

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: P195785

Luminaire Tested: **NAV-AF-05-D-UNV-T2-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195785
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-T2-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29433 lumens
Efficiency: N/A
Efficacy: 105.5 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

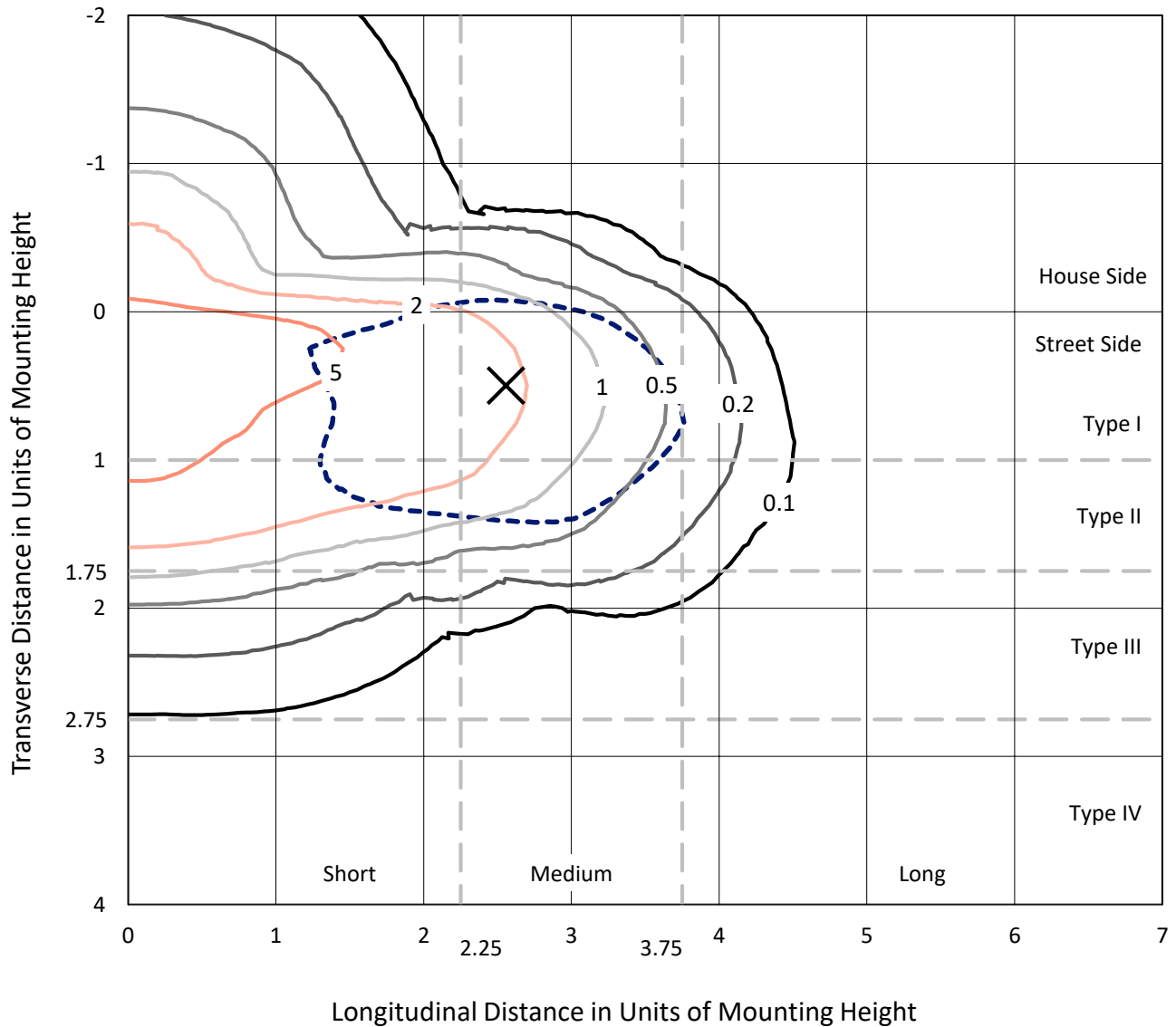
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

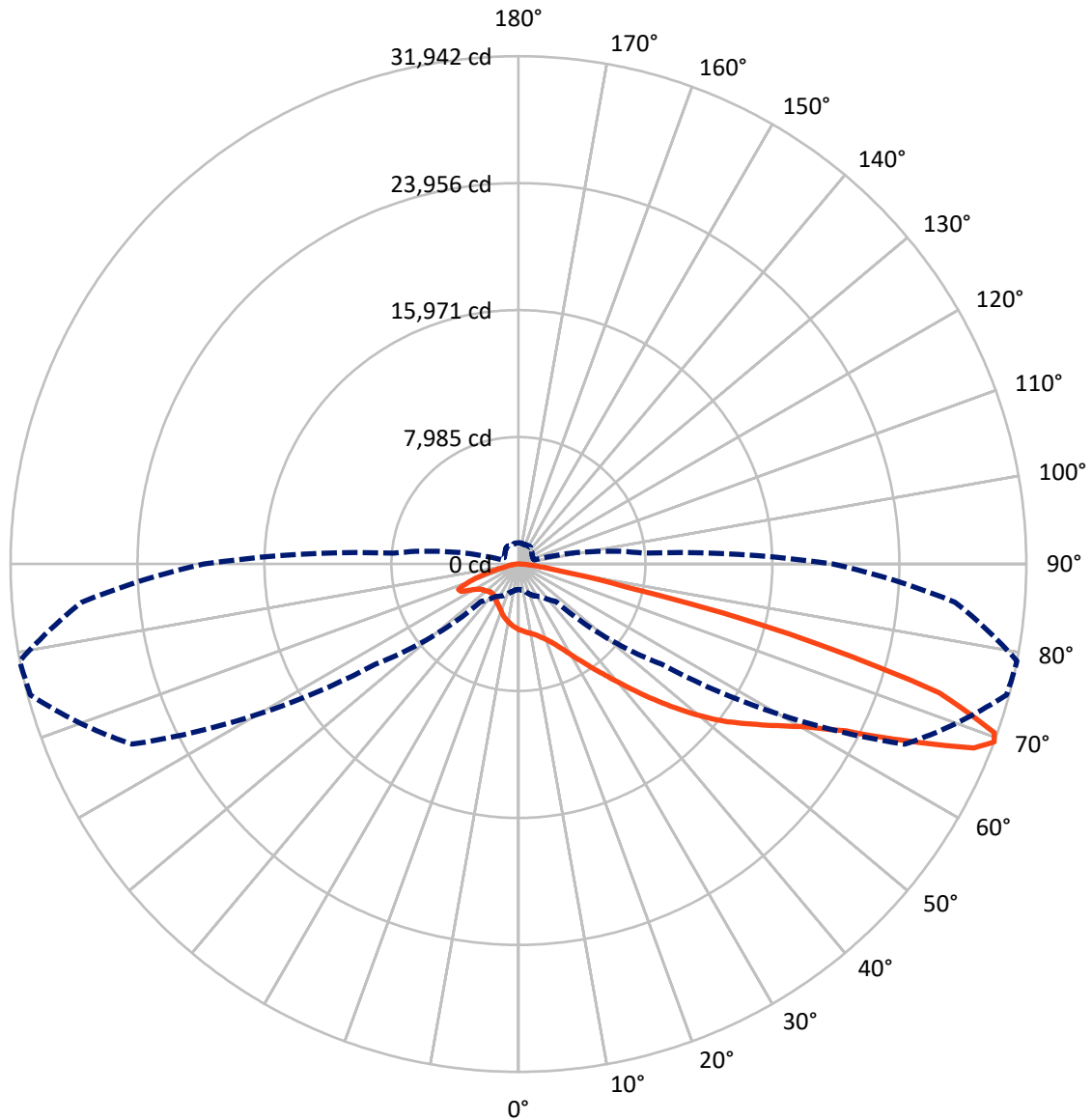
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8 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	5536.9	0.0	5536.9
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	23896.1	0.0	23896.1
	% Fixture	81.2	0.0	81.2
Total	Lumens	29433.0	0.0	29433.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	382.9	1.3
10°-20°	1097.8	3.7
20°-30°	1814.0	6.2
30°-40°	2937.3	10.0
40°-50°	4692.4	15.9
50°-60°	6720.0	22.8
60°-70°	7487.1	25.4
70°-80°	3745.7	12.7
80°-90°	555.9	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°	29433.0	100.0
0°-180°	29433.0	100.0

Coefficient of Utilization



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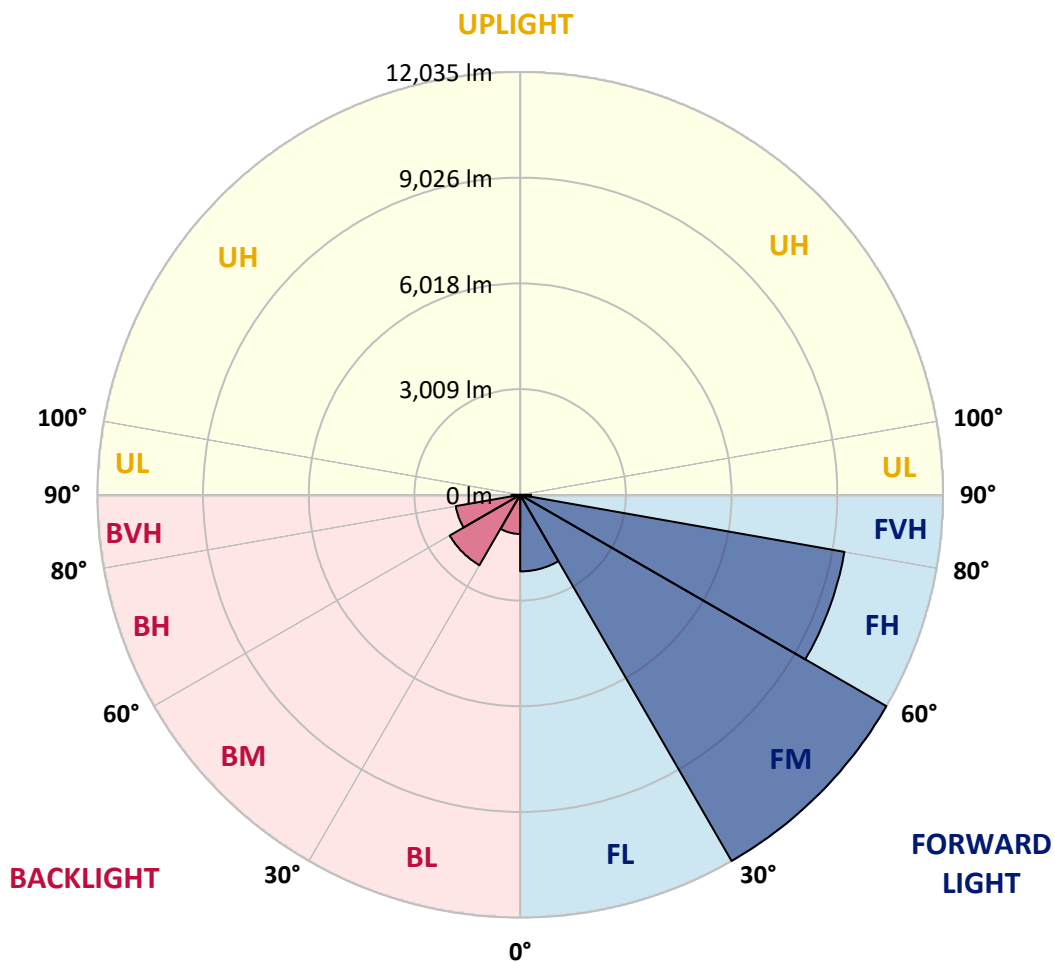
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2179.3	7.4			
FM (30°-60°)	12035.2	40.9			
FH (60°-80°)	9371.1	31.8			G4/12000
FVH (80°-90°)	310.6	1.1			G3/500
BL (0°-30°)	1115.4	3.8	B3/2500		
BM (30°-60°)	2314.5	7.9	B2/2500		
BH (60°-80°)	1861.7	6.3	B3/2500		G3/2500
BVH (80°-90°)	245.3	0.8			G3/500
