

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: P196841

Luminaire Tested: **NAV-AF-05-D-UNV-T4FT-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196841  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)  
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-T4FT-7030  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 29312.1 lumens  
Efficiency: N/A  
Efficacy: 105.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B3 - U0 - G4

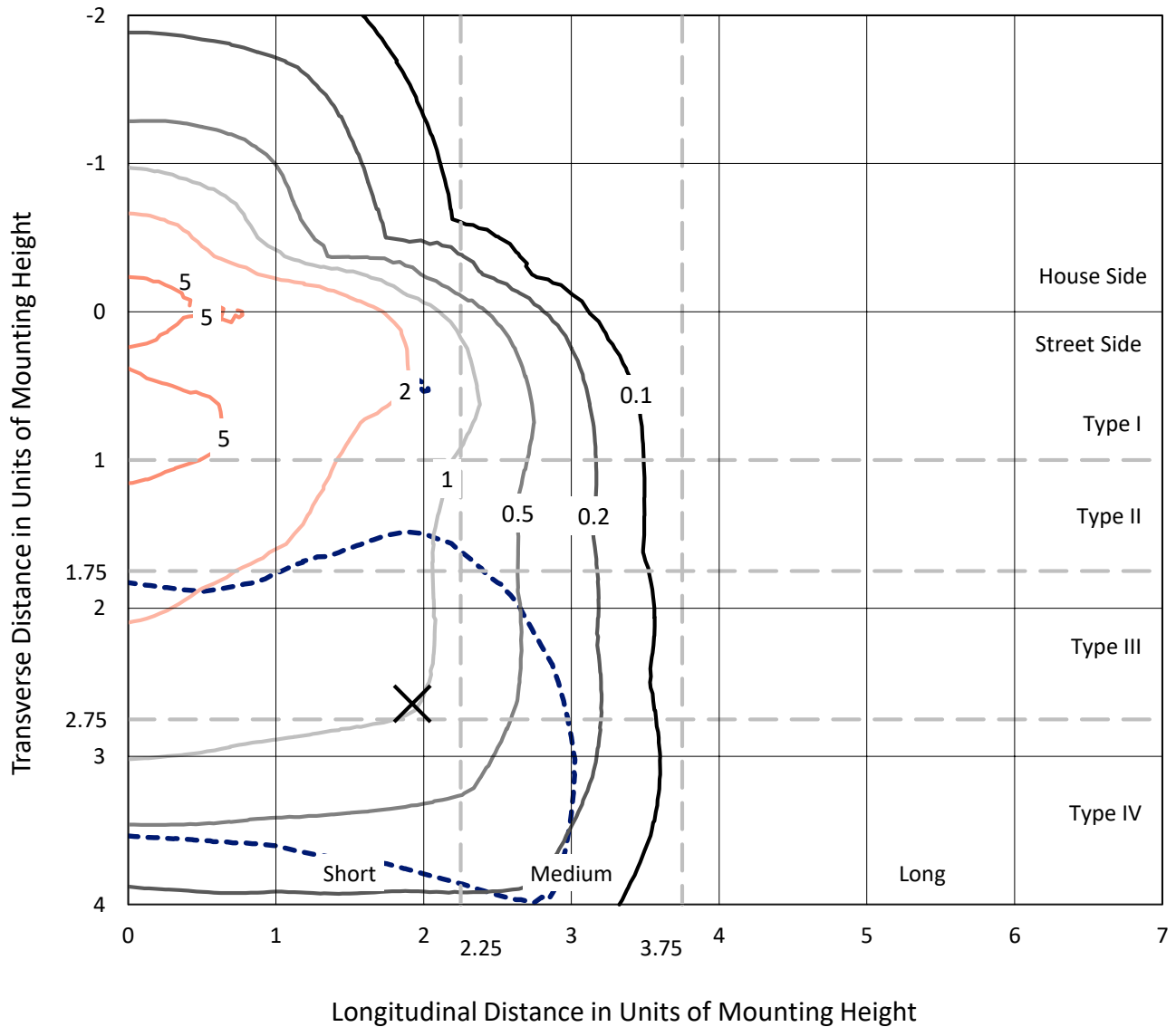
Input Watts (W): 279  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

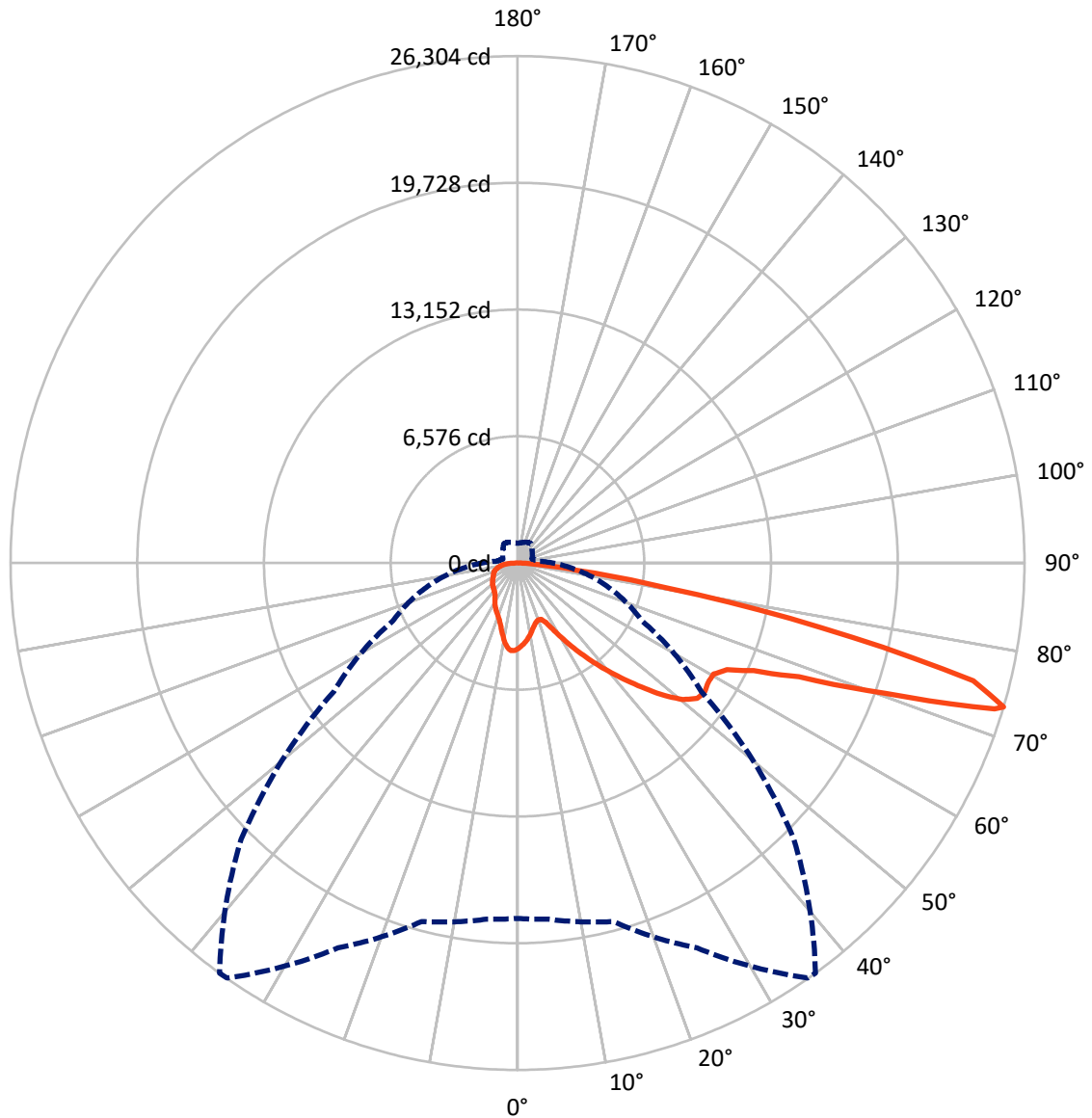
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.1 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral      - - - Horizontal Cone Through 73-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5652.3	0.0	5652.3
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	23659.8	0.0	23659.8
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	29312.1	0.0	29312.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	403.3	1.4
10°-20°	1012.8	3.5
20°-30°	1623.9	5.5
30°-40°	2686.0	9.2
40°-50°	4156.2	14.2
50°-60°	5563.9	19.0
60°-70°	7268.3	24.8
70°-80°	5936.9	20.3
80°-90°	660.8	2.3
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°	29312.1	100.0
0°-180°	29312.1	100.0



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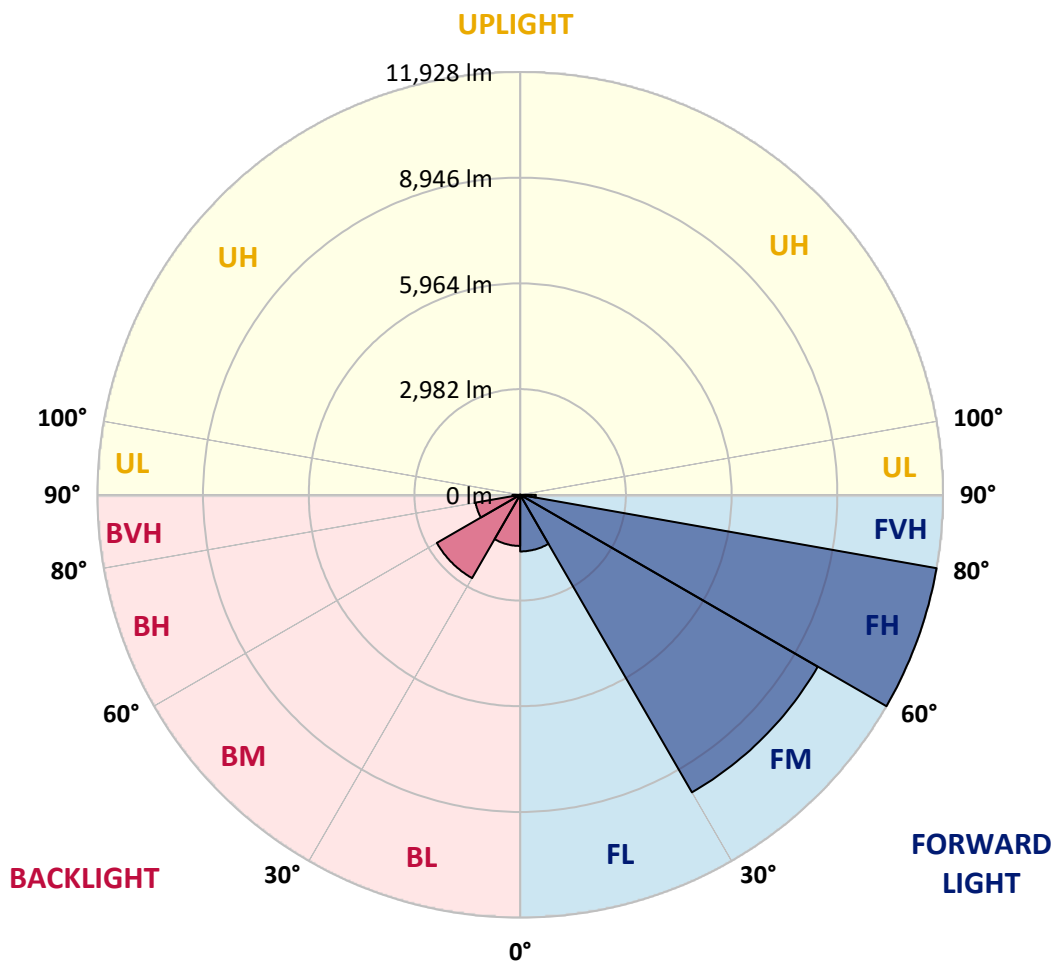
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1597.2	5.4			
FM	(30°-60°)	9691.6	33.1			
FH	(60°-80°)	11927.9	40.7			G4/12000
FVH	(80°-90°)	443.2	1.5			G3/500
