

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: P196386

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196386  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(6) 70 CRI, 4000K, 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: 36413 lumens  
Efficiency: N/A  
Efficacy: 109.3 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

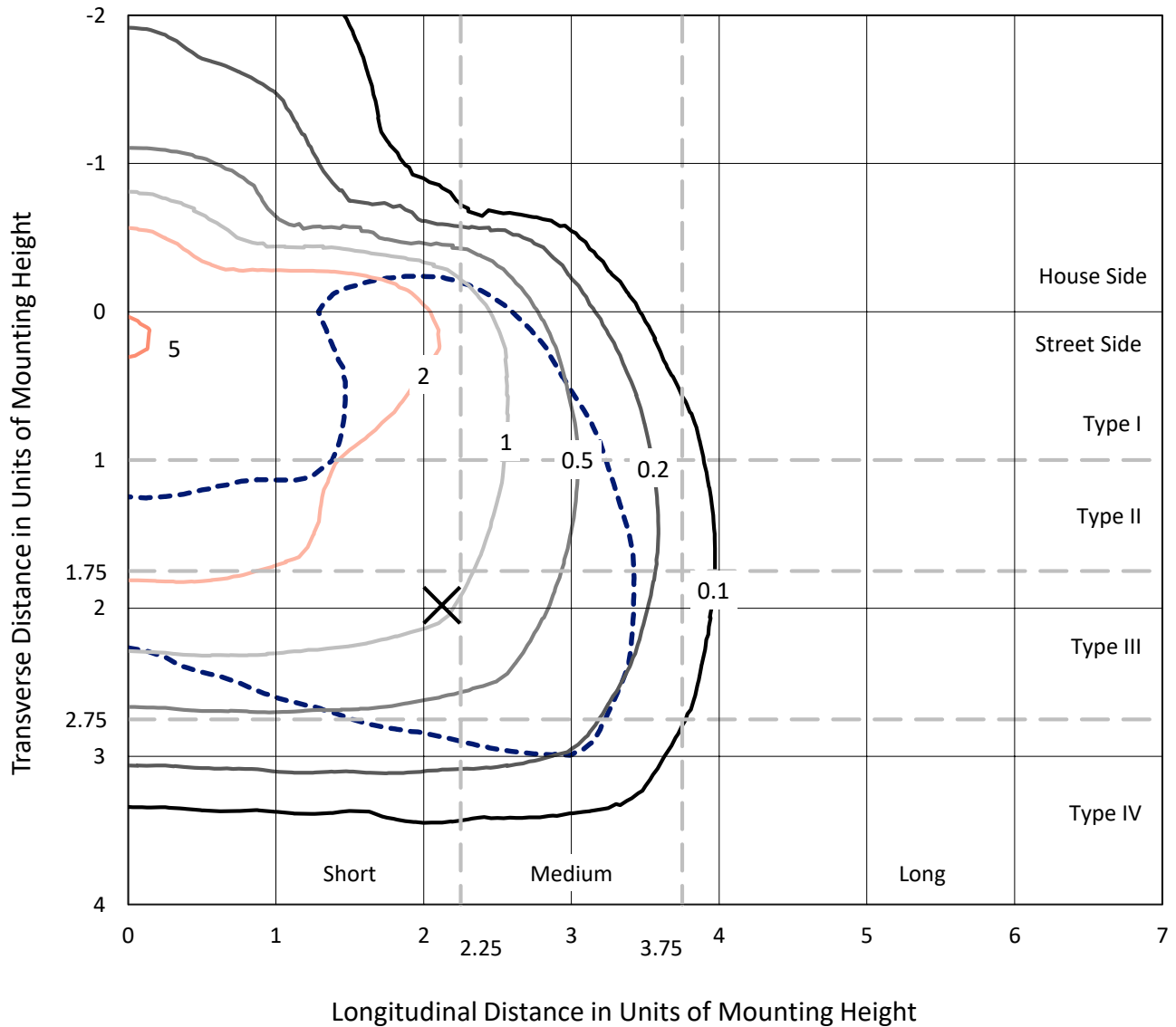
Input Watts (W): 333  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

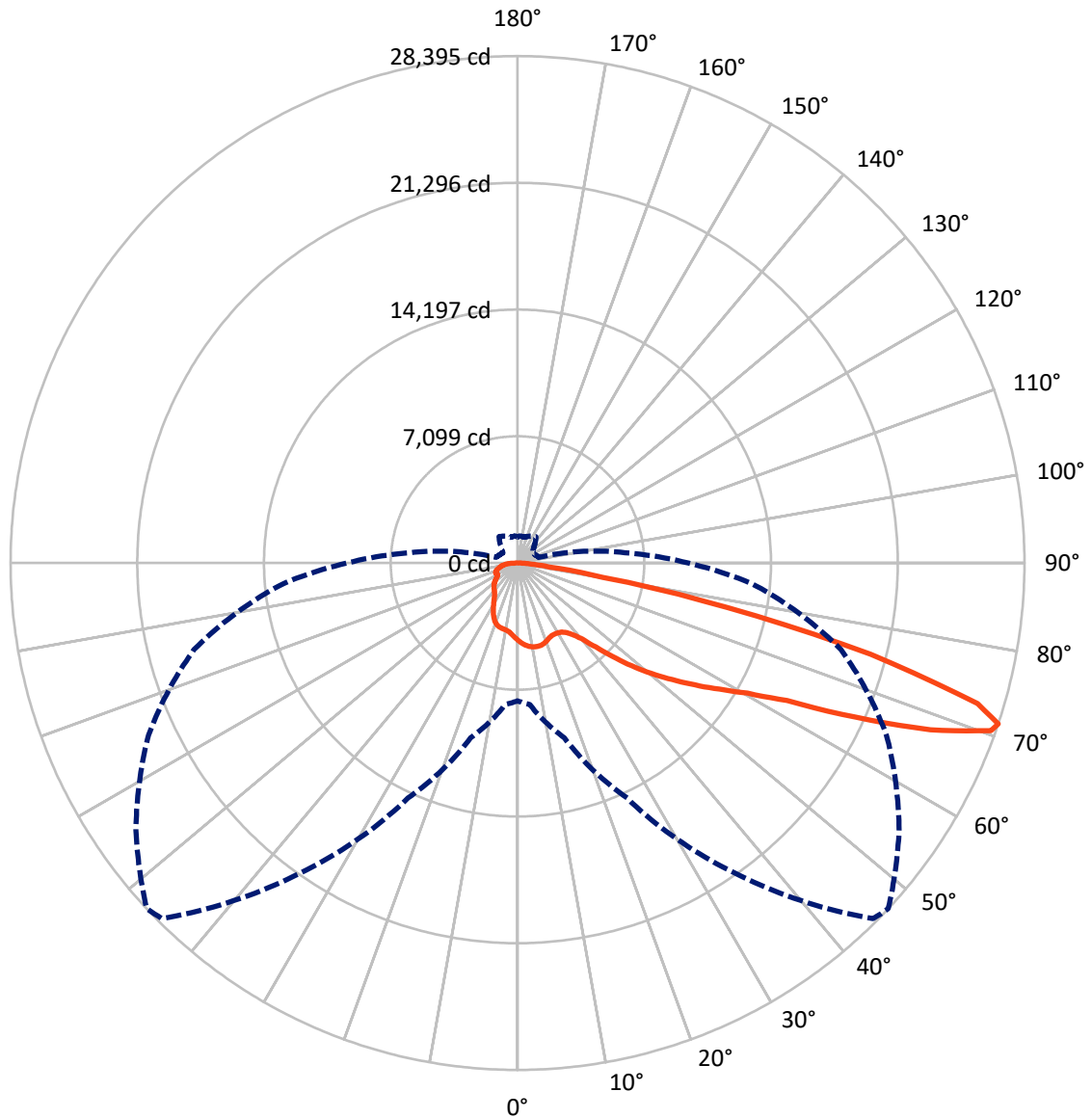
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.5 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
<b>House Side</b>	Lumens	7803.8	0.0	7803.8
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	28609.2	0.0	28609.2
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	36413.0	0.0	36413.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	413.4	1.1
10°-20°	1209.5	3.3
20°-30°	1797.3	4.9
30°-40°	2580.7	7.1
40°-50°	4575.7	12.6
50°-60°	7829.6	21.5
60°-70°	11115.3	30.5
70°-80°	6087.8	16.7
80°-90°	803.6	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°	36413.0	100.0
0°-180°	36413.0	100.0



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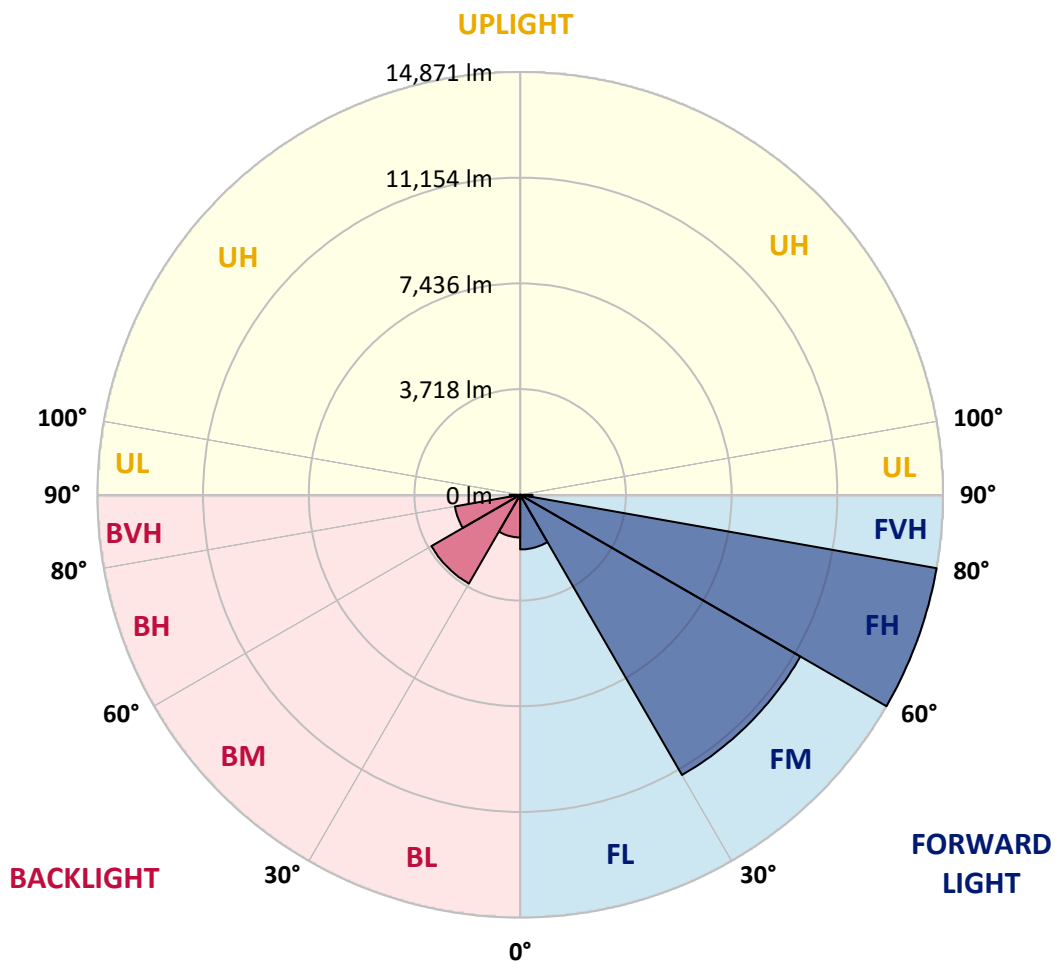
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1921.7	5.3			
FM	(30°-60°)	11380.2	31.3			
FH	(60°-80°)	14871.4	40.8			G5
FVH	(80°-90°)	435.9	1.2			G3/500
BL	(0°-30°)	1498.6	4.1	B3/2500		
BM	(30°-60°)	3605.8	9.9	B3/5000		
BH	(60°-80°)	2331.7	6.4	B3/2500		G3/2500
