

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: P270526

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270526
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-04-D-UNV-SL4-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1200mA 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: 22182.5 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

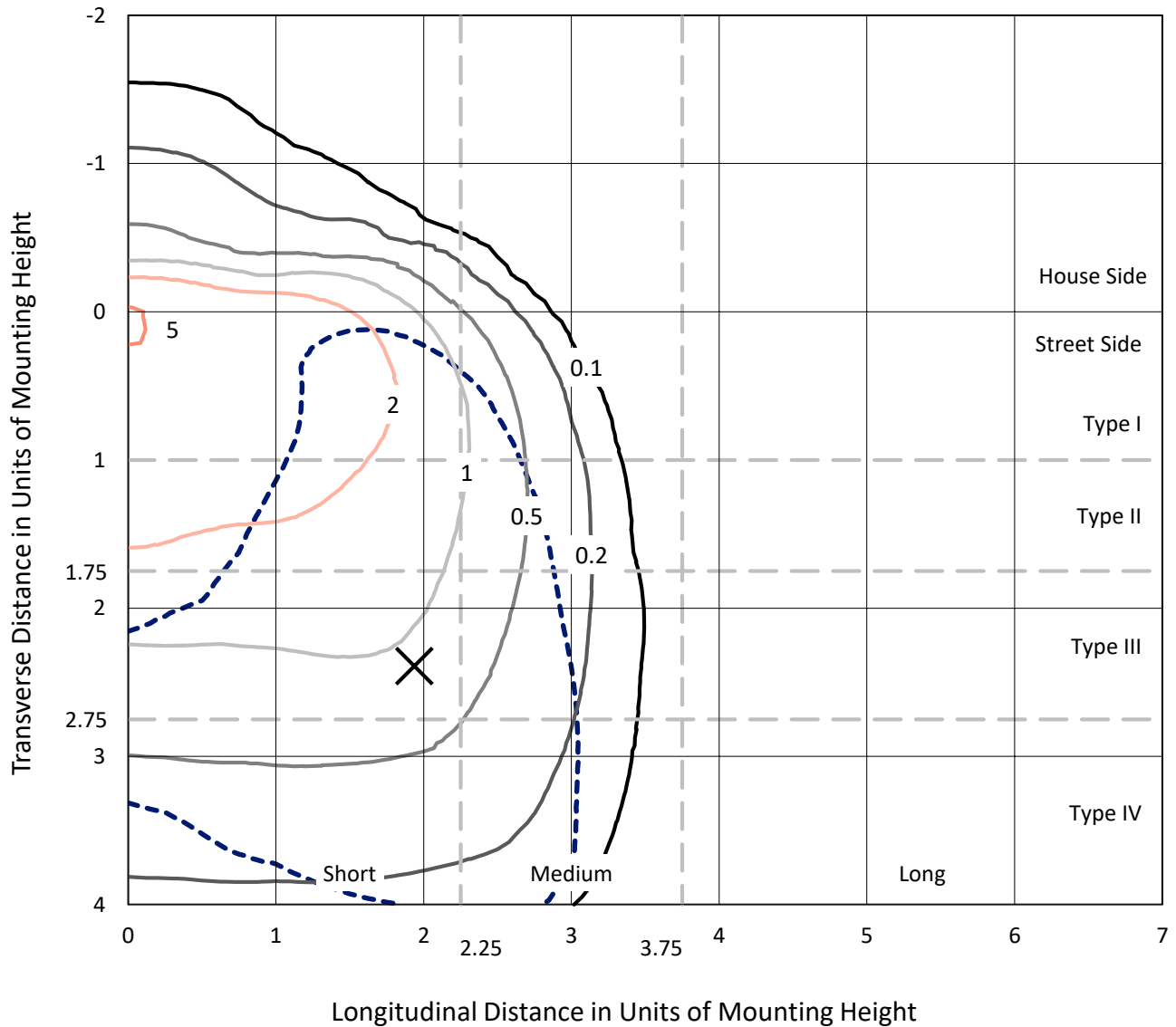
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

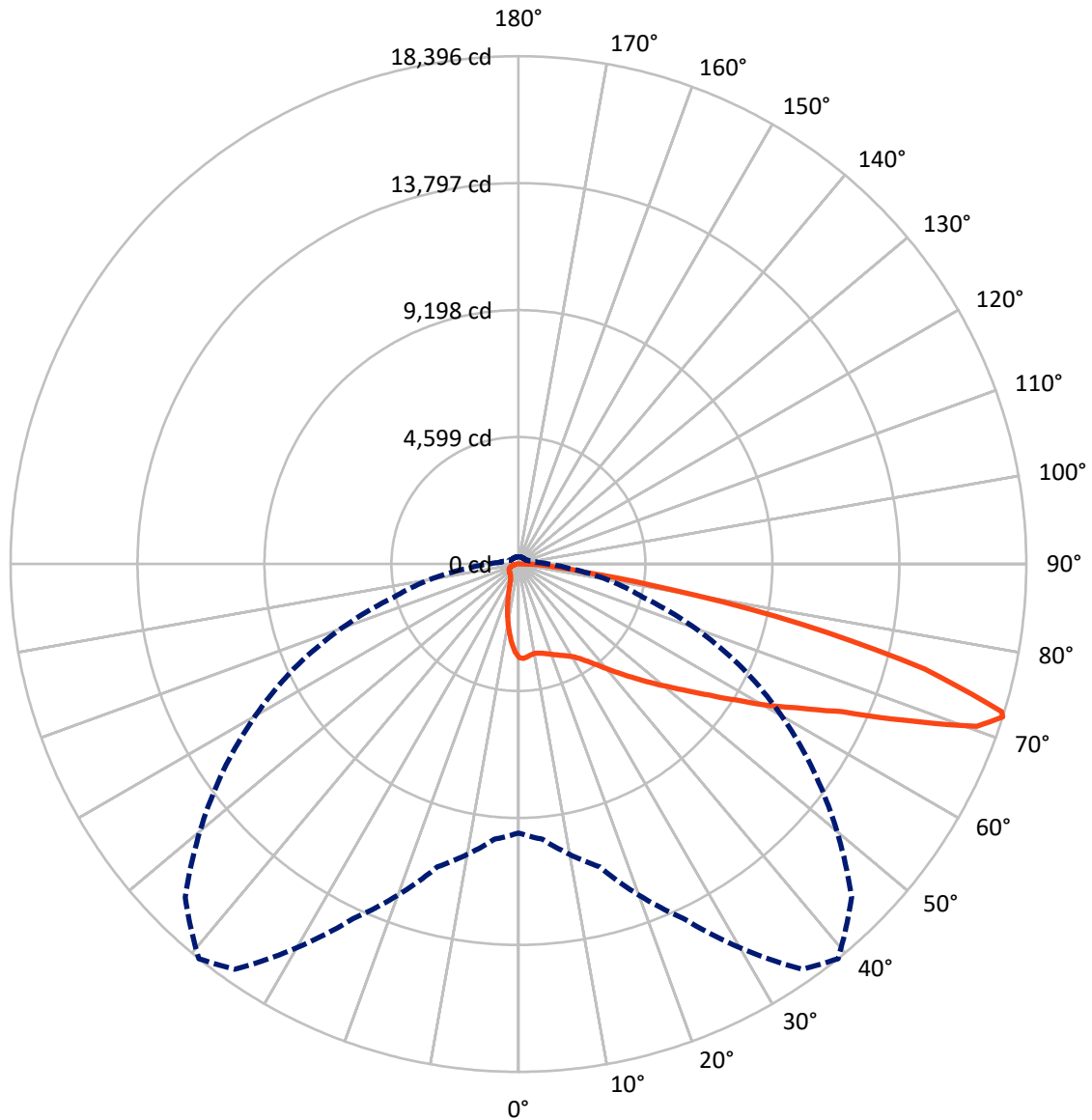
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 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	2543.5	0.0	2543.5
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	19639.0	0.0	19639.0
	% Fixture	88.5	0.0	88.5
Total	Lumens	22182.5	0.0	22182.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.1	1.3
10°-20°	731.5	3.3
20°-30°	1140.0	5.1
30°-40°	1755.3	7.9
40°-50°	2861.5	12.9
50°-60°	4446.4	20.0
60°-70°	5951.3	26.8
70°-80°	4279.9	19.3
80°-90°	725.5	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°	22182.5	100.0
0°-180°	22182.5	100.0

Coefficient of Utilization



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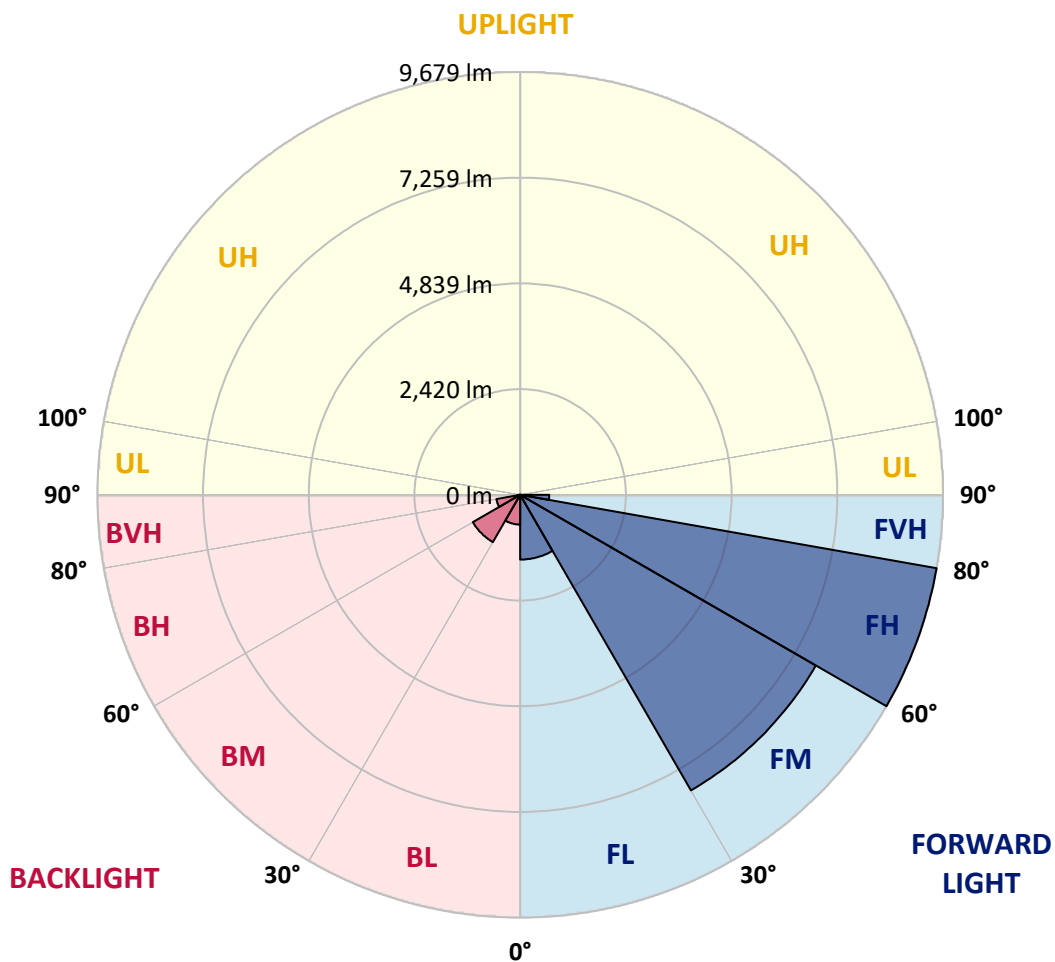
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1481.7	6.7			
FM	(30°-60°)	7813.1	35.2			
FH	(60°-80°)	9678.6	43.6			G4/12000
FVH	(80°-90°)	665.5	3.0			G4/750
BL	(0°-30°)	680.9	3.1	B2/1000		
BM	(30°-60°)	1250.0	5.6	B2/2500		
BH	(60°-80°)	552.6	2.5	B2/1000		G2/1000
