654.7	3628.0	3565.2	3500.8	3441.1	3409.6	3376.6
5°	4009.8	3994.1	3986.3	3947.0	3912.4	3852.7	3753.7	3651.6	3544.8	3489.8	3423.8
7.5°	4196.8	4198.4	4198.4	4167.0	4132.4	4060.1	3934.4	3794.6	3635.9	3563.6	3459.9
10°	4212.5	4214.1	4237.7	4245.5	4253.4	4215.7	4099.4	3923.4	3719.2	3624.9	3489.8
12.5°	4057.0	4068.0	4107.3	4163.8	4244.0	4284.8	4234.5	4061.7	3826.0	3711.3	3546.3
15°	3848.0	3859.0	3909.3	3995.7	4124.5	4261.2	4332.0	4220.4	3965.9	3830.7	3629.6
17.5°	3745.9	3758.4	3793.0	3862.1	3987.8	4171.7	4383.8	4390.1	4130.8	3975.3	3728.6
20°	3697.2	3706.6	3750.6	3807.2	3903.0	4079.0	4388.5	4569.2	4327.2	4146.5	3849.6
22.5°	3808.7	3811.9	3833.9	3865.3	3929.7	4064.8	4385.4	4754.6	4572.4	4361.8	4005.1
25°	4135.5	4115.1	4099.4	4060.1	4075.8	4171.7	4435.7	4952.6	4886.6	4644.6	4212.5
27.5°	4522.1	4518.9	4478.1	4386.9	4328.8	4390.1	4578.6	5174.1	5271.6	5004.5	4484.4
30°	4952.6	4954.2	4911.7	4800.2	4682.3	4688.6	4806.5	5430.3	5731.9	5438.1	4819.0
32.5°	5403.5	5431.8	5353.3	5241.7	5098.7	5053.2	5133.3	5739.8	6264.6	5950.3	5207.1
35°	5942.5	5947.2	5860.8	5697.4	5554.4	5482.1	5556.0	6126.3	6879.0	6552.1	5680.1
37.5°	6501.9	6505.0	6415.4	6206.5	6025.8	5978.6	6060.3	6596.1	7529.5	7237.2	6236.3
40°	6959.1	6992.1	6921.4	6725.0	6542.7	6514.4	6632.3	7158.6	8360.7	8048.0	6897.8
42.5°	7477.6	7515.3	7430.5	7226.2	7081.7	7072.2	7256.1	7799.7	9187.1	8986.0	7647.3
45°	8062.1	8115.5	7997.7	7768.3	7645.7	7853.1	7864.1	8509.9	10139.3	10035.6	8491.1
47.5°	8700.0	8744.0	8648.2	8401.5	8267.9	8568.1	8459.6	9278.3	11168.5	11160.6	9404.0
50°	9191.8	9240.6	9250.0	9141.6	9001.7	9039.4	9113.3	10085.9	12194.5	12317.1	10348.3
52.5°	9102.3	9149.4	9361.5	9645.9	9870.6	9773.2	9862.8	10943.8	13186.0	13445.2	11245.5
55°	8379.5	8404.6	8802.2	9477.8	10434.7	10899.8	10906.1	11877.1	14128.7	14491.7	12097.1
57.5°	7076.9	7080.1	7597.0	8593.2	10106.3	11630.4	12552.8	13049.3	15112.3	15648.1	13153.0
60°	5007.6	5020.2	5622.0	6924.5	8929.4	11542.4	14323.6	15146.9	16251.5	16947.6	14513.7
62.5°	2972.8	3001.1	3455.2	4500.1	6632.3	10411.1	15370.0	18878.6	17929.6	18853.5	16691.5
65°	1934.2	1957.8	2229.6	2754.4	3918.7	7575.0	15025.9	22492.5	21105.1	21851.5	19821.4
67.5°	1489.6	1508.4	1722.1	2039.5	2404.0	4094.7	12013.8	23249.9	24970.4	25202.9	22462.7
69°	1308.9	1324.6	1481.7	1786.5	2023.8	2710.4	8953.0	21875.0	25936.7	26064.0	22495.7
70°	1213.0	1225.6	1373.3	1637.2	1858.8	2163.6	6852.2	20278.6	25583.2	25908.4	21846.7
72.5°	999.3	1010.3	1115.6	1318.3	1519.4	1541.4	3035.7	14807.5	21541.9	22582.1	18487.4
75°	834.3	840.6	909.8	1057.5	1230.3	1227.2	1550.8	8387.4	13145.1	14384.8	11415.2
77.5°	696.1	700.8	746.3	837.5	971.0	966.3	1092.0	3620.2	5804.2	5600.0	3929.7
80°	614.4	617.5	641.1	664.6	749.5	744.8	809.2	1662.4	2361.6	2182.5	1486.4
82.5°	466.7	472.9	592.4	603.4	581.4	560.9	564.1	967.9	1209.9	1101.5	798.2
85°	264.0	265.5	380.2	444.7	505.9	380.2	366.1	499.7	597.1	523.2	348.8
87.5°	117.8	122.6	182.3	210.5	273.4	223.1	209.0	212.1	257.7	213.7	138.3
