

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: P196392

Luminaire Tested: **NAV-AF-06-D-UNV-T4W-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196392  
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-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(6) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 39944.2 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B4 - U0 - G5

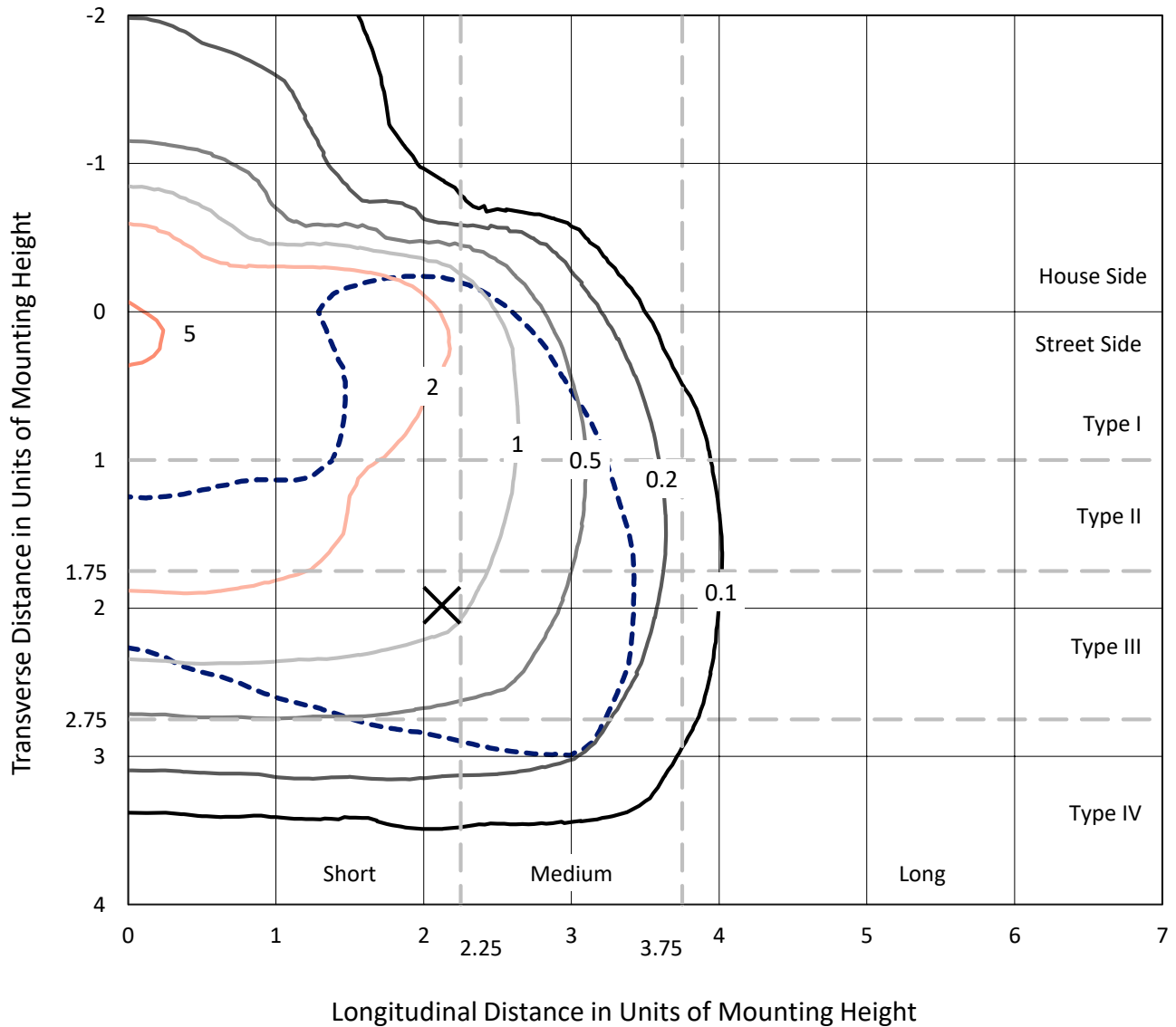
Input Watts (W): 382  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P196392  
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### Iso-Footcandle Lines of Horizontal Illumination

