

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: P196270

Luminaire Tested: **NAV-AF-04-D-UNV-T2-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196270
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-T2-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 26798.2 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G4

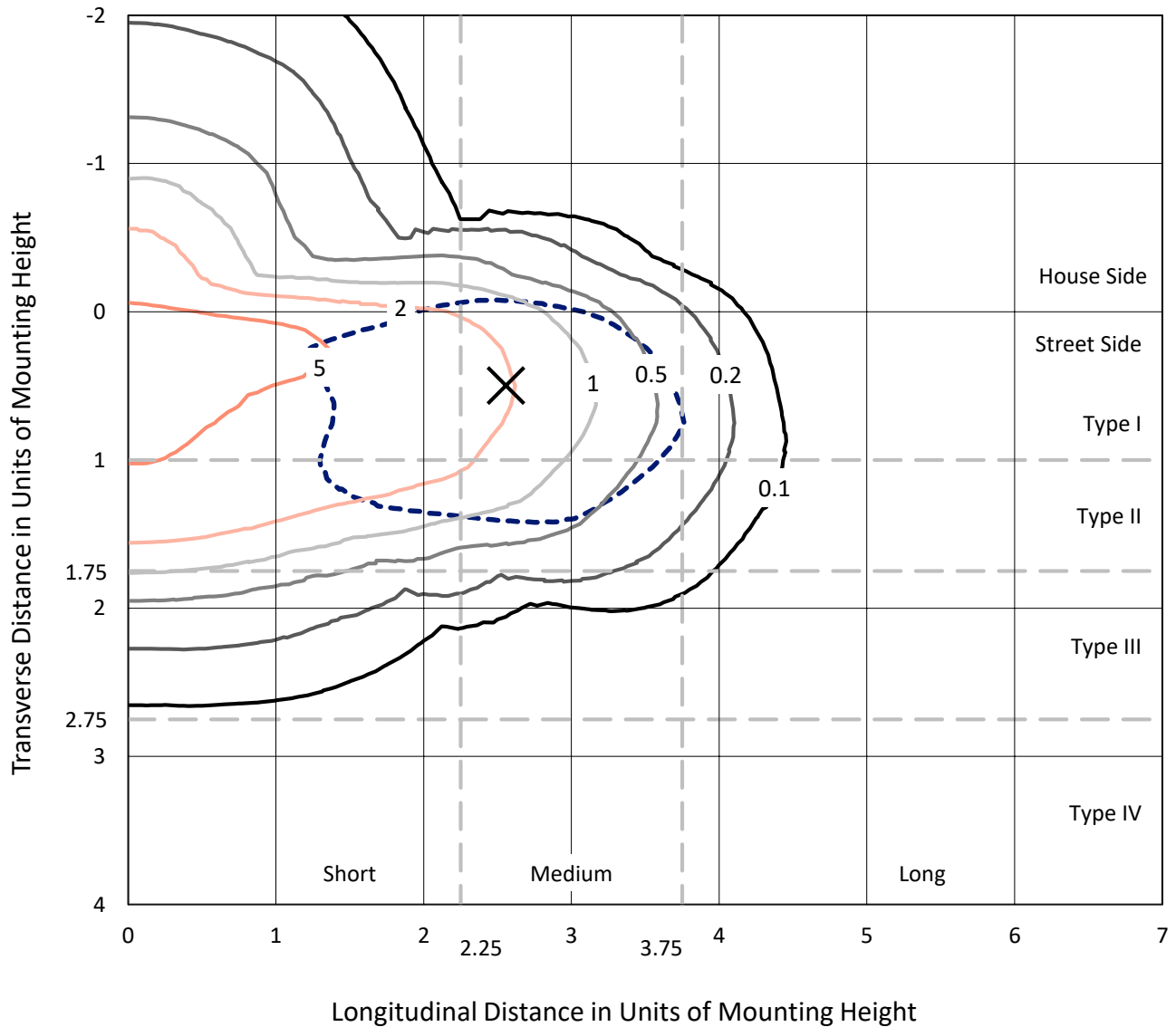
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

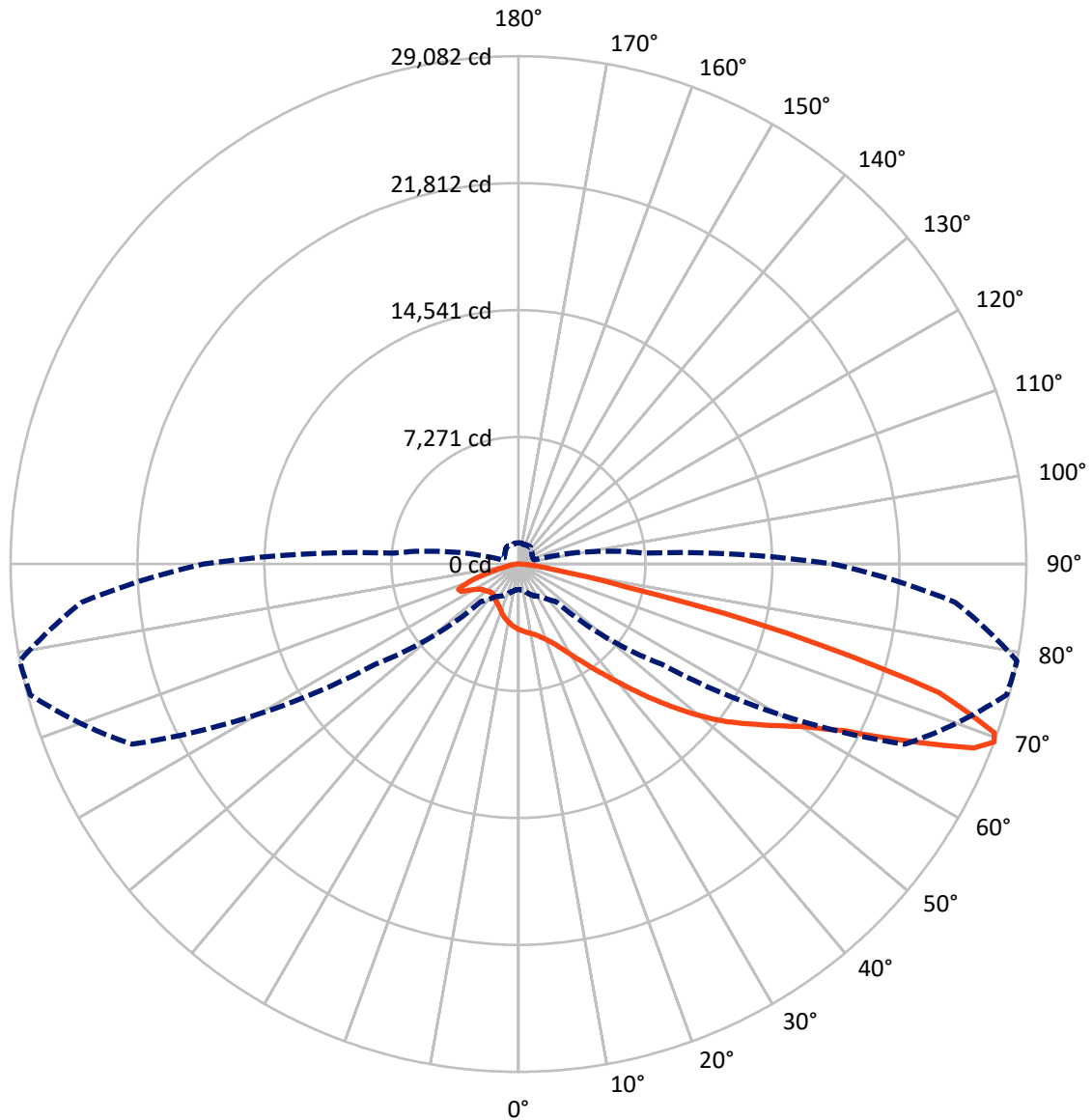
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.3 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	5041.2	0.0	5041.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	21757.0	0.0	21757.0
	% Fixture	81.2	0.0	81.2
Total	Lumens	26798.2	0.0	26798.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	348.6	1.3
10°-20°	999.5	3.7
20°-30°	1651.6	6.2
30°-40°	2674.4	10.0
40°-50°	4272.3	15.9
50°-60°	6118.4	22.8
60°-70°	6816.8	25.4
70°-80°	3410.4	12.7
80°-90°	506.1	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°	26798.2	100.0
0°-180°	26798.2	100.0



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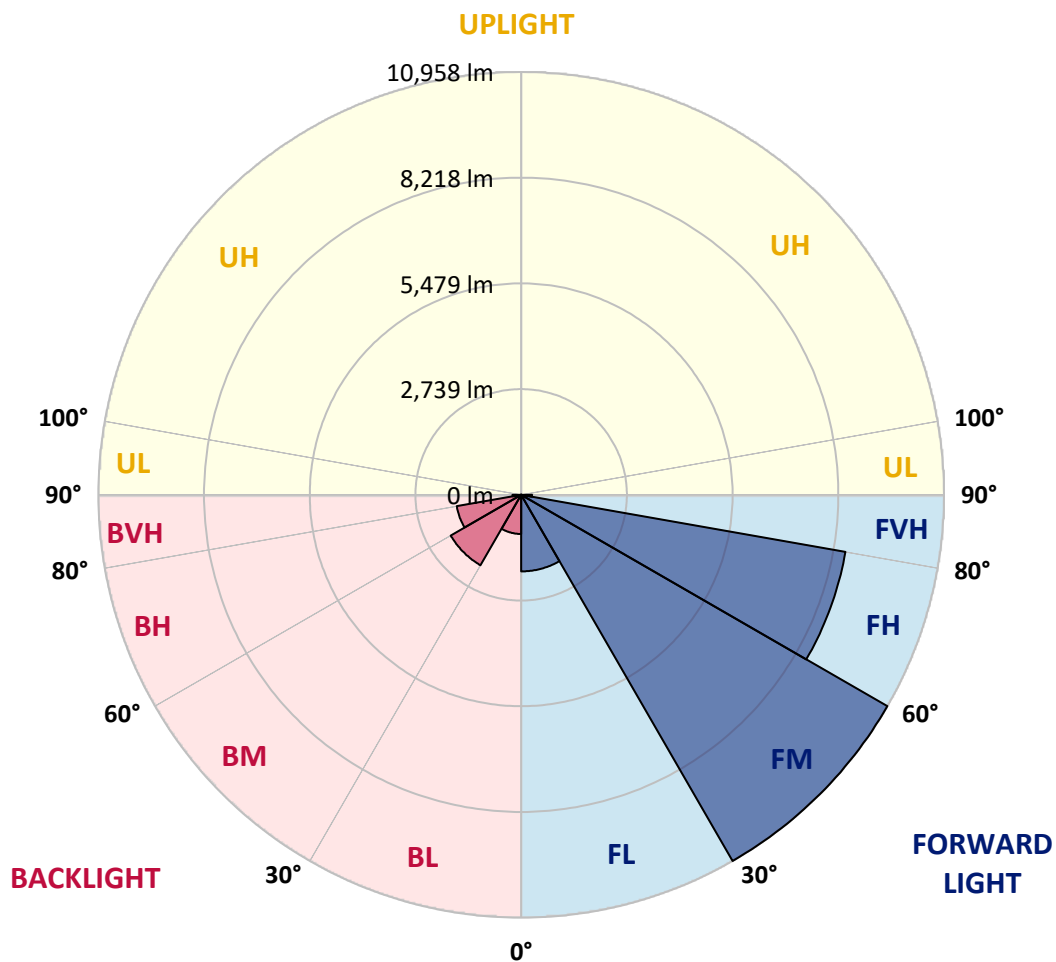
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1984.2	7.4			
FM (30°-60°)	10957.8	40.9			
FH (60°-80°)	8532.2	31.8			G4/12000
FVH (80°-90°)	282.8	1.1			G3/500
BL (0°-30°)	1015.6	3.8	B3/2500		
BM (30°-60°)	2107.3	7.9	B2/2500		
BH (60°-80°)	1695.0	6.3	B3/2500		G3/2500
BVH (80°-90°)	223.3	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°	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7
