

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: P196254

Luminaire Tested: **NAV-AF-06-D-UNV-T2-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196254
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-06-D-UNV-T2-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23764.2 lumens
Efficiency: N/A
Efficacy: 123.1 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): 193
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

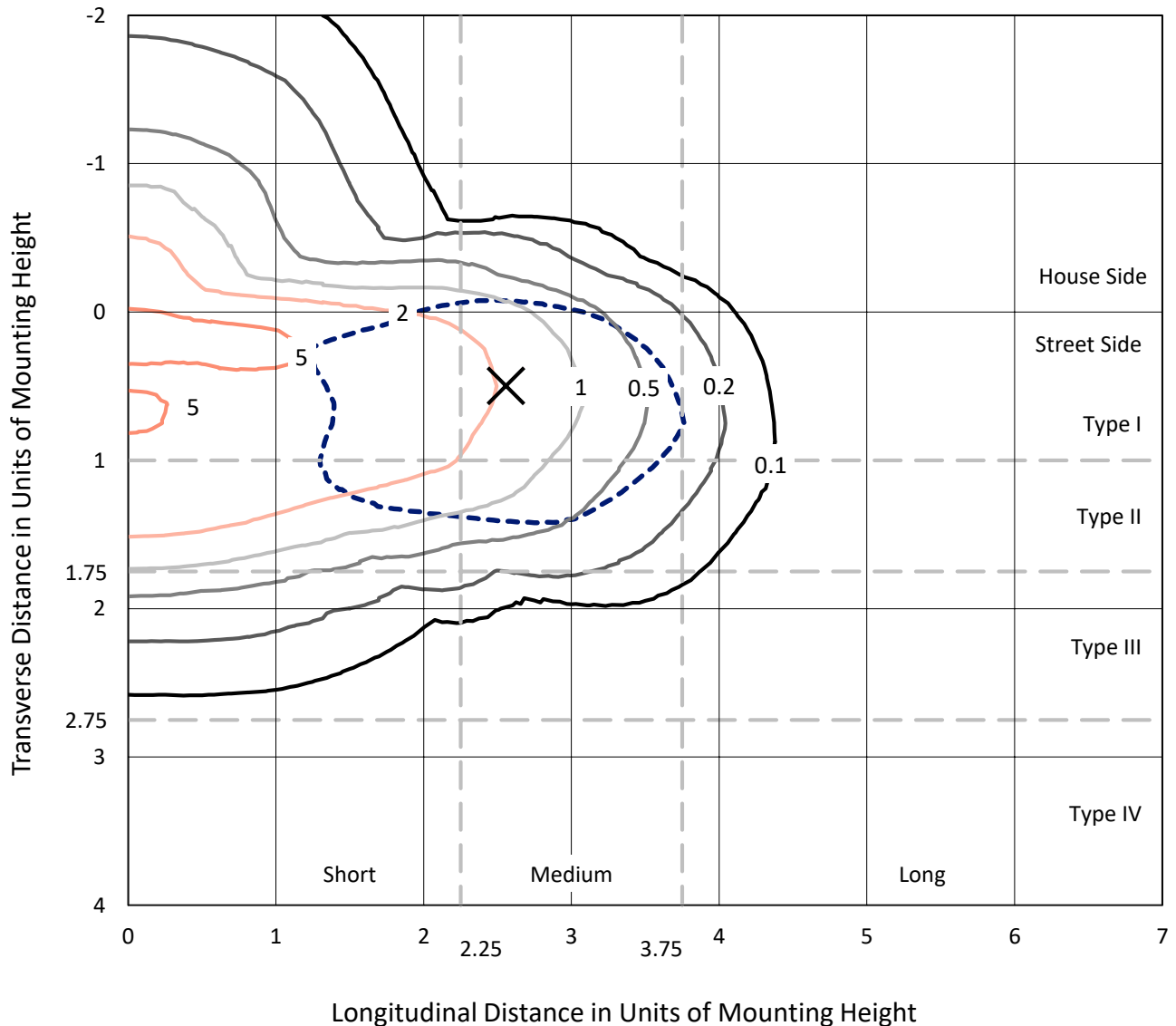


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Iso-Footcandle Lines of Horizontal Illumination

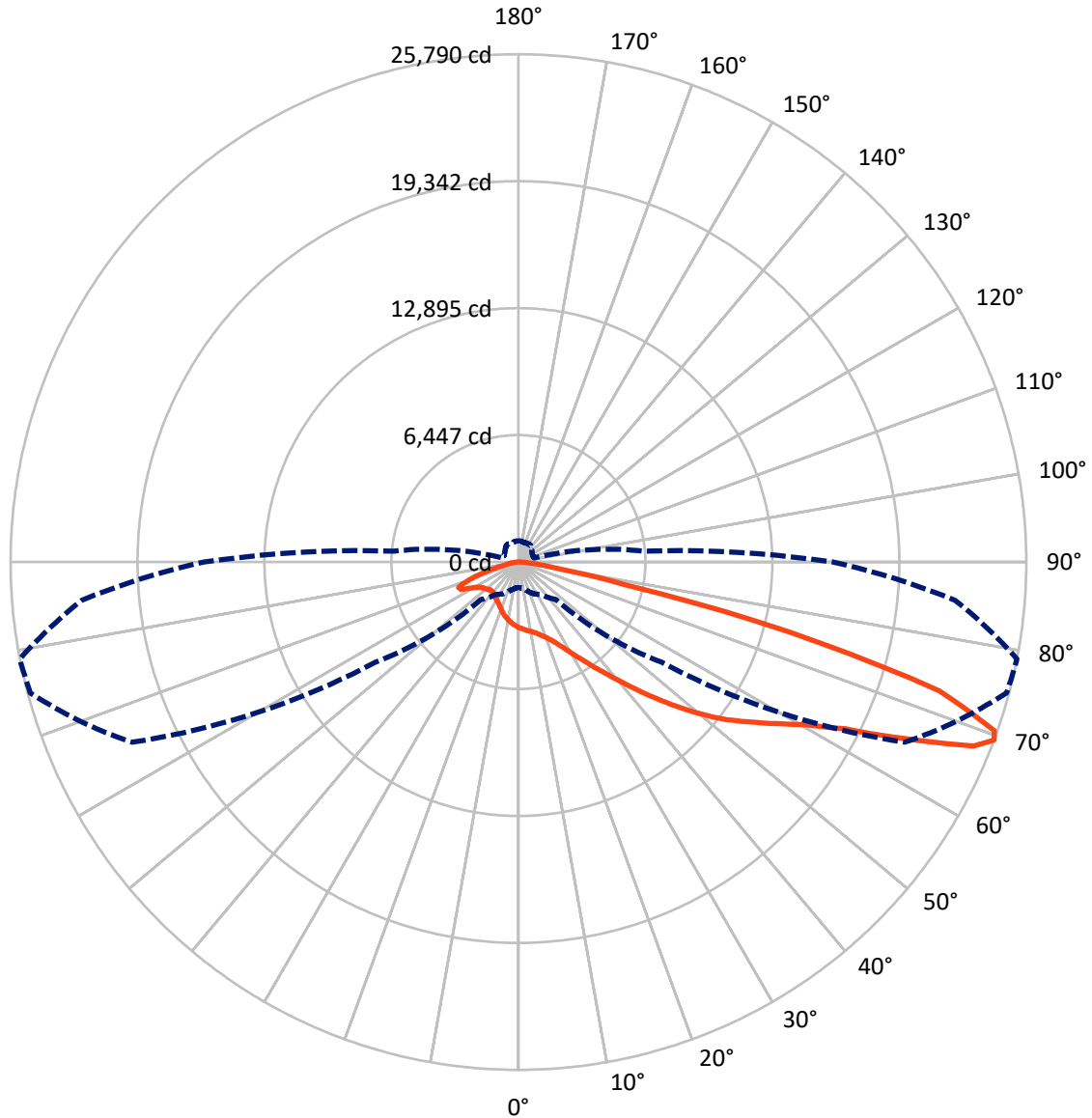
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.4 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	4470.5	0.0	4470.5
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	19293.7	0.0	19293.7
	% Fixture	81.2	0.0	81.2
Total	Lumens	23764.2	0.0	23764.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.1	1.3
10°-20°	886.4	3.7
20°-30°	1464.6	6.2
30°-40°	2371.6	10.0
40°-50°	3788.6	15.9
50°-60°	5425.7	22.8
60°-70°	6045.0	25.4
70°-80°	3024.3	12.7
80°-90°	448.8	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°	23764.2	100.0
0°-180°	23764.2	100.0

Coefficient of Utilization



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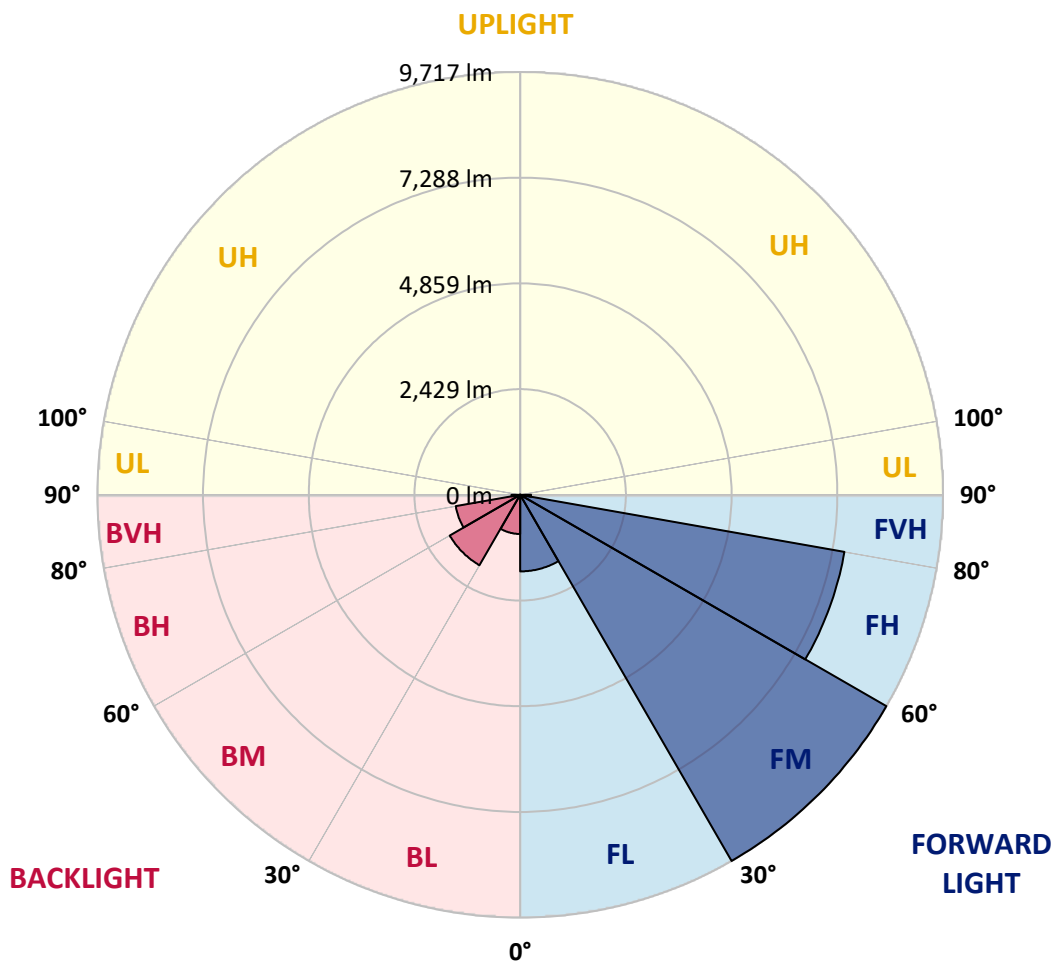
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1759.5	7.4			
FM (30°-60°)	9717.2	40.9			
FH (60°-80°)	7566.2	31.8			G4/12000
FVH (80°-90°)	250.8	1.1			G3/500
BL (0°-30°)	900.6	3.8	B2/1000		
BM (30°-60°)	1868.7	7.9	B2/2500		
