

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: P270590

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270590
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28095.9 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 320
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

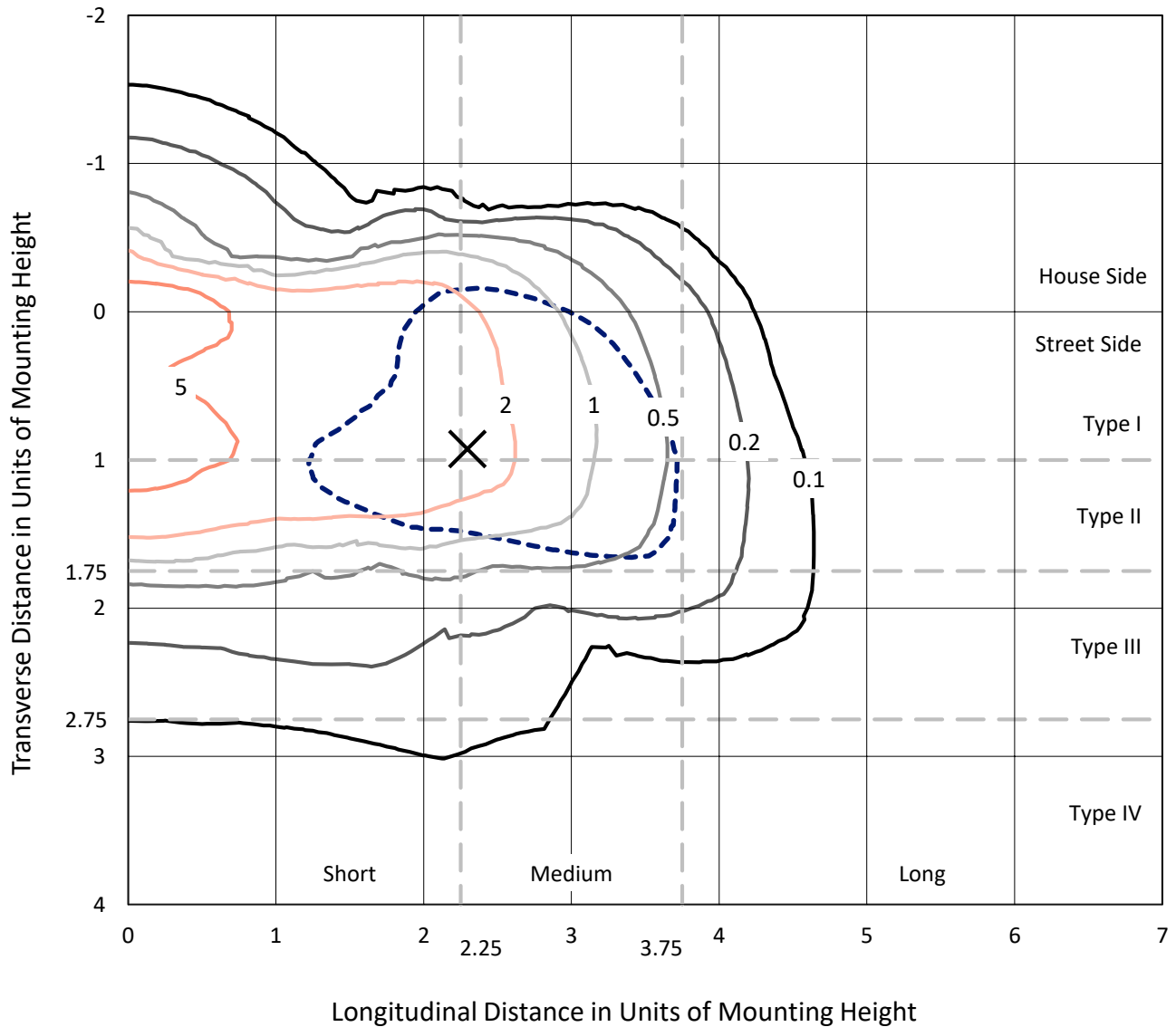


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Iso-Footcandle Lines of Horizontal Illumination

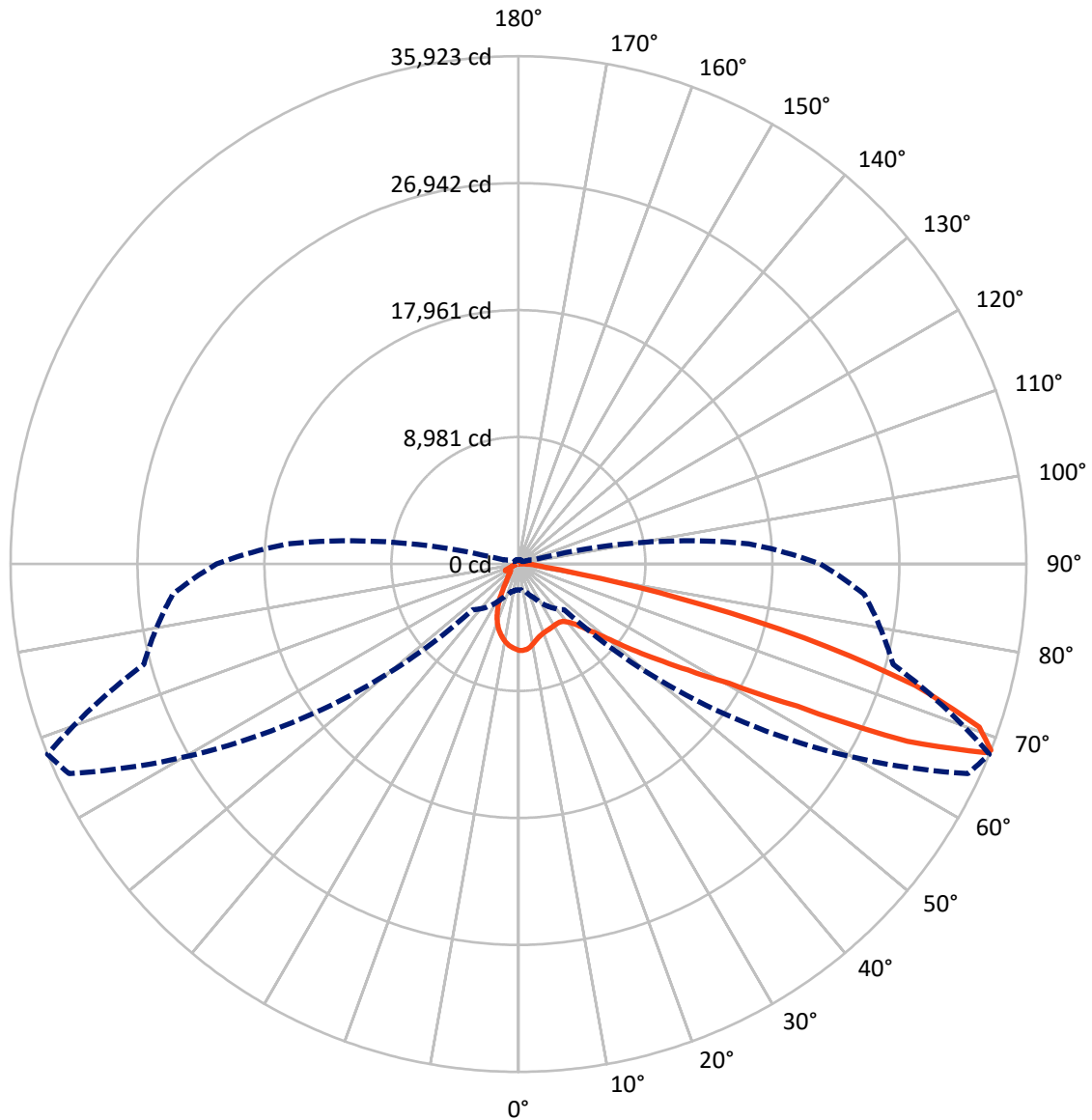
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4596.6	0.0	4596.6
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	23499.3	0.0	23499.3
	% Fixture	83.6	0.0	83.6
Total	Lumens	28095.9	0.0	28095.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	523.8	1.9
10°-20°	1214.9	4.3
20°-30°	1643.1	5.8
30°-40°	2316.8	8.2
40°-50°	3809.6	13.6
50°-60°	5905.2	21.0
60°-70°	7656.6	27.3
70°-80°	4393.7	15.6
80°-90°	632.2	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°	28095.9	100.0
0°-180°	28095.9	100.0



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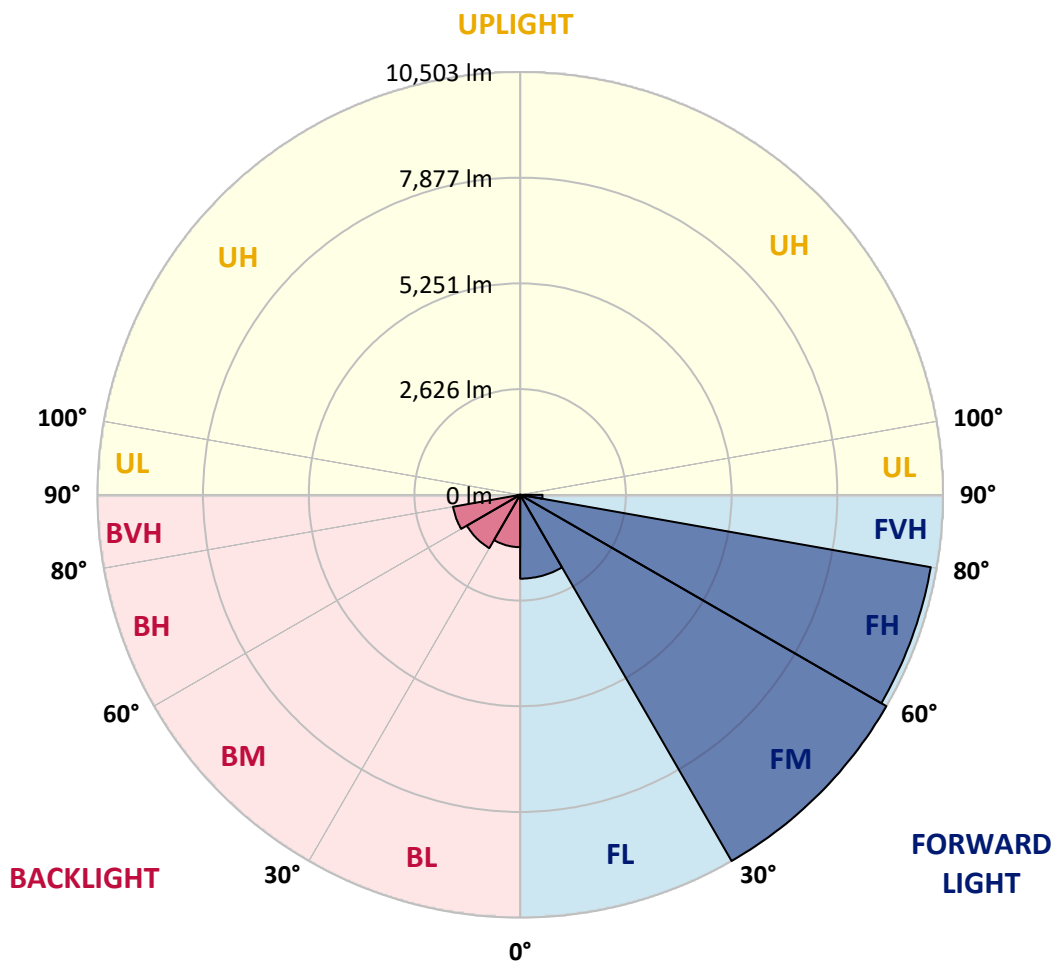
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2082.4	7.4			
FM	(30°-60°)	10502.7	37.4			
FH	(60°-80°)	10357.4	36.9			G4/12000
FVH	(80°-90°)	556.8	2.0			G4/750
BL	(0°-30°)	1299.5	4.6	B3/2500		
BM	(30°-60°)	1528.9	5.4	B2/2500		
BH	(60°-80°)	1692.9	6.0	B3/2500		G3/2500
BVH	(80°-90°)	75.4	0.3			G1/100
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°	68°	75°	85°