2.5°	4128.8	4120.0	4118.3	4092.0	4078.0	4048.1	3978.1	3906.1	3839.5	3804.5	3767.6
5°	4474.2	4456.7	4447.9	4404.1	4365.5	4298.8	4188.5	4074.5	3955.2	3893.9	3820.2
7.5°	4682.9	4684.6	4684.6	4649.5	4611.0	4530.3	4390.0	4234.0	4056.9	3976.3	3860.6
10°	4700.4	4702.1	4728.4	4737.2	4746.0	4703.8	4574.1	4377.8	4149.8	4044.6	3893.9
12.5°	4526.8	4539.0	4582.9	4646.0	4735.4	4781.0	4724.9	4532.1	4269.1	4141.1	3957.0
15°	4293.6	4305.9	4362.0	4458.4	4602.2	4754.7	4833.6	4709.2	4425.1	4274.3	4050.0
17.5°	4179.7	4193.7	4232.3	4309.4	4449.6	4654.7	4891.4	4898.5	4609.2	4435.6	4160.3
20°	4125.4	4135.8	4184.9	4248.0	4355.0	4551.3	4896.8	5098.4	4828.3	4626.7	4295.4
22.5°	4249.7	4253.3	4277.9	4312.9	4384.8	4535.6	4893.2	5305.2	5101.9	4866.9	4469.0
25°	4614.4	4591.6	4574.1	4530.3	4547.8	4654.7	4949.3	5526.1	5452.5	5182.5	4700.4
27.5°	5045.7	5042.2	4996.7	4894.9	4830.1	4898.5	5108.8	5773.3	5882.1	5584.0	5003.7
30°	5526.1	5527.9	5480.6	5356.1	5224.6	5231.6	5363.1	6059.1	6395.7	6067.8	5377.1
32.5°	6029.3	6060.9	5973.2	5848.7	5689.1	5638.3	5727.7	6404.5	6990.0	6639.5	5810.2
35°	6630.7	6635.9	6539.5	6357.1	6197.6	6116.9	6199.4	6835.8	7675.6	7310.9	6337.9
37.5°	7254.8	7258.3	7158.4	6925.2	6723.5	6671.0	6762.1	7360.0	8401.4	8075.3	6958.5
40°	7765.0	7801.8	7722.9	7503.8	7300.4	7268.8	7400.3	7987.6	9328.8	8980.0	7696.6
42.5°	8343.5	8385.6	8290.9	8063.0	7901.7	7891.2	8096.3	8703.0	10251.0	10026.7	8532.8
45°	8995.7	9055.4	8923.8	8667.9	8531.1	8762.6	8774.9	9495.4	11313.5	11197.7	9474.4