BVH	(80°-90°)	367.7	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°	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2
2.5°	4594.4	4585.0	4589.7	4573.2	4533.0	4490.5	4490.5	4445.7	4398.6	4351.3	4299.5
5°	4879.9	4865.8	4854.0	4802.0	4724.2	4636.8	4622.7	4533.0	4436.3	4339.6	4245.1
7.5°	5118.2	5104.1	5068.7	4974.3	4861.1	4731.2	4714.8	4596.7	4469.4	4334.9	4202.7
10°	5288.1	5278.7	5210.3	5089.9	4957.8	4804.4	4776.1	4655.8	4504.8	4337.2	4169.6
12.5°	5382.6	5368.3	5285.8	5144.2	4988.5	4832.7	4804.4	4688.8	4516.5	4332.5	4136.6
15°	5344.8	5337.8	5259.8	5115.9	4960.2	4825.7	4802.0	4684.1	4509.5	4315.9	4105.9
17.5°	5184.3	5200.9	5139.5	4997.9	4870.5	4776.1	4750.2	4639.3	4474.1	4275.8	4058.8
20°	4962.5	4981.4	4950.7	4806.7	4733.6	4672.2	4658.1	4568.4	4415.1	4216.8	4002.1
22.5°	4726.5	4743.0	4745.5	4611.0	4587.3	4563.7	4551.9	4488.2	4363.2	4181.4	3964.3
25°	4563.7	4582.6	4587.3	4469.4	4483.5	4490.5	4488.2	4443.4	4353.7	4181.4	3969.0
27.5°	4521.2	4530.6	4525.9	4417.4	4443.4	4483.5	4485.8	4476.4	4391.4	4228.7	4035.1
30°	4667.5	4672.2	4613.3	4450.4	4476.4	4528.3	4530.6	4525.9	4471.7	4351.3	4183.8
32.5°	5300.0	5295.2	5092.4	4672.2	4582.6	4601.4	4608.6	4651.1	4655.8	4554.3	4398.6
35°	6262.7	6260.4	6024.4	5307.1	4884.7	4785.6	4795.0	4861.1	4920.1	4851.7	4761.9
37.5°	7322.3	7329.3	7185.4	6213.2	5535.9	5122.9	5113.5	5163.1	5269.3	5292.8	5304.7
40°	8497.4	8532.8	8525.7	7253.8	6449.2	5698.8	5604.3	5547.8	5753.1	5882.8	6050.3
42.5°	9840.1	9830.7	9835.4	8396.0	7492.2	6604.9	6430.3	6165.9	6404.3	6628.5	6996.6
45°	10994.0	11031.7	11060.0	9611.2	8660.2	7640.8	7463.9	6982.5	7197.2	7532.3	8093.9