BVH	(80°-90°)	60.0	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7
2.5°	3460.6	3462.1	3457.7	3444.2	3432.3	3426.3	3416.0	3398.1	3374.3	3357.9	3344.5
5°	3427.8	3432.3	3429.4	3407.0	3386.3	3374.3	3357.9	3332.5	3301.4	3287.8	3256.6
7.5°	3402.6	3405.6	3396.6	3371.2	3331.1	3316.3	3286.4	3253.7	3225.4	3206.1	3168.9
10°	3384.6	3387.7	3380.2	3354.9	3310.3	3292.4	3256.6	3221.0	3183.7	3159.9	3118.1
12.5°	3359.4	3365.3	3365.3	3353.5	3323.5	3311.7	3275.9	3237.2	3202.9	3177.8	3125.7
15°	3354.9	3362.4	3375.7	3374.3	3365.3	3356.3	3328.1	3289.4	3259.6	3229.9	3165.7
17.5°	3392.1	3408.4	3435.3	3444.2	3438.4	3418.9	3386.3	3350.4	3317.7	3289.4	3210.5
20°	3486.0	3494.9	3535.1	3552.9	3523.2	3494.9	3451.6	3405.6	3375.7	3353.5	3252.1
22.5°	3627.4	3639.4	3672.1	3673.6	3611.0	3576.8	3521.6	3465.1	3436.7	3427.8	3308.7
25°	3853.8	3850.8	3859.7	3822.5	3709.3	3669.0	3602.2	3536.5	3517.3	3535.1	3392.1
27.5°	4124.7	4117.3	4089.1	3992.2	3821.0	3768.8	3688.4	3630.4	3630.4	3672.1	3505.2
30°	4437.4	4430.0	4337.6	4175.4	3953.5	3894.0	3809.1	3748.0	3779.3	3859.7	3658.6
32.5°	4768.1	4741.3	4611.7	4394.2	4142.7	4077.0	3995.2	3932.7	3992.2	4129.1	3879.1
35°	5079.2	5064.4	4905.0	4647.4	4386.9	4331.7	4275.2	4197.7	4293.0	4506.0	4190.2
37.5°	5400.9	5389.0	5193.9	4919.9	4684.7	4647.4	4599.9	4546.1	4699.6	4979.5	4611.7
40°	5759.8	5735.9	5490.3	5216.3	5031.5	5013.7	4988.4	4973.6	5220.7	5637.7	5144.8
42.5°	6166.2	6120.2	5803.0	5542.4	5409.9	5424.8	5411.3	5470.9	5849.1	6397.1	5779.2