BL	(0°-30°)	1442.8	4.9	B3/2500		
BM	(30°-60°)	2714.5	9.3	B3/5000		
BH	(60°-80°)	1277.3	4.4	B3/2500		G3/2500
BVH	(80°-90°)	217.6	0.7			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0
2.5°	4270.4	4281.7	4283.5	4296.5	4296.5	4294.7	4300.2	4322.7	4333.8	4359.9	4382.2
5°	4060.0	4073.0	4078.6	4100.9	4128.9	4130.8	4151.3	4194.1	4235.1	4292.8	4341.2
7.5°	3823.5	3838.4	3853.2	3899.8	3940.8	3944.5	3983.6	4052.5	4106.5	4177.3	4264.8
10°	3594.4	3598.1	3612.9	3672.6	3726.7	3732.2	3788.1	3866.3	3938.9	4037.6	4136.3
12.5°	3406.2	3417.5	3413.8	3458.5	3505.0	3508.8	3583.2	3681.9	3788.1	3899.8	4017.1
15°	3341.1	3339.3	3300.1	3298.3	3318.7	3322.5	3395.1	3510.6	3629.8	3767.6	3918.5
17.5°	3385.8	3370.8	3268.5	3205.1	3192.1	3195.9	3249.9	3376.5	3503.2	3661.5	3842.1
20°	3631.7	3573.9	3333.7	3181.0	3138.2	3138.2	3169.8	3272.2	3411.8	3596.3	3823.5
22.5°	4214.5	4125.2	3612.9	3341.1	3190.3	3175.4	3151.1	3229.3	3384.0	3605.5	3899.8
25°	4948.4	4905.5	4125.2	3767.6	3456.6	3408.2	3248.0	3275.9	3441.6	3706.2	4108.4
27.5°	5628.2	5553.6	4797.5	4387.8	3948.3	3873.8	3534.7	3421.2	3579.6	3892.4	4410.1
30°	6024.8	5974.6	5488.4	5097.4	4574.0	4479.1	3993.0	3708.0	3825.3	4199.7	4838.4
32.5°	6456.9	6427.0	6181.3	5825.6	5251.9	5142.1	4585.2	4175.5	4201.6	4607.6	5354.4
35°	6875.9	6915.0	6775.3	6514.6	5982.0	5879.6	5380.5	4786.3	4665.3	5065.7	5905.6
37.5°	7378.9	7388.1	7300.6	7131.1	6749.3	6665.5	6253.9	5438.2	5169.9	5553.6	6438.3
40°	8382.6	8235.4	7892.8	7758.7	7531.5	7479.4	7010.0	6036.0	5639.3	6054.6	6941.1
42.5°	9468.4	9239.3	8702.9	8483.2	8391.8	8343.5	7639.5	6434.5	6078.8	6555.5	7434.6
