

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: P195906

Luminaire Tested: **NAV-AF-06-D-UNV-T4W-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195906
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 35596 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G5

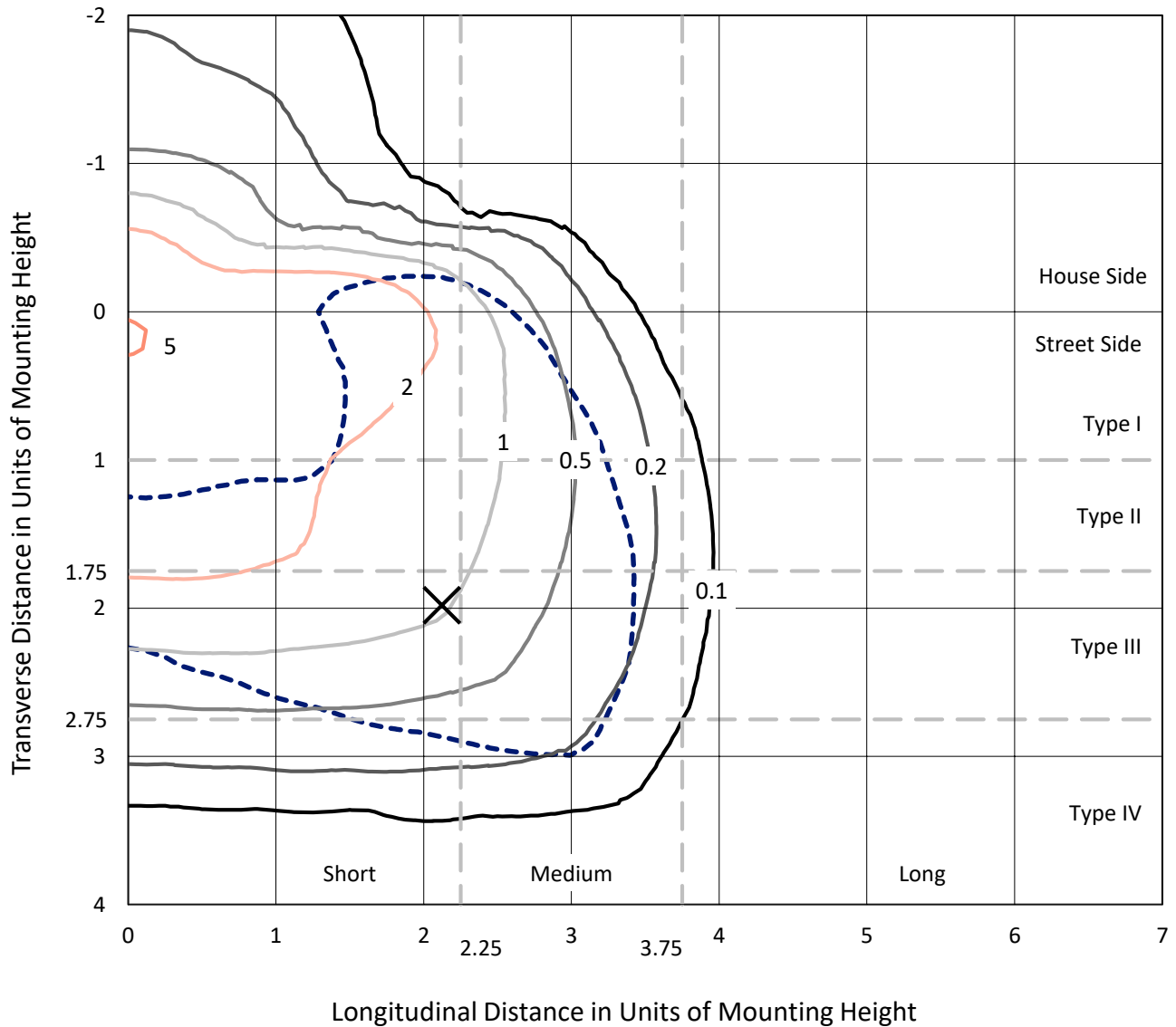
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

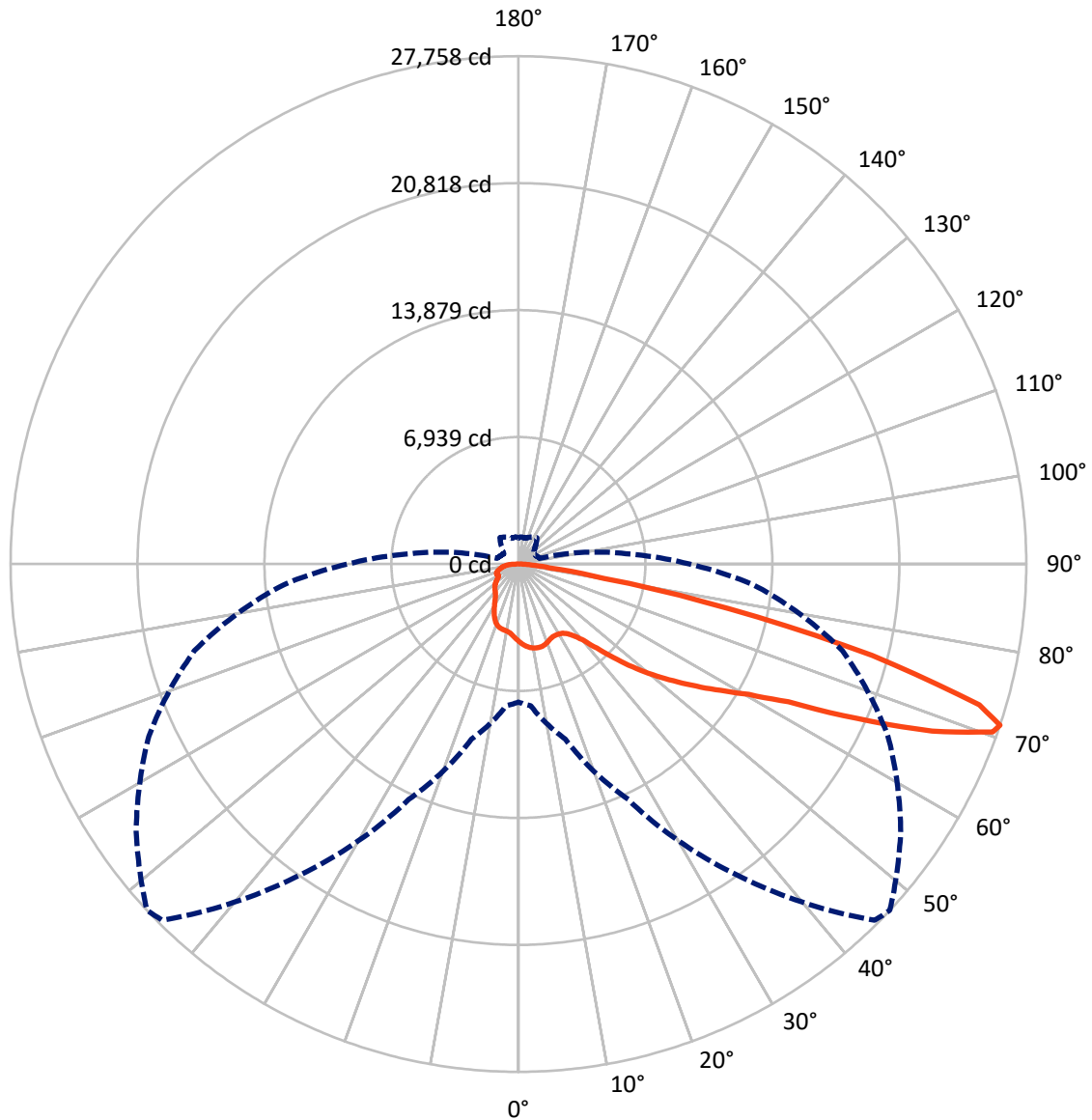
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.4 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7628.7	0.0	7628.7
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	27967.3	0.0	27967.3
	% Fixture	78.6	0.0	78.6
Total	Lumens	35596.0	0.0	35596.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	404.2	1.1
10°-20°	1182.4	3.3
20°-30°	1757.0	4.9
30°-40°	2522.8	7.1
40°-50°	4473.0	12.6
50°-60°	7653.9	21.5
60°-70°	10866.0	30.5
70°-80°	5951.2	16.7
80°-90°	785.6	2.2
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°	35596.0	100.0
0°-180°	35596.0	100.0



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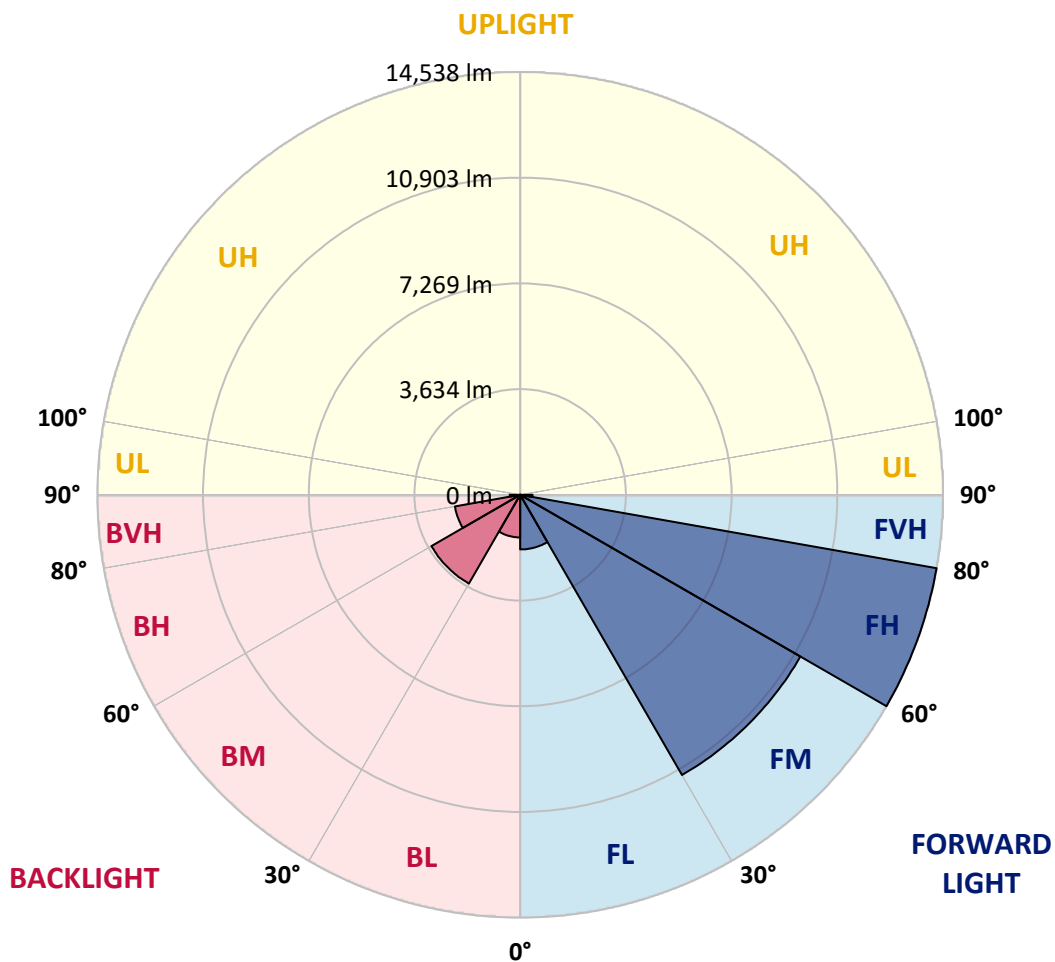
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1878.6	5.3			
FM	(30°-60°)	11124.8	31.3			
FH	(60°-80°)	14537.8	40.8			G5
FVH	(80°-90°)	426.1	1.2			G3/500
BL	(0°-30°)	1465.0	4.1	B3/2500		
BM	(30°-60°)	3524.9	9.9	B3/5000		
BH	(60°-80°)	2279.4	6.4	B3/2500		G3/2500
BVH	(80°-90°)	359.5	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0
2.5°	4491.3	4482.1	4486.7	4470.6	4431.3	4389.8	4389.8	4346.0	4299.9	4253.7	4203.0