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°	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4
2.5°	4534.8	4525.1	4523.2	4494.3	4478.9	4446.2	4369.2	4290.2	4217.0	4178.5	4138.1
5°	4914.1	4894.8	4885.2	4837.1	4794.7	4721.5	4600.2	4475.1	4344.1	4276.7	4195.8
7.5°	5143.2	5145.2	5145.2	5106.7	5064.3	4975.7	4821.7	4650.3	4455.8	4367.2	4240.1
10°	5162.5	5164.4	5193.3	5202.9	5212.6	5166.3	5023.9	4808.2	4557.9	4442.3	4276.7
12.5°	4971.9	4985.3	5033.5	5102.8	5201.0	5251.1	5189.5	4977.6	4688.8	4548.2	4346.0
15°	4715.8	4729.2	4790.9	4896.8	5054.7	5222.2	5308.8	5172.1	4860.2	4694.6	4448.1
17.5°	4590.6	4606.0	4648.4	4733.1	4887.1	5112.4	5372.4	5380.1	5062.4	4871.7	4569.4
20°	4530.9	4542.5	4596.4	4665.7	4783.2	4998.8	5378.2	5599.6	5303.1	5081.6	4717.7
22.5°	4667.6	4671.5	4698.4	4736.9	4815.9	4981.5	5374.3	5826.8	5603.5	5345.4	4908.3
25°	5068.1	5043.1	5023.9	4975.7	4995.0	5112.4	5435.9	6069.4	5988.6	5692.0	5162.5
27.5°	5541.8	5538.0	5487.9	5376.2	5305.0	5380.1	5611.2	6341.0	6460.3	6133.0	5495.6
30°	6069.4	6071.4	6019.4	5882.7	5738.2	5745.9	5890.4	6654.8	7024.5	6664.5	5905.8
32.5°	6622.1	6656.7	6560.5	6423.8	6248.5	6192.7	6290.9	7034.2	7677.3	7292.2	6381.4
35°	7282.6	7288.3	7182.4	6982.2	6806.9	6718.4	6808.9	7507.9	8430.2	8029.7	6961.0
37.5°	7968.1	7971.9	7862.2	7606.1	7384.6	7326.9	7427.0	8083.6	9227.4	8869.2	7642.6
40°	8528.4	8568.9	8482.2	8241.5	8018.1	7983.5	8127.9	8773.0	10246.0	9862.8	8453.3
42.5°	9163.9	9210.1	9106.1	8855.8	8678.6	8667.1	8892.4	9558.6	11258.9	11012.4	9371.8
45°	9880.2	9945.6	9801.2	9520.1	9369.9	9624.1	9637.6	10429.0	12425.8	12298.7	10405.9