0°	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4
2.5°	5950.1	5997.9	5997.9	6032.7	6063.9	6089.6	6111.6	6111.6	6111.6	6096.8	6084.0
5°	5324.3	5388.5	5397.6	5485.7	5601.3	5742.7	5900.4	6040.1	6067.5	6119.0	6139.0
7.5°	4889.3	4909.4	4944.4	5004.8	5122.3	5296.6	5544.5	5856.5	5931.7	6093.3	6177.6
10°	4580.9	4597.4	4626.8	4687.4	4793.9	4951.6	5195.7	5601.3	5726.2	6012.4	6179.5
12.5°	4355.3	4368.1	4395.5	4450.7	4558.9	4700.2	4949.8	5372.0	5526.2	5931.7	6205.2
15°	4178.9	4201.1	4223.0	4276.3	4386.5	4522.2	4775.5	5204.9	5372.0	5867.5	6252.9
17.5°	4109.2	4120.3	4123.8	4151.4	4250.6	4388.2	4641.5	5087.6	5259.9	5816.0	6289.7
20°	4153.4	4155.1	4118.4	4100.0	4156.9	4283.6	4529.6	4999.3	5175.6	5770.3	6304.2
22.5°	4346.0	4346.0	4250.6	4169.8	4131.2	4210.1	4454.2	4938.8	5129.7	5735.4	6304.2
25°	4713.0	4696.6	4547.8	4388.2	4217.5	4184.6	4406.5	4900.3	5094.7	5717.1	6280.4
27.5°	5195.7	5181.1	4992.1	4755.3	4447.0	4239.6	4390.0	4869.1	5060.0	5689.4	6229.0
30°	5783.1	5770.3	5555.5	5245.4	4790.1	4413.9	4428.6	4847.1	5032.5	5643.6	6142.8
32.5°	6368.5	6361.2	6190.5	5872.9	5263.7	4709.5	4529.6	4843.4	5017.8	5588.5	6038.1
35°	6957.6	6957.6	6853.0	6585.0	5900.4	5153.5	4740.5	4911.4	5045.3	5559.2	5948.2
37.5°	7827.7	7792.7	7598.1	7321.0	6702.6	5729.7	5082.0	5054.5	5151.7	5608.7	5918.8
40°	9174.7	9073.8	8587.3	8121.2	7578.0	6467.6	5581.2	5331.6	5390.3	5777.5	5988.6
42.5°	10584.2	10424.6	9780.3	9035.2	8482.9	7377.9	6236.4	5781.2	5779.3	6104.3	6210.7
45°	11793.7	11711.2	11013.7	10068.6	9516.0	8402.0	7064.1	6449.3	6383.1	6610.7	6638.4