BH (60°-80°)	1503.1	6.3	B3/2500		G3/2500
BVH (80°-90°)	198.0	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°	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8
2.5°	3661.3	3653.6	3652.0	3628.7	3616.2	3589.8	3527.6	3463.9	3404.8	3373.7	3341.1
5°	3967.6	3952.1	3944.3	3905.4	3871.3	3812.1	3714.2	3613.2	3507.4	3453.1	3387.7
7.5°	4152.7	4154.2	4154.2	4123.1	4088.9	4017.4	3893.0	3754.6	3597.6	3526.1	3423.5
10°	4168.2	4169.8	4193.1	4200.8	4208.6	4171.3	4056.2	3882.1	3680.0	3586.8	3453.1
12.5°	4014.3	4025.1	4064.0	4120.0	4199.3	4239.7	4190.0	4019.0	3785.7	3672.2	3509.0
15°	3807.5	3818.4	3868.1	3953.6	4081.2	4216.4	4286.4	4176.0	3924.1	3790.4	3591.4
17.5°	3706.5	3718.8	3753.1	3821.5	3945.8	4127.8	4337.6	4343.9	4087.3	3933.5	3689.4
20°	3658.3	3667.6	3711.1	3767.1	3861.9	4036.1	4342.3	4521.1	4281.7	4102.9	3809.1
22.5°	3768.7	3771.7	3793.5	3824.6	3888.3	4022.0	4339.3	4704.6	4524.2	4315.9	3963.0
25°	4092.0	4071.8	4056.2	4017.4	4032.9	4127.8	4389.0	4900.4	4835.2	4595.7	4168.2
27.5°	4474.5	4471.3	4430.9	4340.8	4283.2	4343.9	4530.4	5119.7	5216.0	4951.8	4437.2
30°	4900.4	4902.0	4860.0	4749.7	4633.0	4639.3	4755.9	5373.0	5671.6	5380.8	4768.3
32.5°	5346.7	5374.7	5296.9	5186.6	5045.1	5000.0	5079.3	5679.4	6198.7	5887.7	5152.3
35°	5879.9	5884.6	5799.1	5637.4	5495.9	5424.4	5497.4	6061.8	6806.5	6483.2	5620.3
37.5°	6433.4	6436.5	6347.9	6141.1	5962.4	5915.7	5996.5	6526.7	7450.2	7161.1	6170.6
40°	6885.8	6918.5	6848.6	6654.2	6473.8	6445.8	6562.4	7083.3	8272.6	7963.3	6825.2
42.5°	7398.9	7436.2	7352.3	7150.1	7007.1	6997.8	7179.7	7717.7	9090.5	8891.4	7566.8