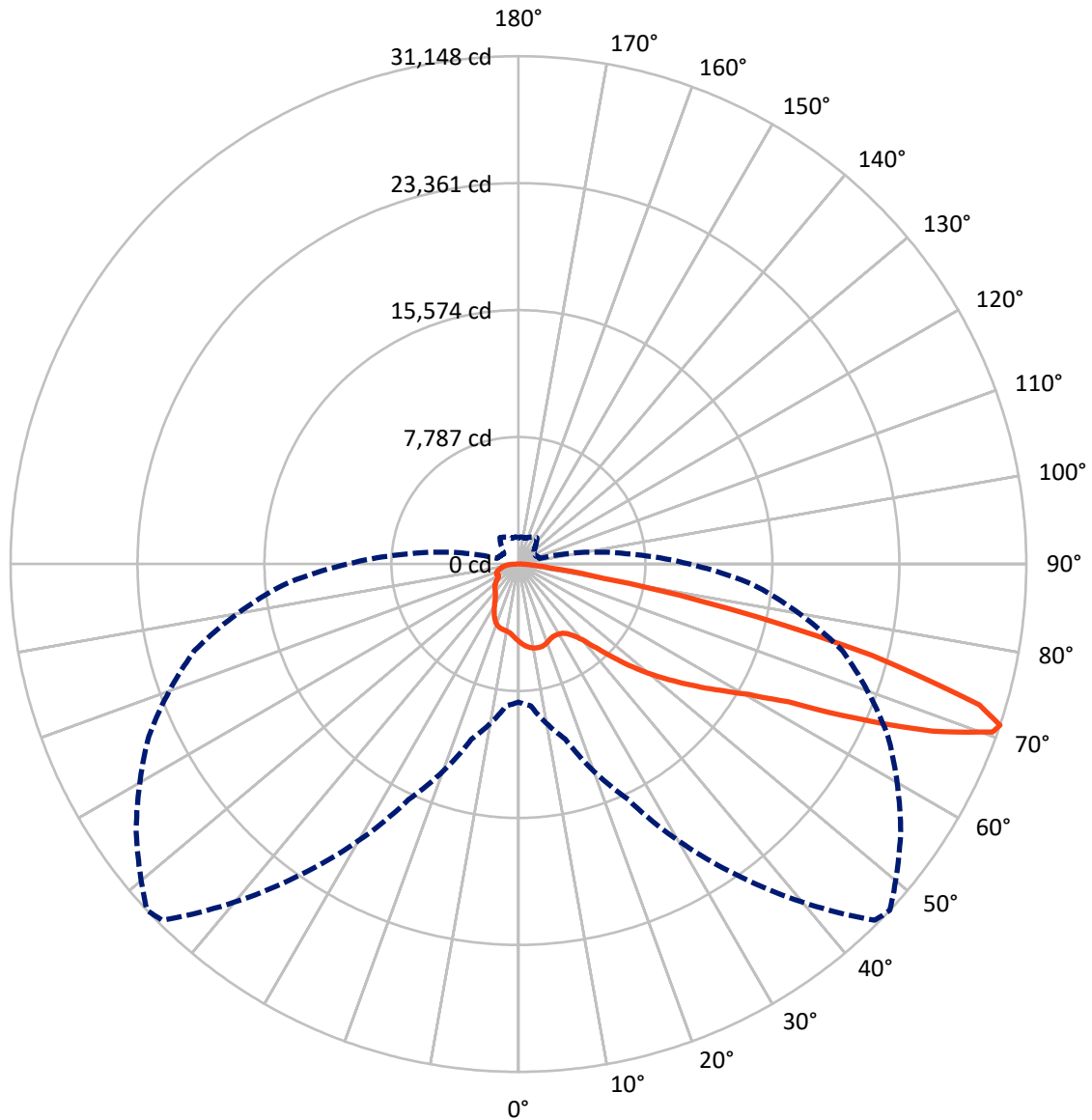
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 6.1 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P196392  
CATALOG NUMBER: NAV-AF-06-D-UNV-T4W-1200