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°	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3	3370.3
2.5°	3345.2	3318.5	3255.6	3191.2	3126.8	3085.9	3043.5	3004.2	2988.5	2987.0	2957.1
5°	3359.3	3296.5	3153.5	2996.4	2847.1	2730.8	2633.4	2570.6	2509.3	2498.3	2471.6
7.5°	3364.1	3261.9	3029.4	2778.0	2550.1	2389.9	2292.5	2250.0	2220.2	2212.3	2202.9
10°	3362.5	3217.9	2891.1	2547.0	2287.7	2166.8	2130.6	2140.1	2152.6	2158.9	2158.9
12.5°	3387.6	3197.5	2752.8	2330.2	2118.1	2059.9	2088.2	2136.9	2174.6	2190.3	2193.5
15°	3433.2	3184.9	2600.4	2141.6	1998.6	2012.8	2081.9	2152.6	2206.0	2229.6	2235.9
17.5°	3489.8	3167.7	2424.4	1986.1	1929.5	1978.2	2067.8	2157.3	2221.8	2251.6	2256.3
20°	3552.6	3142.5	2242.2	1869.8	1868.2	1929.5	2019.1	2119.6	2188.8	2221.8	2220.2
22.5°	3637.5	3118.9	2072.5	1784.9	1800.7	1857.2	1931.1	2022.2	2086.6	2116.5	2110.2
25°	3750.6	3096.9	1920.1	1709.5	1723.7	1761.4	1813.2	1882.4	1927.9	1943.6	1932.6
27.5°	3903.0	3079.7	1800.7	1640.4	1638.8	1656.1	1687.5	1725.2	1747.2	1742.5	1725.2
30°	4090.0	3062.4	1712.7	1579.1	1557.1	1555.5	1569.7	1591.7	1605.8	1577.5	1563.4
32.5°	4299.0	3032.5	1634.1	1525.7	1486.4	1472.3	1478.6	1508.4	1566.5	1538.3	1527.3
35°	4545.6	2998.0	1555.5	1467.6	1437.7	1411.0	1415.7	1480.1	1656.1	1635.7	1624.7
37.5°	4842.6	2966.5	1483.3	1404.7	1403.1	1370.1	1367.0	1444.0	1679.7	1635.7	1626.2
40°	5199.3	2960.2	1418.8	1335.6	1360.7	1348.1	1337.1	1384.3	1549.3	1459.7	1442.4
42.5°	5629.8	2988.5	1371.7	1269.6	1312.0	1341.9	1321.4	1332.4	1400.0	1319.9	1305.7
45°	6132.6	3065.5	1337.1	1211.4	1260.1	1337.1	1313.6	1304.1	1315.1	1271.1	1261.7
47.5°	6718.7	3202.2	1313.6	1162.7	1211.4	1324.6	1310.4	1291.6	1286.9	1261.7	1255.4
50°	7345.6	3386.1	1297.9	1118.7	1167.4	1302.6	1308.9	1282.1	1274.3	1263.3	1260.1
52.5°	7967.8	3585.6	1279.0	1081.0	1131.3	1275.9	1310.4	1272.7	1261.7	1255.4	1252.3
55°	8586.9	3793.0	1244.4	1048.0	1104.6	1244.4	1308.9	1260.1	1247.6	1247.6	1247.6
57.5°	9389.8	4108.8	1198.9	1021.3	1070.0	1203.6	1288.4	1246.0	1228.7	1230.3	1231.9
60°	10549.4	4638.3	1148.6	991.5	1024.5	1156.4	1257.0	1220.9	1200.4	1206.7	1208.3
62.5°	12486.8	5563.8	1079.5	949.0	977.3	1106.2	1216.2	1186.3	1167.4	1178.4	1180.0
65°	15069.9	6684.1	988.3	895.6	928.6	1049.6	1164.3	1145.4	1125.0	1151.7	1150.2
67.5°	16645.9	7012.5	892.5	839.1	881.5	989.9	1099.9	1092.0	1077.9	1125.0	1121.9
69°	16128.9	6418.6	837.5	802.9	848.5	949.0	1059.0	1055.9	1044.9	1090.5	1087.3
70°	15326.0	5863.9	802.9	779.3	831.2	923.9	1032.3	1032.3	1021.3	1060.6	1052.7
72.5°	12310.8	4349.2	722.8	719.6	771.5	854.8	960.0	967.9	961.6	975.7	967.9
75°	7227.8	2620.9	644.2	653.6	699.2	780.9	879.9	886.2	879.9	878.3	879.9
77.5°	2506.2	1175.3	568.8	582.9	622.2	705.5	791.9	804.5	795.1	784.1	787.2
80°	980.5	683.5	487.1	507.5	540.5	620.6	703.9	711.8	697.6	696.1	683.5
82.5°	589.2	416.4	378.7	411.7	452.5	538.9	608.1	604.9	593.9	658.4	576.7
85°	256.1	231.0	276.5	309.5	330.0	403.8	513.8	499.7	472.9	416.4	407.0
87.5°	103.7	119.4	152.4	183.8	198.0	260.8	352.0	339.4	344.1	282.8	281.3
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)