45°	7977.3	8030.1	7913.5	7686.6	7565.2	7770.4	7781.4	8420.3	10032.6	9930.0	8401.7
47.5°	8608.4	8652.0	8557.2	8313.1	8180.9	8477.9	8370.6	9180.6	11050.9	11043.2	9305.0
50°	9095.1	9143.2	9152.6	9045.3	8906.9	8944.3	9017.3	9979.7	12066.1	12187.4	10239.3
52.5°	9006.5	9053.1	9263.0	9544.4	9766.7	9670.4	9759.0	10828.5	13047.1	13303.7	11127.1
55°	8291.3	8316.2	8709.5	9378.0	10324.8	10785.1	10791.3	11752.1	13980.0	14339.1	11969.8
57.5°	7002.4	7005.6	7517.1	8502.8	10000.0	11508.0	12420.7	12911.9	14953.3	15483.4	13014.5
60°	4954.9	4967.3	5562.8	6851.6	8835.4	11420.9	14172.8	14987.5	16080.4	16769.1	14360.9
62.5°	2941.5	2969.5	3418.8	4452.7	6562.4	10301.5	15208.2	18679.9	17740.8	18655.0	16515.7
65°	1913.8	1937.2	2206.1	2725.4	3877.5	7495.3	14867.8	22255.7	20882.9	21621.4	19612.7
67.5°	1473.9	1492.5	1703.9	2018.0	2378.7	4051.6	11887.3	23005.1	24707.5	24937.6	22226.2
69°	1295.1	1310.6	1466.1	1767.8	2002.4	2681.9	8858.8	21644.7	25663.7	25789.6	22258.9
70°	1200.2	1212.7	1358.8	1620.0	1839.3	2140.8	6780.1	20065.2	25313.8	25635.7	21616.8
72.5°	988.8	999.7	1103.9	1304.4	1503.4	1525.2	3003.7	14651.6	21315.1	22344.4	18292.8
75°	825.5	831.8	900.2	1046.3	1217.3	1214.2	1534.5	8299.1	13006.7	14233.4	11295.0
77.5°	688.8	693.4	738.5	828.7	960.9	956.2	1080.5	3582.1	5743.2	5541.0	3888.3
80°	607.9	611.0	634.3	657.7	741.6	736.9	800.7	1644.9	2336.7	2159.4	1470.8
82.5°	461.8	468.0	586.2	597.0	575.2	555.1	558.1	957.7	1197.2	1089.9	789.8
85°	261.2	262.8	376.2	440.0	500.6	376.2	362.2	494.4	590.8	517.7	345.1