47.5°	12155.0	12088.9	12140.8	10963.3	9960.5	8823.1	8594.1	7945.3	8145.8	8617.7	9472.0
50°	13507.1	13476.5	13240.5	12728.4	11532.0	10021.7	9722.1	8950.5	9243.1	9873.1	11173.4
52.5°	14720.1	14554.9	14370.8	14115.9	13077.6	11234.7	10854.7	9995.9	10533.8	11315.0	13285.3
55°	15163.6	15052.7	15274.6	15604.9	14712.9	12471.2	12046.5	11215.8	11989.8	12964.4	15770.1
57.5°	15635.6	15673.3	16173.6	16841.5	16260.9	13790.3	13330.2	12659.9	13587.3	14809.7	18547.5
60°	15871.6	16022.6	17020.8	18273.8	17733.4	15236.8	14795.6	14318.9	15359.5	16848.5	21317.8
62.5°	15911.7	16114.6	17528.1	18776.4	19760.4	17452.6	16942.9	16426.1	17573.0	19102.1	23323.6
65°	15175.5	15487.0	17483.3	19394.6	21608.1	21155.0	20831.7	19930.4	20536.8	21086.6	23665.8
67.5°	13011.5	13351.3	15753.5	19139.8	23089.9	24996.6	24935.3	23604.4	22825.7	21853.5	21129.0
70°	9549.9	9823.6	12131.4	16362.4	22443.4	28012.4	28120.9	25985.4	23465.2	20225.3	15711.1
71°	7723.4	7959.4	10135.1	14526.5	21183.4	28168.2	28394.7	26091.6	22799.7	18755.2	13153.2
72.5°	4806.7	4938.9	6730.0	10963.3	18240.7	26563.5	26945.8	24732.4	20704.3	15852.7	9297.4
75°	1814.6	1866.6	2496.6	4835.1	10887.8	19956.2	20418.8	18691.5	14545.4	9049.5	3891.2
77.5°	974.6	1000.5	1238.9	2010.5	4363.2	11440.0	12034.6	10661.3	6977.8	3166.7	1590.5
80°	653.7	670.1	856.6	1191.6	2005.8	4356.0	4851.7	4280.5	2612.2	1807.6	1132.7
82.5°	422.4	431.8	582.9	783.5	1295.5	1531.5	1748.5	1826.5	1630.6	1295.5	684.4
85°	278.4	285.5	384.6	500.2	802.3	755.1	774.0	1012.3	1111.4	854.3	349.2
87.5°	160.5	165.2	231.3	257.2	361.0	283.2	306.8	481.4	660.7	556.9	200.6