47.5°	10662.0	10715.9	10598.4	10296.1	10132.4	10500.2	10367.4	11370.6	13687.1	13677.4	11524.6
50°	11264.7	11324.4	11335.9	11203.1	11031.7	11077.9	11168.4	12360.3	14944.5	15094.7	12681.9
52.5°	11154.9	11212.7	11472.6	11821.2	12096.5	11977.1	12086.9	13411.7	16159.5	16477.2	13781.4
55°	10269.1	10300.0	10787.1	11615.1	12787.8	13357.8	13365.5	14555.5	17314.9	17759.7	14825.1
57.5°	8672.8	8676.7	9310.2	10531.0	12385.4	14253.2	15383.5	15992.0	18520.3	19176.9	16119.1
60°	6136.8	6152.2	6889.7	8486.1	10943.1	14145.3	17553.6	18562.6	19916.3	20769.4	17786.6
62.5°	3643.2	3677.9	4234.4	5514.9	8127.9	12758.9	18836.1	23135.9	21972.9	23105.1	20455.5
65°	2370.4	2399.3	2732.4	3375.6	4802.4	9283.2	18414.4	27564.8	25864.5	26779.1	24291.3
67.5°	1825.5	1848.6	2110.4	2499.4	2946.1	5018.1	14723.0	28492.9	30601.4	30886.4	27528.2
69°	1604.0	1623.3	1815.8	2189.4	2480.2	3321.6	10972.0	26808.0	31785.6	31941.6	27568.6
70°	1486.6	1502.0	1683.0	2006.5	2278.0	2651.5	8397.5	24851.6	31352.4	31751.0	26773.3
72.5°	1224.7	1238.2	1367.2	1615.6	1862.0	1889.0	3720.2	18146.7	26399.8	27674.5	22656.4
75°	1022.5	1030.2	1114.9	1295.9	1507.7	1503.9	1900.6	10278.8	16109.4	17628.7	13989.4
77.5°	853.0	858.8	914.7	1026.3	1190.0	1184.2	1338.3	4436.5	7113.1	6862.8	4815.9
80°	752.9	756.8	785.6	814.5	918.5	912.7	991.7	2037.3	2894.2	2674.6	1821.6
82.5°	571.9	579.6	725.9	739.4	712.5	687.4	691.3	1186.2	1482.7	1349.8	978.2
85°	323.5	325.4	466.0	544.9	620.0	466.0	448.7	612.3	731.7	641.2	427.5
87.5°	144.4	150.2	223.4	258.0	335.1	273.4	256.1	260.0	315.8	261.9	169.5