47.5°	12496.6	12441.5	12021.3	11162.3	10742.0	9611.5	8113.9	7376.2	7251.3	7387.1	7344.9
50°	12302.1	12355.3	12234.1	11795.6	12059.8	11311.0	9451.8	8646.1	8409.5	8545.1	8442.5
52.5°	11278.0	11421.1	11529.3	11613.8	12817.7	13585.0	11133.0	10231.9	10035.4	10011.6	9912.4
55°	9433.6	9661.1	10002.4	10622.7	12614.1	15411.1	14069.4	12149.8	11863.5	11712.9	11751.4
57.5°	6419.8	6765.0	7500.8	8681.0	11555.1	16189.3	18411.8	14627.5	14142.8	13606.9	13731.9
60°	3536.6	3824.9	4700.2	5889.5	9138.0	16073.6	22260.4	18654.1	17128.9	15708.4	15965.3
62.5°	2288.6	2351.0	3002.6	4023.0	5608.7	14190.6	24398.7	25384.1	22152.2	18479.8	18841.3
65°	1839.0	1883.0	2202.4	3244.8	3907.4	9128.8	24494.1	32365.8	30235.0	22245.7	22256.8
67.5°	1796.8	1816.9	2002.3	2729.1	3665.2	4970.1	21172.2	35118.7	35612.3	26690.9	24541.8
68°	1822.4	1846.3	2033.6	2644.7	3663.3	4580.9	19568.0	35076.4	35922.5	27434.1	24541.8
70°	1607.7	1637.2	2073.8	2736.4	3507.3	3938.6	13399.6	33213.7	34575.5	29142.9	23286.5
72.5°	840.5	816.6	1026.0	2160.2	3947.7	4103.7	7078.7	27748.0	29337.4	26990.0	20118.7
75°	655.3	596.5	574.5	853.4	3472.4	4256.1	4111.2	19722.2	20922.6	19456.1	13447.3
77.5°	616.6	545.1	503.0	504.7	1528.8	4428.6	3325.5	11606.6	11606.6	9281.2	4290.9
80°	495.5	429.5	401.9	458.9	737.8	4081.7	3470.6	5289.4	4511.2	2398.7	1181.9
82.5°	326.7	291.8	293.7	372.5	559.7	2725.5	4019.3	2611.6	1962.0	1062.7	695.6
85°	207.4	178.0	198.3	260.6	418.4	1215.0	3979.0	1815.1	1299.4	596.5	346.8