5°	4770.4	4756.6	4745.1	4694.3	4618.2	4532.8	4519.0	4431.3	4336.8	4242.2	4149.9
7.5°	5003.4	4989.6	4955.0	4862.7	4752.0	4625.1	4609.0	4493.6	4369.1	4237.6	4108.4
10°	5169.5	5160.3	5093.4	4975.7	4846.6	4696.6	4668.9	4551.3	4403.7	4239.9	4076.1
12.5°	5261.8	5247.9	5167.2	5028.8	4876.6	4724.3	4696.6	4583.6	4415.2	4235.3	4043.8
15°	5224.9	5218.0	5141.8	5001.1	4848.9	4717.4	4694.3	4579.0	4408.3	4219.1	4013.8
17.5°	5068.0	5084.2	5024.2	4885.8	4761.2	4668.9	4643.6	4535.2	4373.7	4179.9	3967.7
20°	4851.2	4869.6	4839.6	4698.9	4627.4	4567.4	4553.6	4465.9	4316.0	4122.2	3912.3
22.5°	4620.5	4636.6	4639.0	4507.5	4484.4	4461.3	4449.8	4387.5	4265.3	4087.6	3875.4
25°	4461.3	4479.8	4484.4	4369.1	4382.9	4389.8	4387.5	4343.7	4256.0	4087.6	3880.0
27.5°	4419.8	4429.0	4424.4	4318.3	4343.7	4382.9	4385.2	4376.0	4292.9	4133.8	3944.6
30°	4562.8	4567.4	4509.8	4350.6	4376.0	4426.7	4429.0	4424.4	4371.4	4253.7	4089.9
32.5°	5181.1	5176.4	4978.1	4567.4	4479.8	4498.2	4505.2	4546.7	4551.3	4452.1	4299.9
35°	6122.2	6119.9	5889.2	5188.0	4775.1	4678.2	4687.4	4752.0	4809.7	4742.8	4655.1
37.5°	7158.0	7164.9	7024.2	6073.8	5411.7	5008.0	4998.8	5047.3	5151.1	5174.1	5185.7
40°	8306.8	8341.4	8334.4	7091.1	6304.5	5570.9	5478.6	5423.3	5624.0	5750.8	5914.6
42.5°	9619.3	9610.1	9614.7	8207.6	7324.1	6456.7	6286.0	6027.6	6260.6	6479.8	6839.6
45°	10747.3	10784.2	10811.9	9395.6	8465.9	7469.4	7296.4	6825.8	7035.7	7363.3	7912.3
47.5°	11882.3	11817.7	11868.4	10717.3	9737.0	8625.1	8401.3	7767.0	7963.0	8424.4	9259.5