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°	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4	4130.4
2.5°	4099.6	4066.8	3989.8	3910.9	3831.9	3781.8	3729.9	3681.7	3662.5	3660.5	3624.0
5°	4116.9	4039.9	3864.6	3672.1	3489.2	3346.7	3227.3	3150.3	3075.2	3061.7	3028.9
7.5°	4122.7	3997.5	3712.5	3404.4	3125.2	2928.8	2809.4	2757.4	2720.9	2711.2	2699.7
10°	4120.8	3943.6	3543.1	3121.4	2803.7	2655.4	2611.1	2622.6	2638.1	2645.8	2645.8
12.5°	4151.6	3918.6	3373.6	2855.6	2595.7	2524.4	2559.1	2618.8	2665.0	2684.3	2688.1
15°	4207.4	3903.2	3186.8	2624.6	2449.3	2466.7	2551.4	2638.1	2703.5	2732.4	2740.1
17.5°	4276.7	3882.0	2971.2	2433.9	2364.6	2424.3	2534.1	2643.8	2722.8	2759.4	2765.1
20°	4353.7	3851.2	2747.8	2291.4	2289.5	2364.6	2474.4	2597.6	2682.3	2722.8	2720.9
22.5°	4457.7	3822.3	2539.8	2187.5	2206.7	2276.0	2366.5	2478.2	2557.2	2593.8	2586.1
25°	4596.4	3795.3	2353.1	2095.0	2112.4	2158.6	2222.1	2306.9	2362.7	2381.9	2368.5
27.5°	4783.2	3774.1	2206.7	2010.3	2008.4	2029.6	2068.1	2114.3	2141.3	2135.5	2114.3
30°	5012.3	3753.0	2098.9	1935.2	1908.3	1906.3	1923.7	1950.6	1967.9	1933.3	1916.0
32.5°	5268.4	3716.4	2002.6	1869.7	1821.6	1804.3	1812.0	1848.6	1919.8	1885.1	1871.7
35°	5570.7	3674.0	1906.3	1798.5	1761.9	1729.2	1735.0	1813.9	2029.6	2004.5	1991.1
37.5°	5934.7	3635.5	1817.8	1721.5	1719.5	1679.1	1675.3	1769.6	2058.5	2004.5	1993.0
40°	6371.8	3627.8	1738.8	1636.7	1667.6	1652.2	1638.7	1696.4	1898.6	1788.9	1767.7
42.5°	6899.4	3662.5	1681.0	1555.9	1607.9	1644.4	1619.4	1632.9	1715.7	1617.5	1600.2