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°	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2	4330.2
2.5°	4275.8	4257.0	4214.5	4188.6	4176.7	4172.0	4167.3	4176.7	4176.7	4172.0	4162.6
5°	4198.0	4162.6	4091.8	4042.2	4016.3	4009.1	4018.7	4030.4	4037.5	4037.5	4030.4
7.5°	4141.3	4089.5	3995.0	3926.6	3886.5	3874.7	3900.6	3943.1	3971.4	3985.6	3988.0
10°	4094.2	4023.4	3919.5	3848.8	3815.7	3811.0	3844.0	3898.3	3957.3	3983.3	3988.0
12.5°	4051.7	3971.4	3858.2	3792.1	3768.4	3780.3	3825.1	3874.7	3943.1	3980.9	3983.3
15°	4011.5	3928.9	3808.7	3740.2	3735.4	3754.3	3796.8	3836.9	3888.8	3936.0	3936.0
17.5°	3964.3	3874.7	3749.6	3685.9	3685.9	3702.5	3730.7	3752.0	3785.0	3829.8	3827.5
20°	3907.7	3815.7	3688.2	3622.2	3608.0	3598.6	3598.6	3603.3	3631.7	3671.8	3678.8
22.5°	3865.2	3770.9	3636.4	3556.1	3492.5	3431.1	3405.1	3395.7	3421.6	3459.4	3468.8
25°	3865.2	3770.9	3619.8	3485.3	3329.6	3211.6	3162.0	3147.9	3173.8	3209.2	3223.4
27.5°	3928.9	3834.5	3657.6	3421.6	3136.1	2947.3	2888.3	2876.5	2900.1	2928.4	2942.6
30°	4077.6	3985.6	3766.1	3348.4	2921.3	2673.6	2607.5	2595.7	2607.5	2619.3	2635.8
32.5°	4325.3	4247.5	3943.1	3282.3	2704.3	2425.8	2345.5	2326.7	2331.4	2333.8	2348.0
35°	4728.9	4693.5	4179.1	3204.5	2499.0	2222.9	2140.3	2102.6	2100.1	2112.0	2128.5
37.5°	5347.2	5368.3	4483.5	3091.3	2329.1	2078.9	1996.3	1958.5	1939.7	1963.2	1982.2
40°	6220.3	6269.8	4835.1	2937.9	2189.8	1993.9	1906.7	1871.3	1845.3	1838.2	1847.7
42.5°	7355.3	7341.1	5193.7	2742.0	2038.8	1937.4	1845.3	1807.6	1765.1	1710.8	1699.0