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P196392

CATALOG NUMBER: NAV-AF-06-D-UNV-T4W-1200

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	8560.6	0.0	8560.6
	% Fixture	21.4	0.0	21.4
<b>Street Side</b>	Lumens	31383.6	0.0	31383.6
	% Fixture	78.6	0.0	78.6
<b>Total</b>	Lumens	39944.2	0.0	39944.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	453.5	1.1
10°-20°	1326.8	3.3
20°-30°	1971.6	4.9
30°-40°	2831.0	7.1
40°-50°	5019.4	12.6
50°-60°	8588.9	21.5
60°-70°	12193.3	30.5
70°-80°	6678.1	16.7
80°-90°	881.5	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°	39944.2	100.0
0°-180°	39944.2	100.0



REPORT NUMBER: P196392

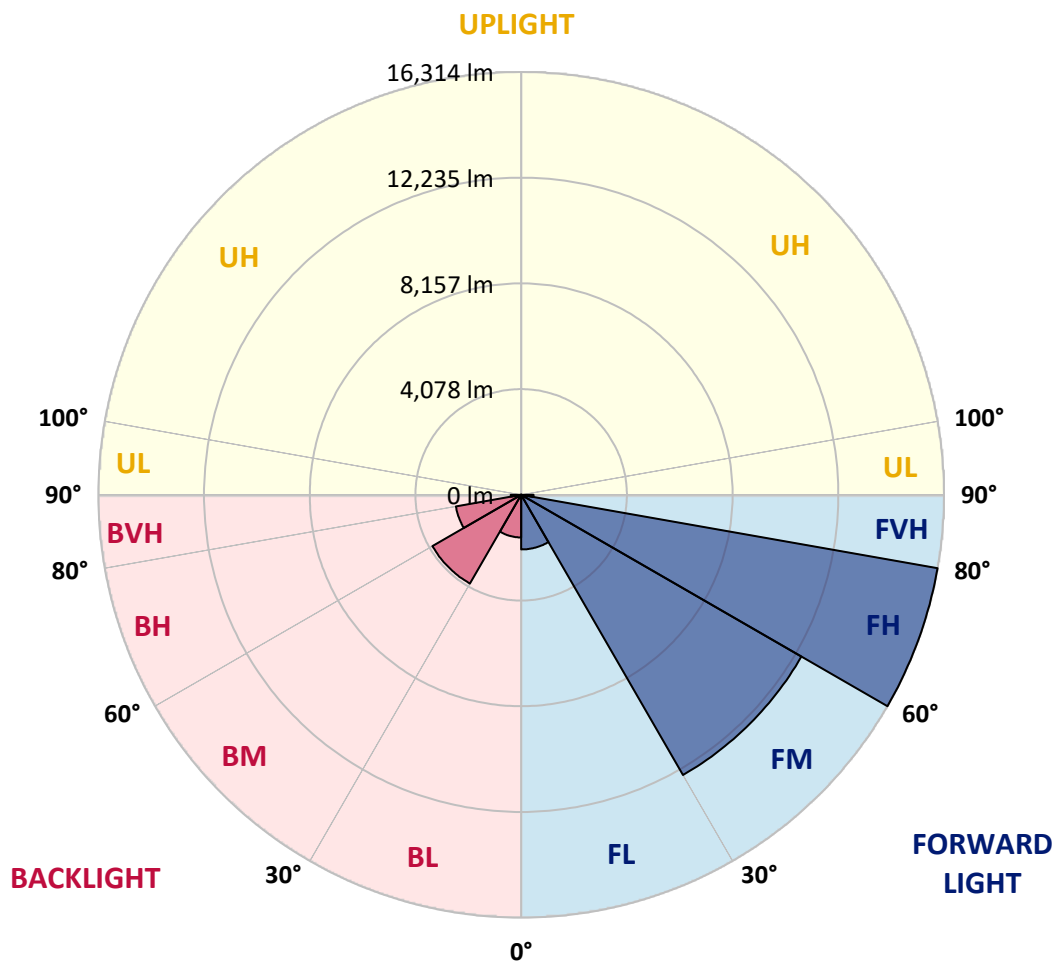
CATALOG NUMBER: NAV-AF-06-D-UNV-T4W-1200