87.5°	116.6	121.2	180.3	208.4	270.6	220.8	206.7	209.9	255.0	211.4	136.8
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°	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8	3334.8
2.5°	3310.0	3283.6	3221.4	3157.6	3093.9	3053.5	3011.5	2972.6	2957.0	2955.5	2925.9
5°	3324.0	3261.8	3120.3	2964.8	2817.1	2702.1	2605.7	2543.5	2482.9	2472.0	2445.6
7.5°	3328.7	3227.6	2997.5	2748.8	2523.3	2364.8	2268.3	2226.4	2196.8	2189.0	2179.7
10°	3327.0	3184.0	2860.7	2520.2	2263.7	2144.0	2108.2	2117.5	2130.0	2136.2	2136.2
12.5°	3352.0	3163.9	2723.8	2305.6	2095.7	2038.2	2066.3	2114.4	2151.7	2167.2	2170.4
15°	3397.0	3151.4	2573.0	2119.0	1977.6	1991.6	2060.0	2130.0	2182.8	2206.1	2212.3
17.5°	3453.1	3134.3	2398.9	1965.2	1909.2	1957.4	2046.0	2134.6	2198.3	2227.9	2232.6
20°	3515.2	3109.5	2218.6	1850.1	1848.6	1909.2	1997.8	2097.4	2165.7	2198.3	2196.8
22.5°	3599.2	3086.1	2050.7	1766.1	1781.7	1837.6	1910.8	2000.9	2064.6	2094.2	2087.9
25°	3711.1	3064.4	1899.8	1691.6	1705.6	1742.8	1794.2	1862.6	1907.6	1923.1	1912.3
27.5°	3861.9	3047.3	1781.7	1623.1	1621.6	1638.7	1669.8	1707.1	1728.9	1724.2	1707.1
30°	4046.9	3030.2	1694.6	1562.5	1540.8	1539.1	1553.1	1574.9	1588.9	1560.9	1546.9
32.5°	4253.7	3000.6	1616.9	1509.7	1470.8	1456.8	1463.0	1492.5	1550.1	1522.0	1511.2
35°	4497.8	2966.4	1539.1	1452.1	1422.5	1396.1	1400.8	1464.6	1638.7	1618.4	1607.6
37.5°	4791.6	2935.3	1467.6	1389.9	1388.3	1355.7	1352.6	1428.8	1662.0	1618.4	1609.1
40°	5144.5	2929.1	1403.9	1321.6	1346.4	1333.9	1323.1	1369.7	1533.0	1444.3	1427.2
42.5°	5570.6	2957.0	1357.3	1256.2	1298.2	1327.7	1307.5	1318.4	1385.3	1306.0	1292.0
