

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: P196259

Luminaire Tested: **NAV-AF-05-D-UNV-T2-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196259
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-T2-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24325.8 lumens
Efficiency: N/A
Efficacy: 115.8 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

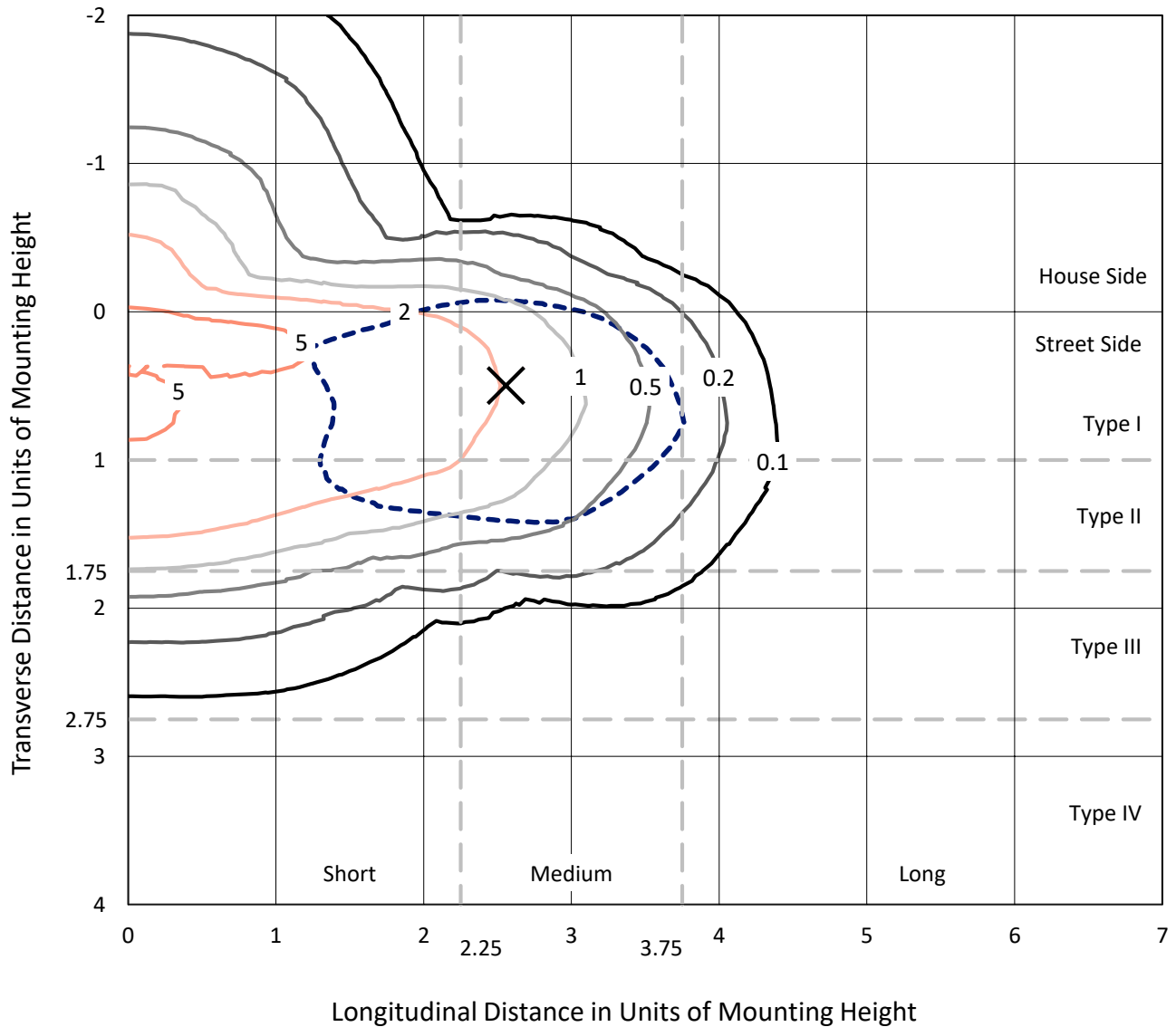
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

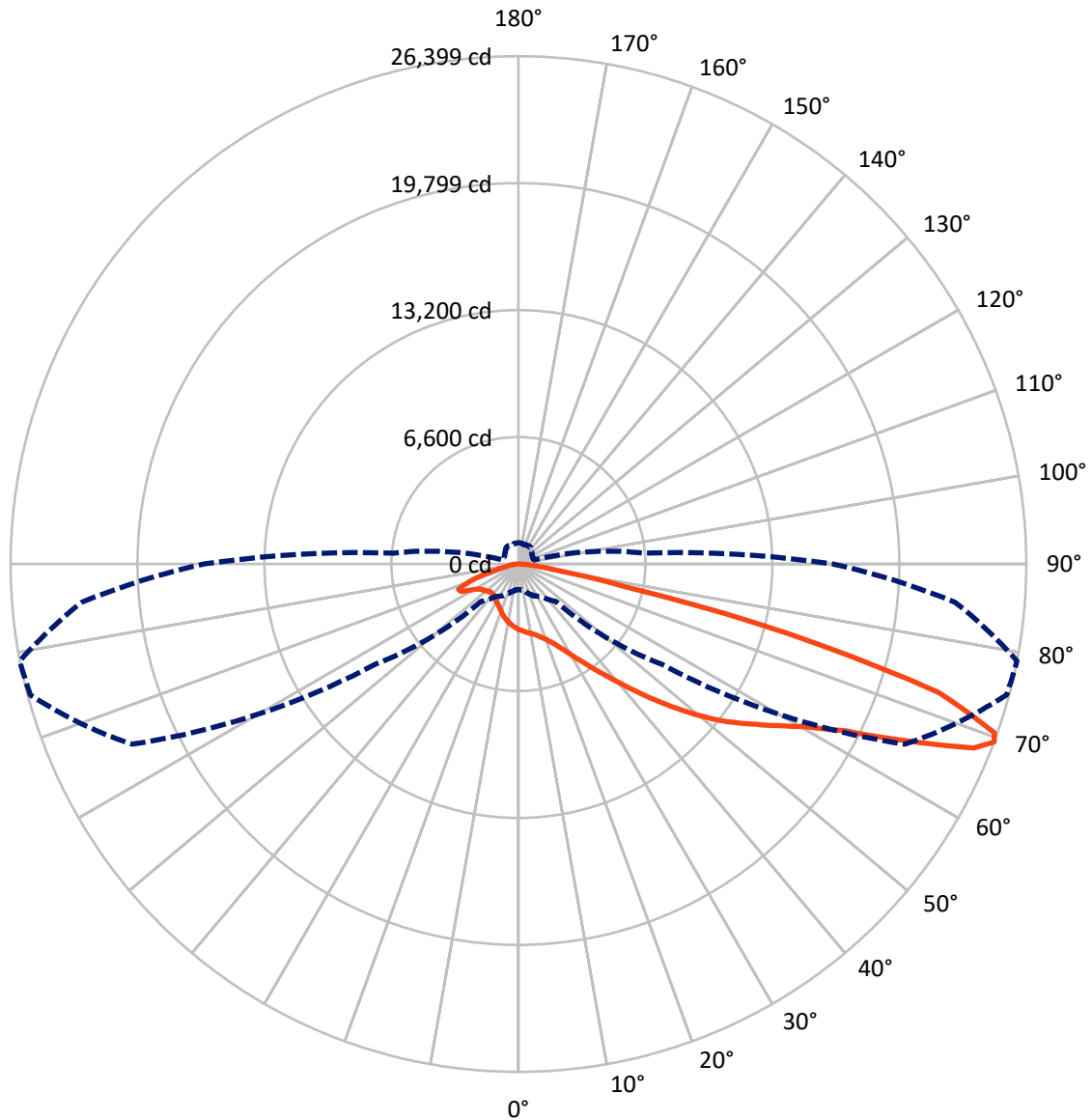
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 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	4576.1	0.0	4576.1
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	19749.6	0.0	19749.6
	% Fixture	81.2	0.0	81.2
Total	Lumens	24325.8	0.0	24325.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	316.5	1.3
10°-20°	907.3	3.7
20°-30°	1499.2	6.2
30°-40°	2427.6	10.0
40°-50°	3878.2	15.9
50°-60°	5553.9	22.8
60°-70°	6187.9	25.4
70°-80°	3095.7	12.7
80°-90°	459.4	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°	24325.8	100.0
0°-180°	24325.8	100.0



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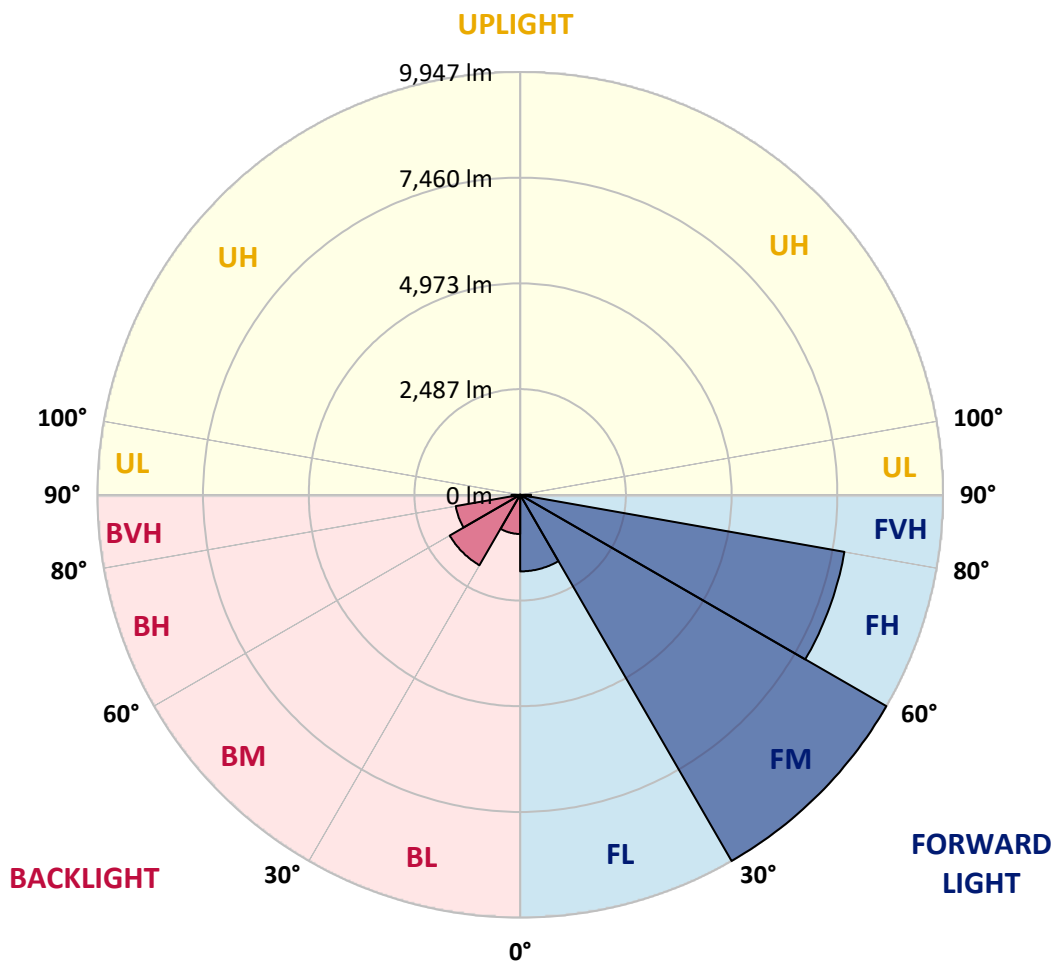
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1801.1	7.4			
FM (30°-60°)	9946.8	40.9			
FH (60°-80°)	7745.0	31.8			G4/12000
FVH (80°-90°)	256.7	1.1			G3/500
BL (0°-30°)	921.9	3.8	B2/1000		
BM (30°-60°)	1912.9	7.9	B2/2500		
BH (60°-80°)	1538.6	6.3	B3/2500		G3/2500
BVH (80°-90°)	202.7	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°	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7