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2108.1	5.3			
FM	(30°-60°)	12483.8	31.3			
FH	(60°-80°)	16313.6	40.8			G5
FVH	(80°-90°)	478.1	1.2			G3/500
BL	(0°-30°)	1643.9	4.1	B3/2500		
BM	(30°-60°)	3955.5	9.9	B3/5000		
BH	(60°-80°)	2557.8	6.4	B4/5000		G4/5000
BVH	(80°-90°)	403.4	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G5**

Type IV Short





REPORT NUMBER: P196392  
 CATALOG NUMBER: NAV-AF-06-D-UNV-T4W-1200

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1
2.5°	5040.0	5029.6	5034.8	5016.7	4972.7	4926.0	4926.0	4876.9	4825.1	4773.3	4716.4
5°	5353.2	5337.7	5324.7	5267.8	5182.4	5086.5	5071.0	4972.7	4866.5	4760.4	4656.9
7.5°	5614.6	5599.1	5560.2	5456.7	5332.4	5190.0	5171.9	5042.5	4902.8	4755.2	4610.2
10°	5800.9	5790.6	5715.5	5583.6	5438.6	5270.3	5239.2	5107.3	4941.6	4757.8	4574.0
12.5°	5904.6	5889.0	5798.4	5643.1	5472.3	5301.4	5270.3	5143.5	4954.6	4752.6	4537.8
15°	5863.1	5855.4	5770.0	5612.0	5441.2	5293.7	5267.8	5138.3	4946.8	4734.5	4504.2
17.5°	5687.1	5705.2	5637.9	5482.6	5342.8	5239.2	5210.8	5089.2	4907.9	4690.5	4452.4
20°	5443.7	5464.5	5430.8	5272.9	5192.7	5125.4	5109.8	5011.4	4843.3	4625.8	4390.2
22.5°	5184.9	5203.0	5205.6	5058.1	5032.2	5006.3	4993.3	4923.5	4786.3	4586.9	4348.8
25°	5006.3	5027.0	5032.2	4902.8	4918.2	4926.0	4923.5	4874.3	4776.0	4586.9	4354.0
27.5°	4959.7	4970.1	4964.9	4845.8	4874.3	4918.2	4920.9	4910.6	4817.4	4638.7	4426.4
30°	5120.2	5125.4	5060.6	4882.0	4910.6	4967.4	4970.1	4964.9	4905.4	4773.3	4589.6
32.5°	5813.9	5808.7	5586.1	5125.4	5027.0	5047.8	5055.5	5102.1	5107.3	4996.0	4825.1
35°	6870.0	6867.5	6608.7	5821.7	5358.3	5249.6	5260.0	5332.4	5397.2	5322.1	5223.7
37.5°	8032.3	8040.1	7882.2	6815.7	6072.7	5619.8	5609.5	5663.8	5780.3	5806.2	5819.2
40°	9321.4	9360.3	9352.5	7957.2	7074.5	6251.4	6147.8	6085.7	6311.0	6453.3	6637.1