45°	10343.7	10157.4	9632.3	9360.4	9371.5	9293.3	8188.9	6790.3	6555.5	7058.4	7985.9
47.5°	11205.9	10895.0	10306.4	10267.3	10397.6	10282.3	8714.1	7146.0	7052.9	7606.0	8537.2
50°	11261.9	10978.8	10740.4	11053.2	11276.7	11133.3	9190.9	7611.5	7568.7	8269.0	9248.6
52.5°	10582.1	10541.2	10904.3	11431.4	11801.9	11673.5	9580.1	8090.2	8095.8	9097.8	10114.5
55°	10334.4	10282.3	10718.0	11366.1	11867.0	11790.7	9870.6	8630.3	8680.5	10103.4	11043.9
57.5°	10751.5	10621.2	10706.9	11243.3	11714.4	11669.7	10172.4	9230.0	9321.2	11261.9	11902.4
60°	12046.0	11779.6	11325.2	11425.8	11720.0	11693.9	10604.3	9898.6	10051.3	12468.6	12446.3
62.5°	13984.6	13683.0	12757.3	12310.4	12245.2	12194.9	11317.7	10719.9	10796.2	13340.2	12129.8
65°	16111.5	15787.4	14686.7	13954.8	13571.2	13463.2	12468.6	11710.6	11232.1	13338.4	10896.9
67.5°	18499.1	18156.3	17059.4	16361.0	15945.8	15761.4	14336.7	12511.5	11090.5	12209.8	8719.7
70°	20944.4	20618.5	20115.6	20359.6	20542.2	20260.9	17279.3	12777.9	10073.6	9572.6	5855.3
72.5°	19646.4	19620.2	20002.0	22315.1	25833.1	25889.0	20218.1	12025.4	7782.9	5689.5	3121.3
73°	18441.4	18551.2	19258.9	22026.4	26285.7	26304.3	20275.8	11636.2	7146.0	4901.8	2741.5
75°	9554.0	10299.0	12925.0	17860.3	24339.4	24427.1	17873.2	8809.1	4259.3	2722.8	1847.5
77.5°	2559.0	2525.4	4164.3	8701.1	16226.9	16111.5	11293.5	4264.8	2041.2	1707.8	1296.3
80°	877.2	888.4	1417.3	3182.8	7574.3	7844.4	4901.8	1860.5	1342.8	1190.1	918.1
82.5°	447.0	461.8	741.3	1353.9	3167.9	3100.9	1577.4	1095.1	899.5	722.6	514.1
85°	238.4	245.9	407.9	702.1	1162.1	1175.2	555.0	584.7	571.8	409.7	253.3
