

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: P196188

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196188
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28402.2 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G5

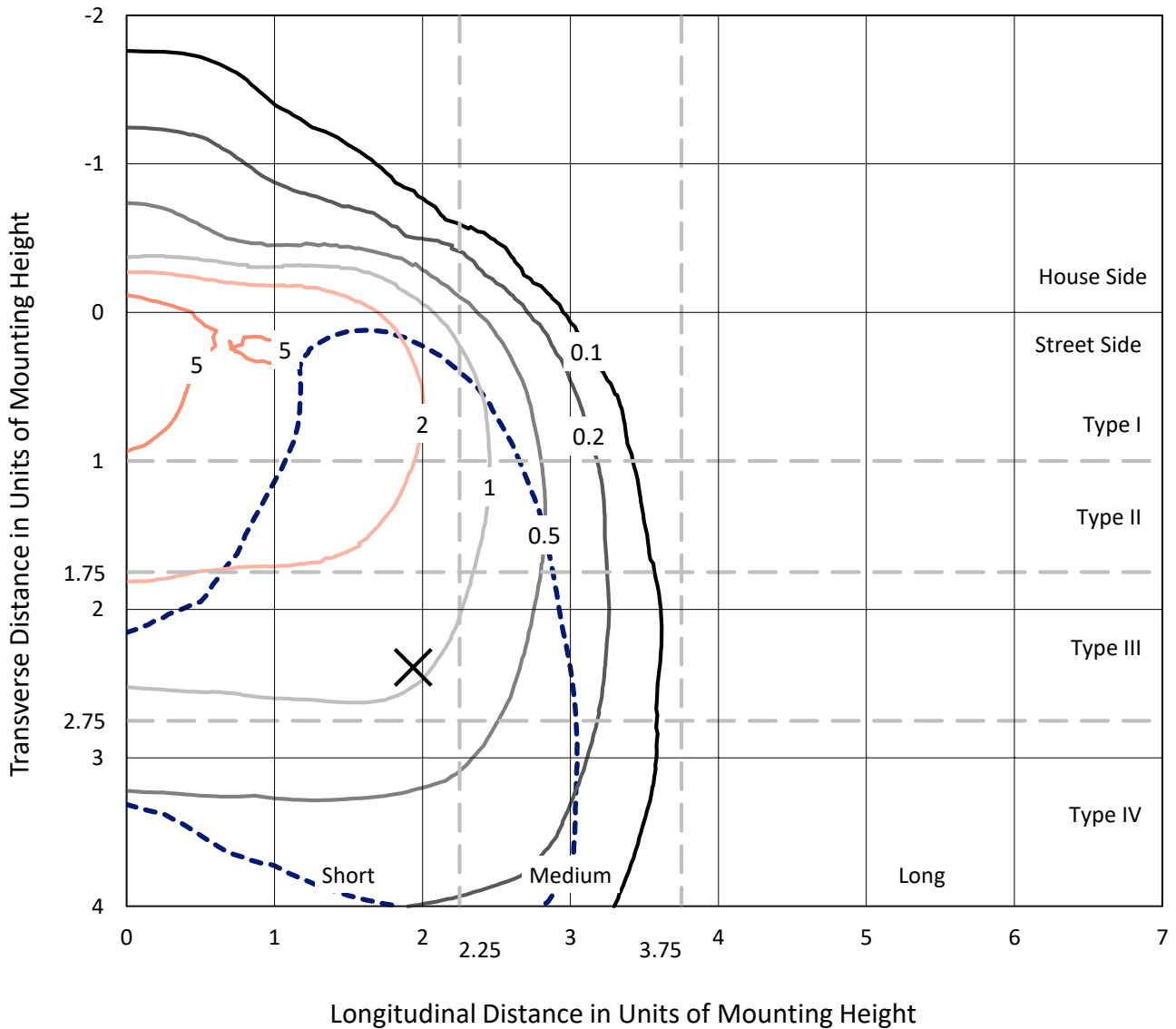
Input Watts (W): 249
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

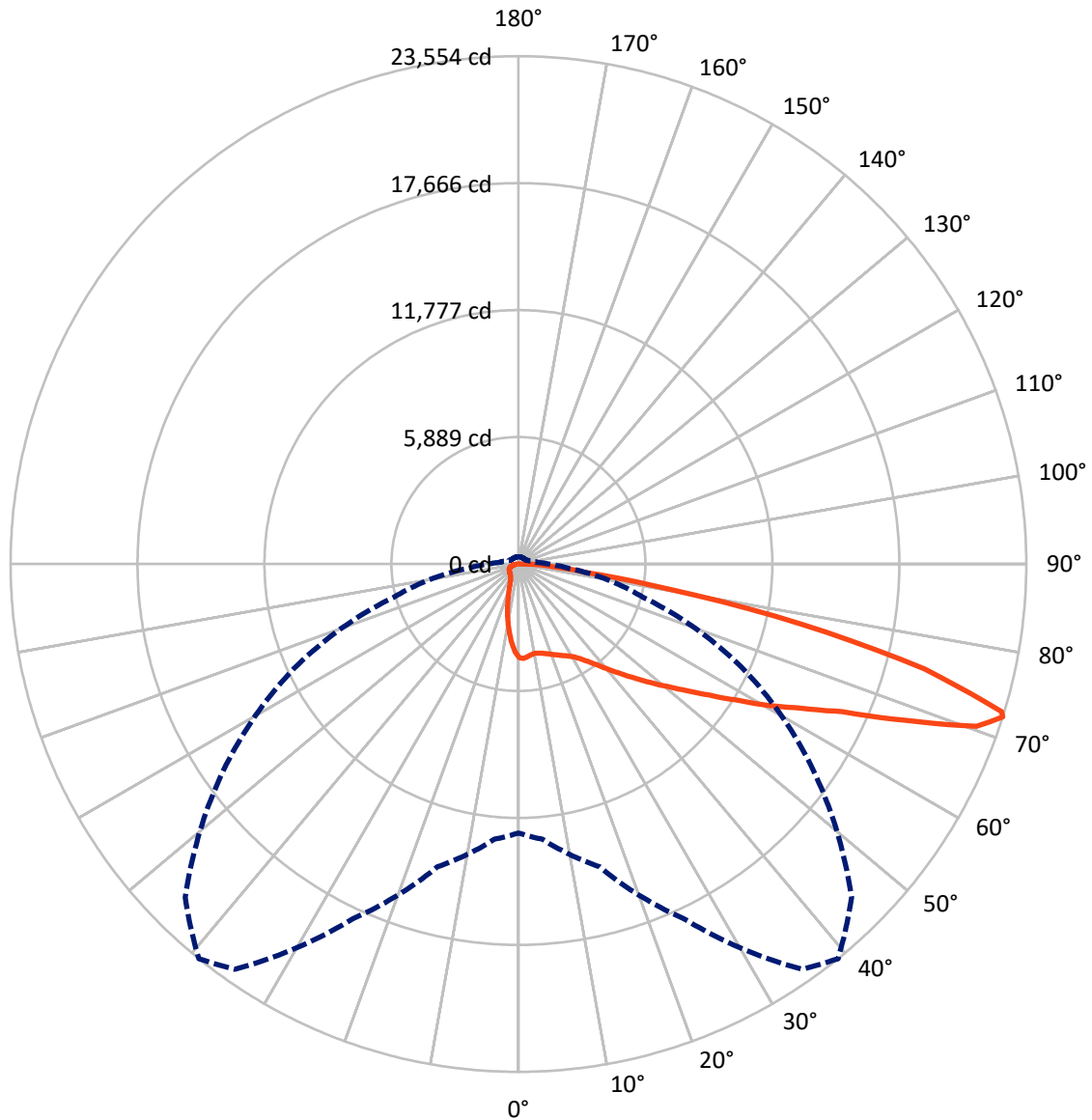
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3256.7	0.0	3256.7
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	25145.5	0.0	25145.5
	% Fixture	88.5	0.0	88.5
Total	Lumens	28402.2	0.0	28402.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	372.8	1.3
10°-20°	936.6	3.3
20°-30°	1459.6	5.1
30°-40°	2247.4	7.9
40°-50°	3663.8	12.9
50°-60°	5693.1	20.0
60°-70°	7620.0	26.8
70°-80°	5479.9	19.3
80°-90°	929.0	3.3
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°	28402.2	100.0
0°-180°	28402.2	100.0



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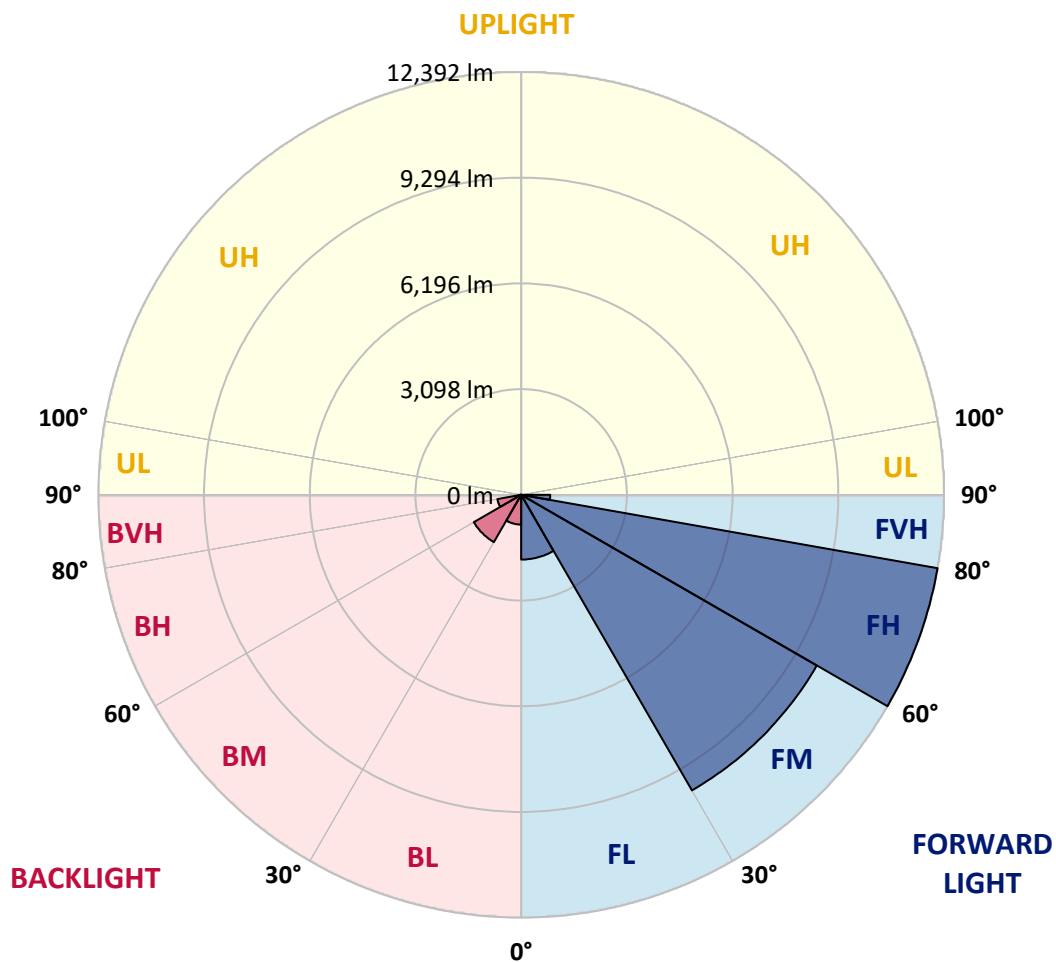
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1897.2	6.7			
FM	(30°-60°)	10003.8	35.2			
FH	(60°-80°)	12392.3	43.6			G5
FVH	(80°-90°)	852.2	3.0			G5
BL	(0°-30°)	871.8	3.1	B2/1000		
BM	(30°-60°)	1600.5	5.6	B2/2500		
BH	(60°-80°)	707.6	2.5	B2/1000		G2/1000
BVH	(80°-90°)	76.8	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5
2.5°	4430.9	4432.9	4427.1	4409.9	4394.7	4387.1	4373.7	4350.9	4320.3	4299.4	4282.3