42.5°	10794.4	10783.9	10789.2	9210.1	8218.7	7245.5	7053.9	6764.0	7025.4	7271.3	7675.1
45°	12060.2	12101.6	12132.6	10543.2	9500.0	8381.8	8187.7	7659.5	7895.1	8262.7	8878.8
47.5°	13333.8	13261.2	13318.2	12026.5	10926.3	9678.6	9427.6	8715.7	8935.8	9453.5	10390.5
50°	14817.0	14783.4	14524.5	13962.8	12650.3	10993.7	10664.9	9818.5	10139.5	10830.6	12256.9
52.5°	16147.5	15966.3	15764.4	15484.8	14345.9	12324.2	11907.5	10965.2	11555.4	12412.2	14573.7
55°	16634.2	16512.5	16755.8	17118.3	16139.7	13680.6	13214.7	12303.5	13152.6	14221.6	17299.4
57.5°	17151.9	17193.3	17742.1	18474.7	17837.9	15127.6	14622.9	13887.7	14905.0	16245.9	20346.2
60°	17410.7	17576.4	18671.4	20045.9	19453.1	16714.4	16230.3	15707.5	16849.0	18482.4	23385.2
62.5°	17454.7	17677.4	19227.9	20597.3	21676.7	19145.1	18586.0	18019.1	19277.1	20954.5	25585.4
65°	16647.1	16988.8	19178.7	21275.5	23703.6	23206.6	22851.9	21863.1	22528.3	23131.5	25960.9
67.5°	14273.4	14646.1	17281.3	20996.0	25329.2	27420.8	27353.5	25893.5	25039.3	23972.8	23178.1
70°	10475.9	10776.3	13307.9	17949.2	24620.0	30728.9	30848.0	28505.3	25740.8	22186.7	17234.7
71°	8472.4	8731.3	11117.9	15935.2	23237.7	30899.8	31148.3	28621.9	25010.8	20574.0	14428.7
72.5°	5272.9	5417.9	7382.6	12026.5	20009.6	29139.6	29558.9	27130.8	22712.2	17390.1	10199.0
75°	1990.7	2047.5	2738.7	5304.0	11943.7	21891.6	22398.9	20504.1	15956.0	9927.2	4268.6
77.5°	1069.1	1097.5	1359.0	2205.5	4786.3	12549.4	13201.7	11695.2	7654.4	3473.8	1744.7
80°	717.0	735.2	939.7	1307.2	2200.3	4778.5	5322.1	4695.7	2865.6	1982.9	1242.5
82.5°	463.4	473.7	639.3	859.4	1421.1	1680.0	1918.1	2003.6	1788.7	1421.1	750.6
85°	305.5	313.2	422.0	548.8	880.1	828.4	849.0	1110.5	1219.3	937.0	383.1
87.5°	176.0	181.2	253.7	282.1	396.1	310.7	336.6	528.0	724.8	610.9	220.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196392