87.5°	117.4	121.1	195.6	309.2	430.3	415.3	193.7	253.3	281.3	231.0	139.7
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°	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0	4440.0
2.5°	4410.1	4410.1	4434.3	4475.3	4505.1	4533.0	4551.6	4581.5	4598.1	4596.3	4594.5
5°	4380.3	4399.0	4447.4	4497.6	4531.2	4553.5	4553.5	4566.6	4566.6	4561.0	4553.5
7.5°	4311.4	4343.0	4413.8	4458.6	4467.8	4443.7	4395.3	4358.1	4311.4	4287.3	4277.9
10°	4201.6	4242.5	4331.9	4352.4	4303.9	4218.3	4100.9	4000.4	3911.1	3870.1	3857.0
12.5°	4093.5	4147.5	4231.4	4199.7	4084.2	3916.6	3735.9	3598.1	3497.6	3458.5	3445.4
15°	4004.2	4069.4	4134.5	4035.8	3834.7	3601.8	3402.6	3274.1	3197.7	3167.9	3160.5
17.5°	3944.5	4020.8	4043.2	3858.8	3579.6	3318.7	3141.9	3058.0	3024.6	3011.5	3007.8
20°	3948.3	4034.0	3979.9	3687.5	3333.7	3071.1	2953.8	2929.6	2929.6	2929.6	2927.7
22.5°	4050.7	4125.2	3953.9	3527.3	3097.2	2862.5	2812.3	2832.6	2847.7	2847.7	2845.7
25°	4263.0	4303.9	3972.4	3372.9	2875.4	2681.9	2683.7	2722.8	2735.9	2735.9	2732.1
27.5°	4587.0	4553.5	4006.0	3201.4	2657.6	2518.0	2544.0	2579.4	2588.7	2583.1	2581.2
30°	4993.0	4859.0	4034.0	3000.3	2452.8	2365.3	2387.6	2408.1	2400.7	2387.6	2385.6
32.5°	5447.4	5169.9	4017.1	2774.9	2272.1	2206.9	2219.9	2231.2	2219.9	2188.4	2188.4
35°	5898.2	5451.2	3925.9	2529.2	2128.7	2054.2	2052.3	2087.7	2085.9	2048.6	2050.5
37.5°	6293.0	5672.8	3749.0	2303.7	2005.8	1942.5	1950.0	1972.2	1983.5	1933.2	1927.6
40°	6637.5	5825.6	3499.5	2112.0	1907.1	1910.8	1890.3	1854.9	1841.9	1819.6	1815.8
42.5°	6961.6	5931.6	3234.9	1951.8	1856.8	1899.6	1830.7	1746.9	1711.5	1732.0	1745.1