87.5°	104.7	80.8	99.2	135.9	255.1	348.7	3275.9	1620.6	963.5	247.8	189.1
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°	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4	6113.4
2.5°	6084.0	6043.6	6023.5	5990.4	5950.1	5909.7	5882.2	5869.3	5862.0	5865.7	5863.9
5°	6128.1	6074.9	5988.6	5865.7	5739.0	5605.1	5502.3	5423.3	5373.8	5359.1	5355.4
7.5°	6161.1	6084.0	5922.5	5698.7	5482.0	5247.2	5047.0	4887.4	4779.2	4729.5	4727.8
10°	6155.6	6056.6	5801.4	5471.0	5153.5	4808.4	4494.7	4226.7	4032.2	3938.6	3934.8
12.5°	6161.1	6025.3	5652.8	5204.9	4749.8	4256.1	3789.9	3373.2	3083.3	2945.6	2940.2
15°	6183.2	5992.2	5500.4	4907.6	4278.1	3580.6	2914.6	2391.4	2127.1	2037.1	2037.1
17.5°	6181.2	5937.2	5324.3	4562.6	3718.4	2784.1	1989.4	1666.4	1640.8	1723.4	1736.2
20°	6144.6	5849.1	5096.7	4153.4	3061.3	1927.0	1349.0	1303.1	1508.7	1736.2	1761.8
22.5°	6087.8	5735.4	4834.1	3678.0	2296.0	1255.3	1040.6	1110.3	1389.3	1671.9	1712.3
25°	6008.9	5597.7	4533.1	3125.6	1526.9	902.9	868.1	954.4	1150.8	1339.8	1369.1
27.5°	5893.2	5423.3	4204.6	2527.2	974.5	743.3	756.2	816.6	901.1	981.8	998.3
30°	5748.2	5219.6	3846.8	1864.7	739.7	664.3	686.5	723.1	759.8	811.2	822.2
32.5°	5601.3	5012.3	3474.3	1281.1	646.1	622.2	644.2	664.3	695.6	730.4	737.8
35°	5469.2	4819.5	3090.7	893.9	605.6	594.7	605.6	618.6	649.7	684.6	688.2
37.5°	5373.8	4661.7	2690.6	706.5	581.8	570.9	576.4	581.8	618.6	669.9	675.3
40°	5360.9	4557.1	2285.0	635.0	563.4	548.8	545.1	548.8	596.5	655.3	660.8
42.5°	5485.7	4562.6	1888.5	605.6	548.8	532.2	517.6	524.9	567.1	613.1	616.6