2.5°	3747.9	3739.9	3738.4	3714.4	3701.8	3674.6	3611.0	3545.8	3485.3	3453.5	3420.0
5°	4061.4	4045.5	4037.5	3997.7	3962.7	3902.3	3802.0	3698.6	3590.4	3534.6	3467.8
7.5°	4250.8	4252.4	4252.4	4220.6	4185.5	4112.4	3985.0	3843.3	3682.6	3609.4	3504.4
10°	4266.7	4268.3	4292.2	4300.1	4308.1	4269.9	4152.2	3973.9	3767.0	3671.5	3534.6
12.5°	4109.1	4120.2	4160.0	4217.3	4298.5	4339.9	4288.9	4113.9	3875.2	3759.0	3591.9
15°	3897.4	3908.6	3959.5	4047.1	4177.5	4316.0	4387.6	4274.6	4016.8	3880.0	3676.3
17.5°	3794.0	3806.8	3841.8	3911.8	4039.1	4225.3	4440.1	4446.6	4184.0	4026.3	3776.5
20°	3744.7	3754.2	3798.8	3856.1	3953.2	4131.4	4444.9	4627.9	4382.8	4199.8	3899.1
22.5°	3857.6	3860.9	3883.1	3914.9	3980.2	4117.1	4441.8	4815.7	4631.1	4417.9	4056.6
25°	4188.7	4168.0	4152.2	4112.4	4128.2	4225.3	4492.7	5016.2	4949.4	4704.3	4266.7
27.5°	4580.3	4577.0	4535.7	4443.4	4384.5	4446.6	4637.5	5240.7	5339.3	5068.8	4542.0
30°	5016.2	5017.9	4974.9	4861.9	4742.5	4748.9	4868.2	5500.1	5805.7	5508.1	4881.0
32.5°	5473.0	5501.6	5422.0	5309.1	5164.3	5118.1	5199.2	5813.6	6345.2	6026.8	5274.1
35°	6018.8	6023.6	5936.2	5770.7	5625.8	5552.6	5627.4	6205.1	6967.4	6636.4	5753.1
37.5°	6585.5	6588.6	6497.9	6286.2	6103.2	6055.5	6138.2	6680.9	7626.3	7330.3	6316.5
40°	7048.5	7082.0	7010.4	6811.4	6626.8	6598.1	6717.5	7250.7	8468.2	8151.5	6986.4
42.5°	7573.7	7612.0	7526.0	7319.1	7172.7	7163.1	7349.4	7899.9	9305.3	9101.5	7745.6
45°	8165.8	8219.9	8100.5	7868.1	7744.0	7954.1	7965.2	8619.3	10269.7	10164.7	8600.3