45°	7280.1	6050.9	2979.8	1819.6	1793.5	1866.1	1771.1	1678.0	1637.0	1646.3	1659.4
47.5°	7669.4	6216.7	2672.5	1678.0	1696.7	1804.6	1733.8	1633.3	1571.8	1534.6	1523.4
50°	8181.5	6456.9	2274.0	1525.3	1594.2	1737.7	1702.3	1568.1	1501.1	1426.6	1408.0
52.5°	8822.1	6684.2	1871.7	1402.4	1510.4	1679.9	1650.1	1512.2	1430.3	1340.9	1326.0
55°	9460.9	6715.7	1525.3	1296.3	1415.5	1601.6	1586.8	1467.6	1352.1	1279.4	1264.5
57.5°	9907.8	6415.9	1292.5	1206.9	1324.1	1504.8	1529.0	1413.6	1286.8	1231.1	1221.7
60°	9915.4	5698.9	1150.9	1147.2	1255.3	1421.0	1469.4	1350.2	1245.9	1208.7	1201.2
62.5°	9127.5	4592.6	1059.7	1102.5	1204.9	1352.1	1424.7	1314.8	1236.6	1221.7	1214.3
65°	7650.7	3393.3	987.0	1061.6	1158.3	1294.4	1387.5	1303.7	1232.9	1227.3	1221.7
67.5°	5648.6	2326.1	925.7	1009.4	1106.2	1234.7	1352.1	1286.8	1210.6	1232.9	1225.5
70°	3553.4	1553.2	867.8	949.8	1037.3	1165.9	1305.5	1257.1	1182.6	1169.6	1145.4
72.5°	2005.8	1122.9	799.0	873.4	948.0	1074.6	1242.2	1206.9	1119.3	1067.1	1043.0
73°	1812.1	1063.4	782.2	854.9	927.5	1056.0	1227.3	1191.9	1100.7	1043.0	1020.6
75°	1326.0	869.7	705.9	778.5	841.9	970.3	1156.5	1117.4	1018.8	949.8	934.9
77.5°	961.1	670.5	607.2	672.3	728.2	851.1	1050.4	1005.7	908.8	871.6	856.7
80°	692.8	508.4	502.8	566.2	614.6	739.3	936.8	890.3	797.1	907.0	882.9
82.5°	413.4	325.9	368.8	439.6	489.8	620.1	813.9	759.9	670.5	678.0	577.3
85°	197.4	184.4	229.1	288.7	324.1	424.6	678.0	635.2	536.4	439.6	430.3
87.5°	87.5	83.8	110.0	128.5	173.1	255.1	463.7	411.6	389.3	232.8	182.5
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)