45°	6630.8	6538.6	6114.1	5889.3	5828.3	5887.9	5916.1	6068.1	6592.1	7274.1	6487.9
47.5°	7065.7	6946.6	6455.2	6266.0	6300.4	6403.1	6483.4	6751.5	7406.6	8140.8	7211.7
50°	7466.3	7332.2	6820.0	6656.3	6822.9	6969.0	7135.6	7514.0	8273.3	9032.7	7875.8
52.5°	7762.6	7665.7	7184.9	7082.1	7423.1	7616.6	7883.2	8361.2	9148.9	9883.1	8468.4
55°	7992.0	7939.8	7540.7	7570.5	8102.2	8379.1	8702.2	9251.6	10075.1	10645.5	8945.0
57.5°	8257.0	8218.2	7947.2	8160.2	8945.0	9293.3	9674.6	10285.1	10956.6	11316.9	9318.7
60°	8537.0	8537.0	8400.0	8870.5	9999.2	10398.2	10778.0	11253.0	11835.2	11921.5	9470.6
62.5°	8748.4	8803.5	8852.5	9627.0	10999.8	11495.7	11912.7	12368.4	12745.1	12219.5	9113.1
65°	9055.2	9172.8	9449.7	10500.9	12238.8	12888.1	13451.0	13833.5	13482.1	11982.6	7947.2
67.5°	9582.2	9756.4	10346.0	11802.4	14135.9	15108.2	15654.8	14993.6	13337.8	10492.1	6087.4
70°	10057.2	10303.0	11311.1	13453.8	16601.8	17611.5	17359.7	14723.9	11616.3	7691.1	3745.0
72°	9741.6	10009.6	11355.7	14173.1	17919.6	18396.1	17069.4	13048.8	8976.1	4693.6	1846.5
72.5°	9534.6	9813.1	11211.2	14155.2	17955.3	18296.4	16665.7	12383.1	8148.3	4107.0	1493.5
75°	7965.1	8203.3	9640.3	12545.5	15822.9	15197.5	13005.7	8014.1	3745.0	1326.7	768.4
77.5°	5201.4	5383.1	6647.3	8691.8	11083.3	10481.7	7916.0	3752.5	1404.2	805.6	577.8
80°	2613.3	2742.9	3557.4	4569.9	5981.6	5503.6	3654.2	1815.1	939.5	582.2	454.2
82.5°	1818.2	1937.3	2449.6	2333.3	2500.2	2419.8	1718.4	1514.5	702.8	367.8	238.2
85°	1524.9	1648.4	2026.7	1663.3	1361.0	1240.4	1231.4	1431.0	464.7	181.6	201.0