47.5°	8811.9	8856.5	8759.4	8509.5	8374.3	8678.2	8568.4	9397.5	11312.1	11304.1	9524.9
50°	9310.0	9359.4	9368.9	9259.1	9117.5	9155.6	9230.5	10215.6	12351.3	12475.4	10481.4
52.5°	9219.3	9267.0	9481.9	9770.0	9997.5	9898.9	9989.5	11084.5	13355.5	13618.1	11390.0
55°	8487.2	8512.7	8915.3	9599.7	10568.8	11039.9	11046.3	12029.8	14310.4	14678.0	12252.6
57.5°	7167.9	7171.1	7694.7	8703.7	10236.3	11780.0	12714.2	13217.0	15306.6	15849.3	13322.1
60°	5072.0	5084.7	5694.3	7013.6	9044.2	11690.8	14507.7	15341.6	16460.4	17165.4	14700.3
62.5°	3011.1	3039.7	3499.6	4558.0	6717.5	10545.0	15567.7	19121.3	18160.1	19095.9	16906.0
65°	1959.1	1983.0	2258.3	2789.8	3969.0	7672.4	15219.1	22781.7	21376.4	22132.4	20076.2
67.5°	1508.8	1527.8	1744.2	2065.7	2434.9	4147.3	12168.3	23548.7	25291.4	25526.9	22751.4
69°	1325.6	1341.6	1500.8	1809.5	2049.8	2745.3	9068.2	22156.3	26270.2	26399.1	22784.9
70°	1228.6	1241.4	1390.9	1658.3	1882.7	2191.5	6940.3	20539.3	25912.1	26241.6	22127.7
72.5°	1012.2	1023.3	1130.0	1335.3	1538.9	1561.2	3074.7	14997.9	21818.8	22872.5	18725.1
75°	845.1	851.4	921.5	1071.0	1246.2	1242.9	1570.7	8495.2	13314.1	14569.8	11561.9
77.5°	705.0	709.8	756.0	848.2	983.6	978.8	1106.0	3666.7	5878.8	5672.0	3980.2
80°	622.3	625.4	649.3	673.2	759.1	754.3	819.6	1683.8	2392.0	2210.5	1505.5
82.5°	472.7	479.0	600.0	611.1	588.8	568.1	571.3	980.3	1225.4	1115.6	808.4
85°	267.4	268.9	385.1	450.4	512.5	385.1	370.8	506.1	604.8	530.0	353.3
87.5°	119.4	124.1	184.6	213.3	276.9	226.0	211.6	214.8	261.0	216.5	140.0