5°	4389.0	4394.7	4390.9	4362.3	4335.7	4320.3	4299.4	4267.0	4226.9	4209.7	4169.8
7.5°	4356.6	4360.4	4349.0	4316.5	4265.1	4246.1	4207.9	4166.0	4129.8	4104.9	4057.2
10°	4333.7	4337.5	4328.0	4295.6	4238.4	4215.5	4169.8	4124.0	4076.4	4045.8	3992.5
12.5°	4301.3	4309.0	4309.0	4293.6	4255.6	4240.3	4194.5	4145.0	4101.1	4068.7	4002.0
15°	4295.6	4305.1	4322.3	4320.3	4309.0	4297.5	4261.3	4211.7	4173.5	4135.4	4053.4
17.5°	4343.2	4364.2	4398.6	4409.9	4402.4	4377.6	4335.7	4289.8	4247.9	4211.7	4110.6
20°	4463.3	4474.8	4526.3	4549.2	4511.0	4474.8	4419.6	4360.4	4322.3	4293.6	4164.0
22.5°	4644.5	4659.7	4701.7	4703.6	4623.5	4579.6	4509.2	4436.6	4400.4	4389.0	4236.4
25°	4934.3	4930.5	4941.9	4894.3	4749.4	4697.9	4612.1	4528.2	4503.4	4526.3	4343.2
27.5°	5281.3	5271.8	5235.6	5111.6	4892.4	4825.7	4722.7	4648.3	4648.3	4701.7	4488.2
30°	5681.7	5672.2	5553.9	5346.1	5062.1	4985.8	4877.1	4799.0	4839.0	4941.9	4684.5
32.5°	6105.0	6070.6	5904.8	5626.4	5304.2	5220.3	5115.5	5035.4	5111.6	5287.0	4966.7
35°	6503.4	6484.4	6280.4	5950.5	5616.8	5546.3	5473.9	5374.7	5496.7	5769.4	5365.2
37.5°	6915.2	6900.0	6650.2	6299.4	5998.2	5950.5	5889.5	5820.9	6017.2	6375.6	5904.8
40°	7374.8	7344.3	7029.6	6678.8	6442.4	6419.5	6387.1	6368.1	6684.6	7218.5	6587.3
42.5°	7895.2	7836.1	7430.0	7096.4	6926.7	6945.7	6928.7	7004.9	7489.1	8190.8	7399.5
45°	8490.1	8371.9	7828.5	7540.6	7462.4	7538.7	7575.0	7769.4	8440.6	9313.8	8307.1
47.5°	9046.9	8894.4	8265.1	8023.0	8066.9	8198.4	8301.3	8644.5	9483.5	10423.5	9233.7