47.5°	9707.5	9756.6	9649.7	9374.4	9225.4	9560.3	9439.3	10352.7	12461.8	12453.1	10493.0
50°	10256.3	10310.6	10321.2	10200.1	10044.1	10086.2	10168.6	11253.9	13606.7	13743.4	11546.7
52.5°	10156.4	10208.9	10445.7	10763.0	11013.7	10905.0	11004.9	12211.2	14713.0	15002.2	12547.7
55°	9349.9	9377.9	9821.5	10575.4	11643.1	12162.1	12169.0	13252.5	15764.9	16169.9	13497.9
57.5°	7896.5	7899.9	8476.8	9588.3	11276.7	12977.3	14006.4	14560.5	16862.4	17460.2	14676.2
60°	5587.5	5601.5	6273.0	7726.4	9963.5	12879.1	15982.3	16901.0	18133.4	18910.2	16194.4
62.5°	3317.1	3348.6	3855.3	5021.2	7400.3	11616.8	17149.9	21064.8	20006.0	21036.8	18624.4
65°	2158.2	2184.5	2487.8	3073.4	4372.5	8452.2	16766.0	25097.3	23549.1	24381.9	22116.8
67.5°	1662.1	1683.1	1921.5	2275.7	2682.4	4568.9	13405.1	25942.2	27862.0	28121.5	25063.9
69°	1460.5	1478.0	1653.3	1993.4	2258.2	3024.3	9989.8	24408.2	28940.3	29082.3	25100.8
70°	1353.5	1367.5	1532.3	1826.9	2074.0	2414.2	7645.7	22627.0	28545.9	28908.7	24376.7
72.5°	1115.0	1127.3	1244.8	1470.9	1695.3	1719.9	3387.2	16522.3	24036.6	25197.1	20628.3
75°	931.0	937.9	1015.1	1179.9	1372.8	1369.2	1730.4	9358.7	14667.4	16050.6	12737.1
77.5°	776.6	781.9	832.8	934.5	1083.5	1078.2	1218.4	4039.4	6476.4	6248.5	4384.8
80°	685.5	689.1	715.3	741.6	836.3	831.0	902.9	1854.9	2635.1	2435.2	1658.5
82.5°	520.7	527.7	660.9	673.2	648.7	625.9	629.4	1079.9	1350.0	1229.0	890.6
85°	294.5	296.2	424.3	496.1	564.6	424.3	408.5	557.5	666.2	583.8	389.2
87.5°	131.4	136.8	203.4	235.0	305.0	249.0	233.1	236.7	287.6	238.4	154.3