CATALOG NUMBER: NAV-AF-06-D-UNV-T4W-1200

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1	4750.1
2.5°	4690.5	4669.8	4623.2	4594.7	4581.8	4576.6	4571.5	4581.8	4581.8	4576.6	4566.2
5°	4605.1	4566.2	4488.6	4434.2	4405.7	4398.0	4408.3	4421.3	4429.1	4429.1	4421.3
7.5°	4542.9	4486.0	4382.4	4307.3	4263.4	4250.5	4278.9	4325.5	4356.5	4372.1	4374.6
10°	4491.2	4413.5	4299.7	4221.9	4185.7	4180.6	4216.8	4276.3	4341.0	4369.5	4374.6
12.5°	4444.6	4356.5	4232.4	4159.8	4133.9	4146.9	4196.0	4250.5	4325.5	4366.9	4369.5
15°	4400.5	4310.0	4177.9	4102.9	4097.7	4118.4	4165.0	4209.0	4266.0	4317.8	4317.8
17.5°	4348.8	4250.5	4113.3	4043.3	4043.3	4061.4	4092.5	4115.8	4152.1	4201.3	4198.7
20°	4286.7	4185.7	4046.0	3973.4	3957.9	3947.6	3947.6	3952.8	3983.8	4027.9	4035.5
22.5°	4240.1	4136.5	3989.0	3901.0	3831.1	3763.7	3735.3	3725.0	3753.4	3794.8	3805.2
25°	4240.1	4136.5	3970.9	3823.3	3652.4	3523.0	3468.7	3453.2	3481.6	3520.5	3536.0
27.5°	4310.0	4206.5	4012.3	3753.4	3440.2	3233.1	3168.4	3155.5	3181.4	3212.4	3227.9
30°	4473.1	4372.1	4131.4	3673.2	3204.7	2932.9	2860.4	2847.4	2860.4	2873.4	2891.5
32.5°	4744.9	4659.4	4325.5	3600.7	2966.5	2661.1	2573.0	2552.4	2557.5	2560.1	2575.6
35°	5187.5	5148.7	4584.4	3515.3	2741.3	2438.4	2347.9	2306.4	2303.8	2316.8	2334.9
37.5°	5865.7	5889.0	4918.2	3391.1	2554.9	2280.6	2189.9	2148.5	2127.8	2153.7	2174.4
40°	6823.5	6877.8	5304.0	3222.8	2402.2	2187.4	2091.5	2052.8	2024.2	2016.5	2026.9
42.5°	8068.6	8053.1	5697.4	3007.9	2236.5	2125.2	2024.2	1982.9	1936.2	1876.7	1863.8
45°	9544.0	9321.4	6026.2	2743.9	2047.5	2065.6	1962.1	1905.1	1832.7	1744.7	1734.3
47.5°	11286.2	10672.7	6228.1	2461.7	1871.5	1988.0	1892.3	1804.3	1698.1	1641.1	1633.3
50°	13385.5	12254.3	6370.5	2174.4	1713.6	1889.7	1793.8	1677.4	1573.8	1558.4	1555.7
52.5°	15870.6	14120.7	6546.5	1915.6	1589.4	1762.9	1695.5	1576.5	1493.6	1501.4	1501.4
55°	18513.5	16051.7	6551.7	1711.1	1480.6	1615.2	1623.0	1527.3	1462.5	1488.4	1496.2
57.5°	20923.4	17739.5	6036.5	1566.1	1377.1	1498.8	1599.7	1545.4	1496.2	1586.8	1594.6
60°	23025.4	19039.0	4928.7	1447.0	1291.7	1454.7	1651.6	1656.7	1646.3	1892.3	1910.4
62.5°	23794.1	19051.9	3499.7	1346.1	1245.1	1480.6	1760.2	1768.0	1768.0	1995.8	2029.4
65°	22717.3	17465.1	2329.7	1286.6	1214.0	1537.6	1848.3	1814.6	1734.3	1892.3	1856.0
67.5°	18922.4	13595.2	1703.3	1247.7	1170.1	1540.2	1925.9	1840.5	1703.3	1837.9	1775.7
70°	13005.0	8651.0	1426.3	1211.5	1118.3	1472.9	1967.3	1832.7	1656.7	1713.6	1630.8
71°	10468.2	6903.7	1353.8	1198.5	1097.5	1434.1	1972.5	1822.4	1633.3	1669.7	1594.6
72.5°	6895.9	4253.0	1265.8	1170.1	1066.5	1366.8	1959.6	1799.1	1602.4	1604.9	1555.7
75°	2720.6	1762.9	1139.0	1105.3	978.5	1258.0	1902.6	1749.9	1542.8	1491.1	1470.3
77.5°	1374.5	1151.9	1001.8	1014.8	874.9	1146.7	1822.4	1669.7	1460.0	1390.1	1374.5
80°	1004.3	874.9	856.8	880.1	758.4	1038.0	1721.4	1560.9	1353.8	1426.3	1395.2
82.5°	610.9	533.3	670.4	727.4	634.2	926.7	1602.4	1434.1	1219.3	1123.4	1087.2
85°	289.9	313.2	484.1	535.8	468.5	740.3	1465.2	1294.2	1063.9	918.9	934.5
87.5°	142.4	173.4	277.0	321.0	308.0	543.6	1105.3	1004.3	838.7	691.1	675.7
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)