87.5°	1329.8	1517.3	1672.3	1215.0	933.7	823.4	906.8	1311.9	147.4	99.8	61.1
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°	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7	3387.7
2.5°	3322.1	3317.7	3295.3	3261.0	3235.8	3219.3	3188.2	3186.6	3189.6	3162.8	3173.3
5°	3228.2	3210.5	3152.4	3073.6	3009.4	2948.3	2881.4	2859.0	2839.7	2799.5	2803.9
7.5°	3130.1	3098.8	2997.6	2868.0	2744.4	2631.2	2519.6	2464.4	2422.6	2370.5	2370.5
10°	3071.9	3022.8	2868.0	2678.8	2482.2	2317.0	2150.3	2050.6	1977.4	1910.4	1906.1
12.5°	3069.0	2994.5	2778.6	2517.9	2248.5	2016.2	1788.3	1635.1	1526.3	1447.3	1440.0
15°	3092.9	2988.7	2704.2	2367.7	2028.2	1725.9	1444.5	1249.4	1110.8	1023.0	1014.0
17.5°	3113.6	2981.1	2623.8	2209.8	1813.7	1445.9	1133.2	930.6	799.6	728.2	720.7
20°	3133.0	2964.8	2521.1	2043.0	1577.0	1183.8	886.0	722.1	635.8	595.7	591.2
22.5°	3161.3	2949.9	2413.7	1855.4	1344.7	963.4	731.1	613.5	567.3	548.0	545.0
25°	3207.5	2951.3	2309.5	1663.3	1131.8	802.6	632.9	560.0	534.6	521.1	521.1
27.5°	3274.5	2969.3	2206.9	1468.2	951.6	692.5	574.7	531.5	515.2	504.8	501.9
30°	3372.7	3002.0	2098.1	1283.6	808.6	616.4	540.5	513.7	500.4	491.5	489.9
32.5°	3515.7	3060.0	1983.5	1115.3	699.9	562.9	515.2	498.9	488.4	481.0	479.4
35°	3728.7	3162.8	1871.8	972.3	622.4	524.2	494.3	481.0	475.1	472.0	470.5
37.5°	4041.4	3328.1	1766.1	860.7	571.9	498.9	473.5	466.1	463.0	463.0	463.0
40°	4434.6	3545.5	1670.8	781.7	543.6	479.4	458.7	452.7	452.7	454.2	454.2