50°	13204.1	13174.1	12943.4	12442.8	11273.3	9796.9	9504.0	8749.7	9035.7	9651.6	10922.7
52.5°	14389.8	14228.3	14048.4	13799.2	12784.2	10982.6	10611.2	9771.6	10297.5	11061.1	12987.2
55°	14823.4	14715.0	14931.9	15254.8	14382.8	12191.4	11776.2	10964.2	11720.8	12673.5	15416.3
57.5°	15284.8	15321.7	15810.7	16463.6	15896.1	13480.9	13031.1	12375.9	13282.5	14477.4	18131.4
60°	15515.5	15663.1	16638.9	17863.8	17335.5	14894.9	14463.6	13997.6	15014.9	16470.5	20839.5
62.5°	15554.7	15753.1	17134.8	18355.1	19317.1	17061.0	16562.8	16057.6	17178.7	18673.5	22800.3
65°	14835.0	15139.5	17091.0	18959.5	21123.3	20680.4	20364.3	19483.2	20076.0	20613.5	23134.8
67.5°	12719.6	13051.8	15400.1	18710.4	22571.9	24435.8	24375.9	23074.8	22313.6	21363.2	20655.0
70°	9335.6	9603.2	11859.2	15995.3	21939.9	27383.9	27490.0	25402.4	22938.7	19771.5	15358.6
71°	7550.1	7780.8	9907.7	14200.6	20708.1	27536.2	27757.6	25506.2	22288.2	18334.4	12858.1
72.5°	4698.9	4828.1	6579.0	10717.3	17831.5	25967.5	26341.2	24177.5	20239.8	15497.0	9088.8
75°	1773.9	1824.7	2440.6	4726.6	10643.5	19508.5	19960.7	18272.1	14219.1	8846.5	3803.9
77.5°	952.7	978.1	1211.1	1965.4	4265.3	11183.3	11764.6	10422.1	6821.2	3095.7	1554.8
80°	639.0	655.1	837.4	1164.9	1960.8	4258.3	4742.8	4184.5	2553.6	1767.0	1107.3
82.5°	412.9	422.1	569.8	765.9	1266.4	1497.1	1709.3	1785.5	1594.0	1266.4	669.0
85°	272.2	279.1	376.0	489.0	784.3	738.2	756.6	989.6	1086.5	835.1	341.4
87.5°	156.9	161.5	226.1	251.4	352.9	276.8	299.9	470.6	645.9	544.4	196.1
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°	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0	4233.0