45°	6068.0	3033.3	1323.1	1198.7	1246.9	1323.1	1299.8	1290.5	1301.3	1257.7	1248.4
47.5°	6648.0	3168.5	1299.8	1150.5	1198.7	1310.6	1296.6	1278.0	1273.3	1248.4	1242.2
50°	7268.3	3350.4	1284.2	1106.9	1155.1	1288.8	1295.1	1268.7	1260.9	1249.9	1246.9
52.5°	7884.0	3547.9	1265.5	1069.6	1119.4	1262.4	1296.6	1259.4	1248.4	1242.2	1239.1
55°	8496.5	3753.1	1231.3	1037.0	1092.9	1231.3	1295.1	1246.9	1234.4	1234.4	1234.4
57.5°	9291.0	4065.6	1186.2	1010.6	1058.8	1190.9	1274.9	1232.9	1215.8	1217.3	1218.8
60°	10438.4	4589.5	1136.5	981.0	1013.6	1144.3	1243.8	1208.0	1187.9	1194.0	1195.6
62.5°	12355.3	5505.2	1068.1	939.1	967.0	1094.6	1203.4	1173.8	1155.1	1166.1	1167.6
65°	14911.2	6613.8	977.9	886.2	918.8	1038.5	1152.0	1133.4	1113.2	1139.6	1138.0
67.5°	16470.6	6938.7	883.1	830.2	872.2	979.5	1088.3	1080.5	1066.5	1113.2	1110.1
69°	15959.2	6351.0	828.7	794.4	839.5	939.1	1047.9	1044.7	1033.9	1079.0	1075.8
70°	15164.7	5802.2	794.4	771.1	822.5	914.2	1021.4	1021.4	1010.6	1049.4	1041.7
72.5°	12181.2	4303.5	715.1	712.1	763.3	845.8	949.9	957.7	951.4	965.5	957.7
75°	7151.7	2593.3	637.4	646.8	691.8	772.7	870.6	876.9	870.6	869.1	870.6
77.5°	2479.7	1162.9	562.8	576.8	615.7	698.1	783.6	796.1	786.6	775.8	778.9
80°	970.2	676.3	481.9	502.2	534.8	614.1	696.5	704.3	690.3	688.8	676.3
82.5°	583.0	412.0	374.7	407.3	447.7	533.3	601.7	598.5	587.7	651.4	570.6
85°	253.4	228.5	273.6	306.3	326.5	399.6	508.4	494.4	468.0	412.0	402.6
87.5°	102.6	118.2	150.8	181.9	195.9	258.1	348.2	335.8	340.4	279.9	278.3
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)