45°	8700.3	8497.4	5493.5	2501.3	1866.6	1883.0	1788.6	1736.8	1670.7	1590.5	1581.0
47.5°	10288.4	9729.2	5677.5	2244.1	1706.1	1812.3	1725.0	1644.7	1548.0	1496.1	1489.0
50°	12202.2	11170.9	5807.3	1982.2	1562.1	1722.6	1635.3	1529.1	1434.7	1420.6	1418.2
52.5°	14467.5	12872.3	5967.8	1746.2	1448.9	1607.0	1545.6	1437.0	1361.5	1368.6	1368.6
55°	16876.8	14632.7	5972.5	1559.8	1349.8	1472.4	1479.6	1392.2	1333.2	1356.8	1363.9
57.5°	19073.7	16171.2	5502.9	1427.6	1255.4	1366.3	1458.3	1408.8	1363.9	1446.6	1453.6
60°	20989.8	17355.8	4492.9	1319.1	1177.5	1326.2	1505.5	1510.2	1500.8	1725.0	1741.5
62.5°	21690.6	17367.7	3190.4	1227.0	1135.1	1349.8	1604.6	1611.7	1611.7	1819.3	1850.0
65°	20709.0	15921.1	2123.7	1172.8	1106.7	1401.6	1684.8	1654.2	1581.0	1725.0	1692.0
67.5°	17249.6	12393.4	1552.7	1137.4	1066.6	1404.0	1755.7	1677.7	1552.7	1675.4	1618.8
70°	11855.3	7886.2	1300.2	1104.4	1019.4	1342.7	1793.4	1670.7	1510.2	1562.1	1486.7
71°	9542.8	6293.4	1234.2	1092.5	1000.5	1307.3	1798.1	1661.3	1489.0	1522.0	1453.6
72.5°	6286.3	3877.1	1153.9	1066.6	972.2	1246.0	1786.3	1640.0	1460.7	1463.0	1418.2
75°	2480.0	1607.0	1038.3	1007.6	892.0	1146.8	1734.4	1595.2	1406.4	1359.2	1340.4
77.5°	1253.0	1050.1	913.2	925.1	797.6	1045.4	1661.3	1522.0	1330.9	1267.1	1253.0
80°	915.5	797.6	781.0	802.3	691.4	946.2	1569.2	1422.9	1234.2	1300.2	1271.9
82.5°	556.9	486.1	611.2	663.1	578.2	844.8	1460.7	1307.3	1111.4	1024.1	991.1
85°	264.3	285.5	441.3	488.5	427.1	674.8	1335.6	1179.9	969.9	837.7	851.9
87.5°	129.8	158.1	252.5	292.6	280.8	495.5	1007.6	915.5	764.6	630.0	615.9
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)