2.5°	4179.9	4161.5	4119.9	4094.6	4083.0	4078.4	4073.8	4083.0	4083.0	4078.4	4069.2
5°	4103.8	4069.2	4000.0	3951.5	3926.2	3919.2	3928.5	3940.0	3946.9	3946.9	3940.0
7.5°	4048.4	3997.7	3905.4	3838.5	3799.3	3787.8	3813.1	3854.6	3882.3	3896.2	3898.5
10°	4002.3	3933.1	3831.6	3762.4	3730.1	3725.5	3757.8	3810.8	3868.5	3893.9	3898.5
12.5°	3960.8	3882.3	3771.6	3707.0	3683.9	3695.5	3739.3	3787.8	3854.6	3891.6	3893.9
15°	3921.5	3840.8	3723.2	3656.3	3651.6	3670.1	3711.6	3750.8	3801.6	3847.7	3847.7
17.5°	3875.4	3787.8	3665.5	3603.2	3603.2	3619.4	3647.0	3667.8	3700.1	3743.9	3741.6
20°	3820.0	3730.1	3605.5	3540.9	3527.1	3517.9	3517.9	3522.5	3550.2	3589.4	3596.3
22.5°	3778.5	3686.3	3554.8	3476.3	3414.1	3354.1	3328.7	3319.5	3344.8	3381.8	3391.0
25°	3778.5	3686.3	3538.6	3407.1	3254.9	3139.5	3091.1	3077.3	3102.6	3137.2	3151.1
27.5°	3840.8	3748.5	3575.5	3344.8	3065.7	2881.2	2823.5	2812.0	2835.0	2862.7	2876.6
30°	3986.1	3896.2	3681.6	3273.3	2855.8	2613.6	2549.0	2537.5	2549.0	2560.5	2576.7
32.5°	4228.3	4152.2	3854.6	3208.7	2643.6	2371.4	2292.9	2274.5	2279.1	2281.4	2295.3
35°	4622.8	4588.2	4085.3	3132.6	2442.9	2173.0	2092.3	2055.4	2053.0	2064.6	2080.7
37.5°	5227.2	5247.9	4382.9	3021.9	2276.8	2032.3	1951.5	1914.6	1896.2	1919.2	1937.7
40°	6080.7	6129.1	4726.6	2872.0	2140.7	1949.2	1863.9	1829.3	1803.9	1797.0	1806.2
42.5°	7190.3	7176.4	5077.2	2680.5	1993.1	1893.9	1803.9	1767.0	1725.5	1672.4	1660.9
45°	8505.1	8306.8	5370.2	2445.2	1824.7	1840.8	1748.5	1697.8	1633.2	1554.8	1545.5