50°	9559.7	9388.1	8732.2	8522.5	8736.1	8922.9	9136.5	9620.8	10593.1	11565.5	10084.0
52.5°	9939.1	9815.2	9199.4	9067.8	9504.4	9752.3	10093.6	10705.6	11714.2	12654.1	10842.9
55°	10232.8	10166.0	9655.0	9693.2	10373.8	10728.5	11142.2	11845.8	12900.1	13630.3	11453.0
57.5°	10572.1	10522.6	10175.6	10448.2	11453.0	11899.2	12387.2	13169.0	14028.8	14490.2	11931.6
60°	10930.5	10930.5	10755.2	11357.6	12802.8	13313.8	13800.0	14408.3	15153.7	15264.3	12126.1
62.5°	11201.3	11271.9	11334.8	12326.3	14084.1	14719.0	15252.8	15836.3	16318.6	15645.6	11668.4
65°	11594.1	11744.7	12099.4	13445.4	15670.4	16501.7	17222.4	17712.4	17262.4	15342.4	10175.6
67.5°	12269.0	12492.1	13247.1	15111.7	18099.4	19344.4	20044.1	19197.6	17077.4	13433.9	7794.2
70°	12877.2	13191.8	14482.6	17226.2	21256.7	22549.4	22227.2	18852.6	14873.4	9847.6	4795.1
72°	12473.0	12816.2	14539.8	18147.0	22944.1	23554.3	21855.4	16707.5	11493.1	6009.6	2364.1
72.5°	12208.0	12564.5	14354.9	18124.2	22989.9	23426.5	21338.8	15855.3	10433.0	5258.4	1912.3
75°	10198.4	10503.5	12343.3	16063.2	20259.6	19458.9	16652.3	10261.3	4795.1	1698.8	983.8
77.5°	6659.8	6892.3	8511.1	11128.9	14190.9	13420.6	10135.5	4804.7	1797.9	1031.4	739.8
80°	3346.1	3512.0	4554.9	5851.4	7658.8	7046.8	4678.8	2324.1	1203.1	745.5	581.5
82.5°	2327.9	2480.5	3136.4	2987.6	3201.2	3098.2	2200.3	1939.0	899.9	471.0	305.0
85°	1952.4	2110.7	2594.9	2129.7	1742.6	1588.2	1576.8	1832.2	594.8	232.6	257.4
87.5°	1702.6	1942.8	2141.1	1555.8	1195.4	1054.4	1161.2	1679.7	188.7	127.8	78.2