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°	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7	3413.7
2.5°	3388.2	3361.1	3297.5	3232.2	3167.0	3125.6	3082.7	3042.9	3026.9	3025.4	2995.1
5°	3402.5	3338.9	3194.1	3034.9	2883.7	2766.0	2667.2	2603.6	2541.5	2530.4	2503.4
7.5°	3407.3	3303.8	3068.3	2813.7	2583.0	2420.6	2321.9	2278.9	2248.8	2240.8	2231.3
10°	3405.7	3259.3	2928.3	2579.8	2317.2	2194.6	2158.0	2167.5	2180.3	2186.7	2186.7
12.5°	3431.2	3238.7	2788.3	2360.2	2145.3	2086.4	2115.1	2164.4	2202.6	2218.5	2221.6
15°	3477.3	3225.9	2633.9	2169.2	2024.3	2038.6	2108.7	2180.3	2234.4	2258.3	2264.6
17.5°	3534.6	3208.4	2455.6	2011.6	1954.3	2003.7	2094.4	2185.0	2250.3	2280.6	2285.4
20°	3598.3	3182.9	2271.1	1893.8	1892.3	1954.3	2045.0	2146.9	2216.9	2250.3	2248.8
22.5°	3684.3	3159.1	2099.1	1807.9	1823.8	1881.1	1955.9	2048.3	2113.4	2143.7	2137.4
25°	3798.8	3136.8	1944.7	1731.5	1745.9	1784.0	1836.5	1906.6	1952.7	1968.7	1957.5
27.5°	3953.2	3119.3	1823.8	1661.5	1659.8	1677.4	1709.2	1747.4	1769.7	1764.9	1747.4
30°	4142.5	3101.8	1734.7	1599.4	1577.1	1575.5	1589.9	1612.2	1626.5	1597.8	1583.5
32.5°	4354.2	3071.5	1655.1	1545.3	1505.5	1491.2	1497.6	1527.8	1586.7	1558.1	1546.9
35°	4604.1	3036.5	1575.5	1486.4	1456.2	1429.2	1433.9	1499.1	1677.4	1656.7	1645.5
37.5°	4904.8	3004.7	1502.3	1422.7	1421.2	1387.7	1384.6	1462.5	1701.3	1656.7	1647.2
40°	5266.2	2998.3	1437.0	1352.8	1378.2	1365.4	1354.3	1402.1	1569.2	1478.5	1461.0
42.5°	5702.2	3026.9	1389.4	1285.8	1328.9	1359.1	1338.4	1349.6	1418.0	1336.8	1322.5