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°	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7	3760.7
2.5°	3732.5	3702.8	3632.7	3560.8	3488.9	3443.4	3396.0	3352.1	3334.6	3332.9	3299.5
5°	3748.4	3678.2	3518.7	3343.4	3176.8	3047.1	2938.4	2868.3	2799.9	2787.6	2757.8
7.5°	3753.6	3639.7	3380.2	3099.6	2845.4	2666.6	2557.9	2510.6	2477.3	2468.5	2458.0
10°	3751.9	3590.6	3225.9	2842.0	2552.7	2417.6	2377.3	2387.9	2401.9	2408.9	2408.9
12.5°	3779.9	3567.7	3071.6	2600.0	2363.3	2298.5	2330.0	2384.4	2426.4	2443.9	2447.5
15°	3830.7	3553.7	2901.6	2389.6	2230.1	2245.9	2323.0	2401.9	2461.5	2487.8	2494.8
17.5°	3893.9	3534.5	2705.2	2216.0	2152.9	2207.3	2307.3	2407.2	2479.0	2512.4	2517.6
20°	3964.0	3506.5	2501.8	2086.3	2084.6	2152.9	2252.8	2365.1	2442.2	2479.0	2477.3
22.5°	4058.7	3480.1	2312.5	1991.7	2009.2	2072.3	2154.7	2256.4	2328.2	2361.6	2354.5
25°	4184.9	3455.6	2142.5	1907.5	1923.2	1965.4	2023.2	2100.3	2151.2	2168.8	2156.5
27.5°	4355.0	3436.3	2009.2	1830.4	1828.6	1847.9	1882.9	1925.0	1949.5	1944.3	1925.0
30°	4563.6	3417.0	1911.0	1761.9	1737.5	1735.6	1751.5	1776.0	1791.8	1760.2	1744.4
32.5°	4796.8	3383.7	1823.3	1702.4	1658.5	1642.8	1649.8	1683.1	1747.9	1716.4	1704.1
35°	5072.0	3345.2	1735.6	1637.5	1604.2	1574.4	1579.6	1651.6	1847.9	1825.0	1812.8
37.5°	5403.4	3310.1	1655.0	1567.4	1565.6	1528.8	1525.3	1611.2	1874.1	1825.0	1814.6
40°	5801.4	3303.0	1583.1	1490.2	1518.3	1504.2	1492.0	1544.6	1728.7	1628.7	1609.4
42.5°	6281.7	3334.6	1530.5	1416.6	1463.9	1497.3	1474.5	1486.8	1562.1	1472.7	1456.9