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°	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5	4337.5
2.5°	4253.6	4247.9	4219.4	4175.5	4143.1	4122.1	4082.1	4080.1	4083.9	4049.7	4063.0
5°	4133.5	4110.6	4036.3	3935.2	3853.3	3775.1	3689.3	3660.7	3635.9	3584.4	3590.1
7.5°	4007.7	3967.6	3838.0	3672.1	3513.8	3369.0	3226.0	3155.4	3102.1	3035.3	3035.3
10°	3933.3	3870.4	3672.1	3430.0	3178.3	2966.7	2753.2	2625.4	2532.0	2446.2	2440.5
12.5°	3929.6	3834.2	3557.7	3224.0	2879.0	2581.5	2289.9	2093.5	1954.2	1853.2	1843.7
15°	3960.0	3826.6	3462.4	3031.5	2596.8	2209.8	1849.4	1599.7	1422.3	1309.9	1298.4
17.5°	3986.7	3817.0	3359.5	2829.4	2322.2	1851.3	1451.0	1191.6	1023.9	932.3	922.8
20°	4011.5	3796.1	3227.9	2615.9	2019.1	1515.7	1134.5	924.7	814.2	762.6	756.9
22.5°	4047.7	3776.9	3090.6	2375.6	1721.6	1233.6	936.1	785.5	726.4	701.6	697.9
25°	4106.8	3778.9	2957.1	2129.7	1449.0	1027.7	810.3	716.9	684.5	667.3	667.3
27.5°	4192.7	3801.8	2825.6	1879.9	1218.3	886.6	735.9	680.7	659.7	646.3	642.5
30°	4318.5	3843.7	2686.4	1643.5	1035.3	789.3	692.1	657.8	640.6	629.2	627.3
32.5°	4501.5	3918.1	2539.6	1428.0	896.1	720.7	659.7	638.7	625.3	615.8	614.0
35°	4774.1	4049.7	2396.6	1245.0	797.0	671.2	633.0	615.8	608.2	604.4	602.5
37.5°	5174.5	4261.3	2261.2	1102.0	732.1	638.7	606.3	596.8	593.0	593.0	593.0
40°	5677.9	4539.7	2139.2	1001.0	695.9	614.0	587.3	579.6	579.6	581.5	581.5
42.5°	6289.9	4888.6	2034.3	932.3	674.9	596.8	573.9	570.1	568.1	568.1	570.1