47.5°	10057.6	9510.9	5550.1	2193.8	1667.8	1771.6	1686.3	1607.8	1513.3	1462.5	1455.6
50°	11928.4	10920.3	5677.0	1937.7	1527.1	1684.0	1598.6	1494.8	1402.5	1388.7	1386.4
52.5°	14142.9	12583.5	5833.9	1707.0	1416.4	1570.9	1510.9	1404.8	1331.0	1337.9	1337.9
55°	16498.2	14304.4	5838.5	1524.8	1319.5	1439.4	1446.4	1361.0	1303.3	1326.4	1333.3
57.5°	18645.8	15808.4	5379.4	1395.6	1227.2	1335.6	1425.6	1377.2	1333.3	1414.1	1421.0
60°	20518.9	16966.4	4392.1	1289.5	1151.1	1296.4	1471.7	1476.3	1467.1	1686.3	1702.4
62.5°	21204.0	16978.0	3118.8	1199.5	1109.6	1319.5	1568.6	1575.5	1575.5	1778.5	1808.5
65°	20244.4	15563.9	2076.1	1146.5	1081.9	1370.2	1647.0	1617.1	1545.5	1686.3	1654.0
67.5°	16862.6	12115.3	1517.9	1111.9	1042.7	1372.5	1716.3	1640.1	1517.9	1637.8	1582.5
70°	11589.3	7709.3	1271.0	1079.6	996.5	1312.6	1753.2	1633.2	1476.3	1527.1	1453.3
71°	9328.7	6152.2	1206.5	1068.0	978.1	1278.0	1757.8	1624.0	1455.6	1487.9	1421.0
72.5°	6145.3	3790.1	1128.0	1042.7	950.4	1218.0	1746.2	1603.2	1427.9	1430.2	1386.4
75°	2424.4	1570.9	1015.0	985.0	872.0	1121.1	1695.5	1559.4	1374.8	1328.7	1310.3
77.5°	1224.9	1026.5	892.7	904.3	779.7	1021.9	1624.0	1487.9	1301.0	1238.7	1224.9
80°	895.0	779.7	763.5	784.3	675.9	925.0	1534.0	1391.0	1206.5	1271.0	1243.4
82.5°	544.4	475.2	597.5	648.2	565.2	825.8	1427.9	1278.0	1086.5	1001.1	968.9
85°	258.4	279.1	431.4	477.5	417.5	659.7	1305.6	1153.4	948.1	818.9	832.8
87.5°	126.9	154.6	246.8	286.0	274.5	484.4	985.0	895.0	747.4	615.9	602.1
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)