45°	6842.8	3420.5	1492.0	1351.7	1406.0	1492.0	1465.7	1455.1	1467.4	1418.3	1407.8
47.5°	7496.7	3573.1	1465.7	1297.4	1351.7	1478.0	1462.2	1441.1	1435.9	1407.8	1400.8
50°	8196.3	3778.2	1448.2	1248.3	1302.6	1453.4	1460.5	1430.6	1421.9	1409.6	1406.0
52.5°	8890.6	4000.9	1427.1	1206.2	1262.3	1423.6	1462.2	1420.1	1407.8	1400.8	1397.4
55°	9581.3	4232.3	1388.6	1169.4	1232.6	1388.6	1460.5	1406.0	1392.0	1392.0	1392.0
57.5°	10477.2	4584.7	1337.7	1139.6	1194.0	1342.9	1437.7	1390.3	1371.1	1372.8	1374.5
60°	11771.1	5175.5	1281.6	1106.3	1143.0	1290.4	1402.6	1362.3	1339.5	1346.5	1348.2
62.5°	13932.8	6208.1	1204.4	1059.0	1090.5	1234.3	1356.9	1323.7	1302.6	1314.9	1316.6
65°	16815.1	7458.1	1102.7	999.3	1036.1	1171.2	1299.1	1278.1	1255.3	1285.1	1283.4
67.5°	18573.5	7824.6	995.8	936.2	983.6	1104.5	1227.2	1218.4	1202.7	1255.3	1251.8
69°	17996.8	7161.9	934.5	895.9	946.7	1059.0	1181.7	1178.1	1165.9	1216.7	1213.2
70°	17100.9	6543.0	895.9	869.6	927.4	1030.9	1151.8	1151.8	1139.6	1183.5	1174.7
72.5°	13736.4	4852.9	806.5	803.0	860.8	953.7	1071.2	1079.9	1073.0	1088.7	1079.9
75°	8064.7	2924.3	718.8	729.4	780.2	871.3	981.8	988.8	981.8	980.1	981.8
77.5°	2796.3	1311.4	634.6	650.4	694.3	787.2	883.6	897.6	887.1	874.8	878.4
80°	1094.0	762.6	543.5	566.3	603.1	692.5	785.4	794.2	778.5	776.6	762.6
82.5°	657.5	464.6	422.5	459.3	504.9	601.4	678.5	674.9	662.7	734.6	643.4
85°	285.8	257.7	308.5	345.3	368.2	450.6	573.3	557.5	527.7	464.6	454.1
87.5°	115.7	133.3	170.0	205.1	220.9	291.0	392.7	378.7	383.9	315.6	313.8
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)