45°	7001.1	5300.3	1969.5	878.9	659.7	587.3	564.4	562.4	554.8	551.0	551.0
47.5°	7716.0	5740.8	1965.7	848.4	640.6	575.8	554.8	554.8	539.6	531.9	533.9
50°	8383.4	6135.5	2007.6	840.8	629.2	558.6	545.3	547.2	526.2	516.7	514.7
52.5°	8921.1	6436.7	2059.1	850.4	629.2	543.4	528.1	537.7	514.7	503.4	501.5
55°	9336.7	6646.4	2078.2	871.3	636.8	530.0	512.9	528.1	511.0	495.7	495.7
57.5°	9634.0	6713.1	1996.2	880.9	648.2	528.1	497.7	526.2	516.7	497.7	497.7
60°	9525.4	6326.1	1691.1	844.7	646.3	524.4	486.2	530.0	535.7	514.7	514.7
62.5°	8677.0	5292.7	1357.5	762.6	614.0	511.0	472.8	526.2	549.1	541.4	537.7
65°	7064.0	3881.9	1052.4	665.4	558.6	482.3	444.3	491.9	518.6	526.2	528.1
67.5°	4978.2	2457.6	818.0	566.3	490.0	440.4	411.8	434.8	444.3	448.1	455.7
70°	2722.6	1330.9	650.2	476.7	419.4	398.4	377.5	379.4	375.6	371.7	375.6
72°	1367.1	869.4	549.1	413.8	371.7	358.4	348.9	343.2	343.2	337.5	339.4
72.5°	1176.4	808.4	530.0	398.4	360.4	348.9	341.3	335.5	333.7	329.8	331.7
75°	783.6	640.6	442.3	333.7	307.0	299.3	303.1	297.5	299.3	295.5	297.5
77.5°	633.0	551.0	375.6	282.1	263.1	251.6	259.3	261.2	265.0	261.2	259.3
80°	530.0	469.0	314.6	232.6	219.2	209.7	213.5	226.9	228.8	217.4	215.4
82.5°	343.2	377.5	247.9	181.2	167.8	164.0	173.5	186.9	190.7	175.4	171.5
85°	287.9	303.1	179.2	123.9	110.6	106.8	125.8	139.2	148.7	133.5	129.6
87.5°	80.1	148.7	87.7	59.1	49.6	49.6	61.0	72.4	85.8	87.7	87.7
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)