45°	5781.2	4691.0	1545.4	592.8	535.8	523.1	501.1	504.7	524.9	548.8	552.5
47.5°	6302.5	4971.8	1282.9	585.4	524.9	513.9	486.3	475.4	477.2	490.0	490.0
50°	7135.6	5441.8	1123.2	578.1	515.7	495.5	464.3	442.3	436.8	444.1	446.0
52.5°	8378.2	6247.4	1046.2	563.4	499.2	471.7	436.8	414.7	405.7	413.0	413.0
55°	10057.6	7533.9	1009.4	543.3	479.1	442.3	411.2	392.7	385.5	390.9	390.9
57.5°	11971.7	9205.9	1071.8	515.7	453.4	411.2	389.1	376.2	370.7	376.2	378.0
60°	14245.7	11393.7	1501.2	480.9	425.7	383.5	370.7	363.4	359.7	365.3	365.3
62.5°	17268.4	14304.4	2323.5	453.4	396.4	357.9	354.2	350.6	346.8	352.3	352.3
65°	20531.7	16952.8	2391.4	436.8	370.7	335.8	337.8	337.8	334.0	339.5	339.5
67.5°	21570.5	16723.3	1336.0	416.6	339.5	313.9	321.1	321.1	319.3	324.8	323.0
68°	21350.1	16359.9	1163.6	411.2	334.0	308.3	315.7	317.6	315.7	321.1	319.3
70°	19709.4	14363.1	765.4	380.0	310.2	290.1	301.0	302.8	301.0	308.3	306.5
72.5°	16270.0	10773.3	565.3	332.3	280.8	266.1	277.1	279.0	280.8	288.1	286.3
75°	10332.8	5950.1	446.0	282.6	251.4	238.6	249.5	255.1	258.8	269.9	264.3
77.5°	2830.0	1806.0	361.6	240.4	216.6	211.0	218.4	225.7	229.3	242.3	233.1
80°	991.1	798.4	301.0	203.7	179.9	178.0	185.4	192.6	196.4	207.4	196.4
82.5°	602.0	521.2	240.4	159.7	141.4	139.4	148.7	155.9	159.7	159.7	152.4
85°	313.9	275.3	176.2	112.0	97.2	91.7	108.2	117.5	119.3	117.5	112.0
87.5°	176.2	155.9	93.7	53.2	44.0	45.9	57.0	69.8	75.3	73.4	69.8
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)