45°	6211.5	3105.0	1354.3	1227.0	1276.3	1354.3	1330.4	1320.9	1332.1	1287.5	1278.0
47.5°	6805.1	3243.4	1330.4	1177.7	1227.0	1341.6	1327.3	1308.1	1303.4	1278.0	1271.5
50°	7440.0	3429.5	1314.6	1133.1	1182.4	1319.3	1325.6	1298.6	1290.7	1279.5	1276.3
52.5°	8070.3	3631.7	1295.5	1095.0	1145.8	1292.3	1327.3	1289.1	1278.0	1271.5	1268.4
55°	8697.3	3841.8	1260.5	1061.5	1118.8	1260.5	1325.6	1276.3	1263.7	1263.7	1263.7
57.5°	9510.6	4161.7	1214.2	1034.4	1083.8	1219.1	1305.0	1262.0	1244.5	1246.2	1247.7
60°	10685.0	4698.0	1163.4	1004.2	1037.6	1171.3	1273.2	1236.5	1215.9	1222.2	1223.9
62.5°	12647.4	5635.3	1093.3	961.3	989.9	1120.3	1231.8	1201.6	1182.4	1193.6	1195.2
65°	15263.7	6770.1	1001.1	907.2	940.5	1063.1	1179.3	1160.1	1139.5	1166.6	1164.9
67.5°	16859.9	7102.7	904.0	849.9	892.8	1002.6	1114.0	1106.0	1091.7	1139.5	1136.3
69°	16336.3	6501.1	848.2	813.2	859.4	961.3	1072.7	1069.5	1058.3	1104.5	1101.3
70°	15523.1	5939.4	813.2	789.4	841.9	935.8	1045.6	1045.6	1034.4	1074.2	1066.3
72.5°	12469.1	4405.1	732.0	728.9	781.4	865.7	972.4	980.3	974.0	988.3	980.3
75°	7320.7	2654.6	652.5	662.1	708.2	790.9	891.2	897.5	891.2	889.7	891.2
77.5°	2538.4	1190.4	576.1	590.4	630.2	714.5	802.1	814.8	805.3	794.1	797.3
80°	993.1	692.3	493.4	514.0	547.5	628.6	713.0	721.0	706.7	705.0	692.3
82.5°	596.8	421.8	383.5	417.0	458.4	545.8	615.9	612.7	601.6	666.9	584.1
85°	259.4	233.9	280.1	313.5	334.2	409.0	520.4	506.1	479.0	421.8	412.1
87.5°	105.1	120.9	154.4	186.2	200.5	264.2	356.5	343.7	348.5	286.4	284.9
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)