42.5°	4912.6	3817.9	1588.8	728.2	527.1	466.1	448.3	445.2	443.8	443.8	445.2
45°	5468.0	4139.7	1538.2	686.5	515.2	458.7	440.8	439.4	433.3	430.4	430.4
47.5°	6026.3	4483.6	1535.3	662.6	500.4	449.7	433.3	433.3	421.5	415.5	417.0
50°	6547.4	4791.9	1568.0	656.8	491.5	436.2	425.8	427.4	411.0	403.6	402.0
52.5°	6967.4	5027.2	1608.2	664.1	491.5	424.4	412.5	419.9	402.0	393.1	391.7
55°	7292.0	5190.9	1623.1	680.6	497.3	413.9	400.6	412.5	399.0	387.2	387.2
57.5°	7524.4	5243.0	1559.1	687.9	506.3	412.5	388.6	411.0	403.6	388.6	388.6
60°	7439.5	4940.8	1320.8	659.6	504.8	409.4	379.8	413.9	418.4	402.0	402.0
62.5°	6776.9	4133.7	1060.2	595.7	479.4	399.0	369.4	411.0	428.9	422.9	419.9
65°	5517.0	3031.8	821.9	519.7	436.2	376.7	346.9	384.1	405.0	411.0	412.5
67.5°	3888.0	1919.4	638.9	442.2	382.7	344.1	321.7	339.5	346.9	349.9	355.9
70°	2126.4	1039.3	507.8	372.3	327.6	311.3	294.9	296.4	293.3	290.3	293.3
72°	1067.6	678.9	428.9	323.1	290.3	279.9	272.5	268.1	268.1	263.6	265.1
72.5°	918.7	631.4	413.9	311.3	281.3	272.5	266.5	262.0	260.6	257.6	259.2
75°	612.0	500.4	345.5	260.6	239.8	233.7	236.8	232.3	233.7	230.9	232.3
77.5°	494.3	430.4	293.3	220.4	205.5	196.5	202.5	204.1	207.0	204.1	202.5
80°	413.9	366.2	245.6	181.6	171.2	163.9	166.7	177.1	178.8	169.8	168.3
82.5°	268.1	294.9	193.6	141.5	131.1	128.1	135.6	146.0	148.8	137.0	133.9
85°	224.8	236.8	140.0	96.7	86.3	83.5	98.3	108.8	116.2	104.3	101.2
87.5°	62.5	116.2	68.5	46.2	38.6	38.6	47.6	56.7	67.1	68.5	68.5
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)