45°	7515.6	3756.8	1638.7	1484.6	1544.3	1638.7	1609.8	1598.2	1611.7	1557.8	1546.2
47.5°	8233.8	3924.3	1609.8	1424.9	1484.6	1623.3	1605.9	1582.8	1577.1	1546.2	1538.5
50°	9002.1	4149.6	1590.5	1371.0	1430.7	1596.3	1604.0	1571.3	1561.6	1548.2	1544.3
52.5°	9764.6	4394.2	1567.4	1324.8	1386.4	1563.6	1605.9	1559.7	1546.2	1538.5	1534.7
55°	10523.3	4648.4	1525.1	1284.4	1353.7	1525.1	1604.0	1544.3	1528.9	1528.9	1528.9
57.5°	11507.3	5035.4	1469.2	1251.6	1311.3	1475.0	1579.0	1527.0	1505.8	1507.7	1509.7
60°	12928.4	5684.3	1407.6	1215.0	1255.5	1417.2	1540.5	1496.2	1471.1	1478.8	1480.8
62.5°	15302.6	6818.5	1322.9	1163.1	1197.7	1355.6	1490.4	1453.8	1430.7	1444.2	1446.1
65°	18468.3	8191.4	1211.2	1097.6	1138.0	1286.3	1426.9	1403.8	1378.7	1411.5	1409.5
67.5°	20399.6	8593.9	1093.7	1028.3	1080.3	1213.1	1347.9	1338.3	1321.0	1378.7	1374.9
69°	19766.1	7866.0	1026.3	984.0	1039.8	1163.1	1297.8	1294.0	1280.5	1336.4	1332.5
70°	18782.2	7186.3	984.0	955.1	1018.6	1132.2	1265.1	1265.1	1251.6	1299.8	1290.1
72.5°	15087.0	5330.0	885.8	881.9	945.5	1047.5	1176.5	1186.2	1178.5	1195.8	1186.2
75°	8857.7	3211.9	789.5	801.0	856.9	957.0	1078.3	1086.0	1078.3	1076.4	1078.3
77.5°	3071.3	1440.3	697.1	714.4	762.5	864.6	970.5	985.9	974.3	960.9	964.7
80°	1201.6	837.6	596.9	622.0	662.4	760.6	862.7	872.3	855.0	853.0	837.6
82.5°	722.1	510.3	464.1	504.5	554.6	660.5	745.2	741.4	727.9	806.8	706.7
85°	313.9	283.1	338.9	379.3	404.4	494.9	629.7	612.3	579.6	510.3	498.7
87.5°	127.1	146.3	186.8	225.3	242.6	319.6	431.3	415.9	421.7	346.6	344.7
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)