

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: P196662

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196662
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-SL4-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 3000K, 615mA 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: 21898.8 lumens
Efficiency: N/A
Efficacy: 113.5 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 - G4

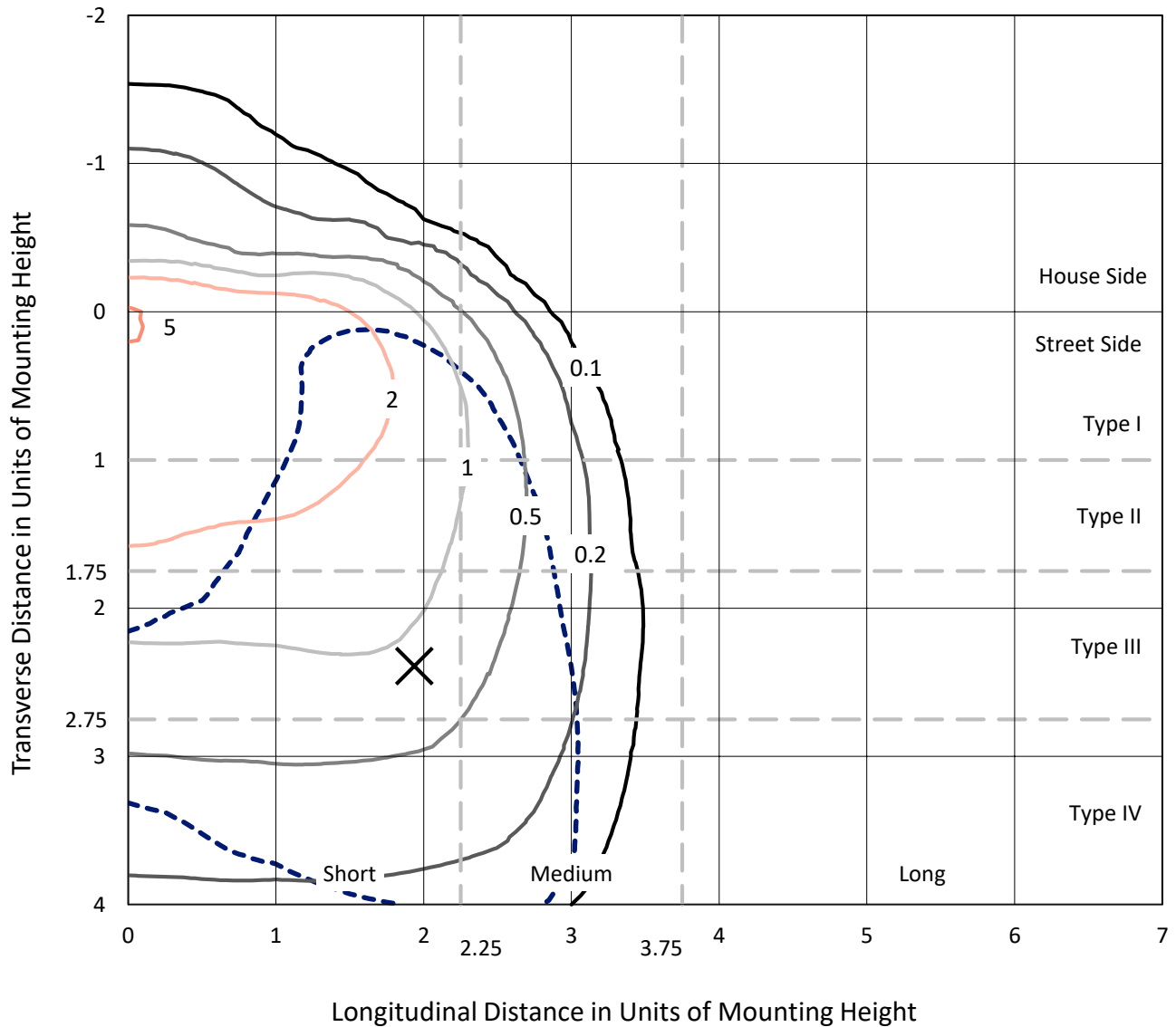
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

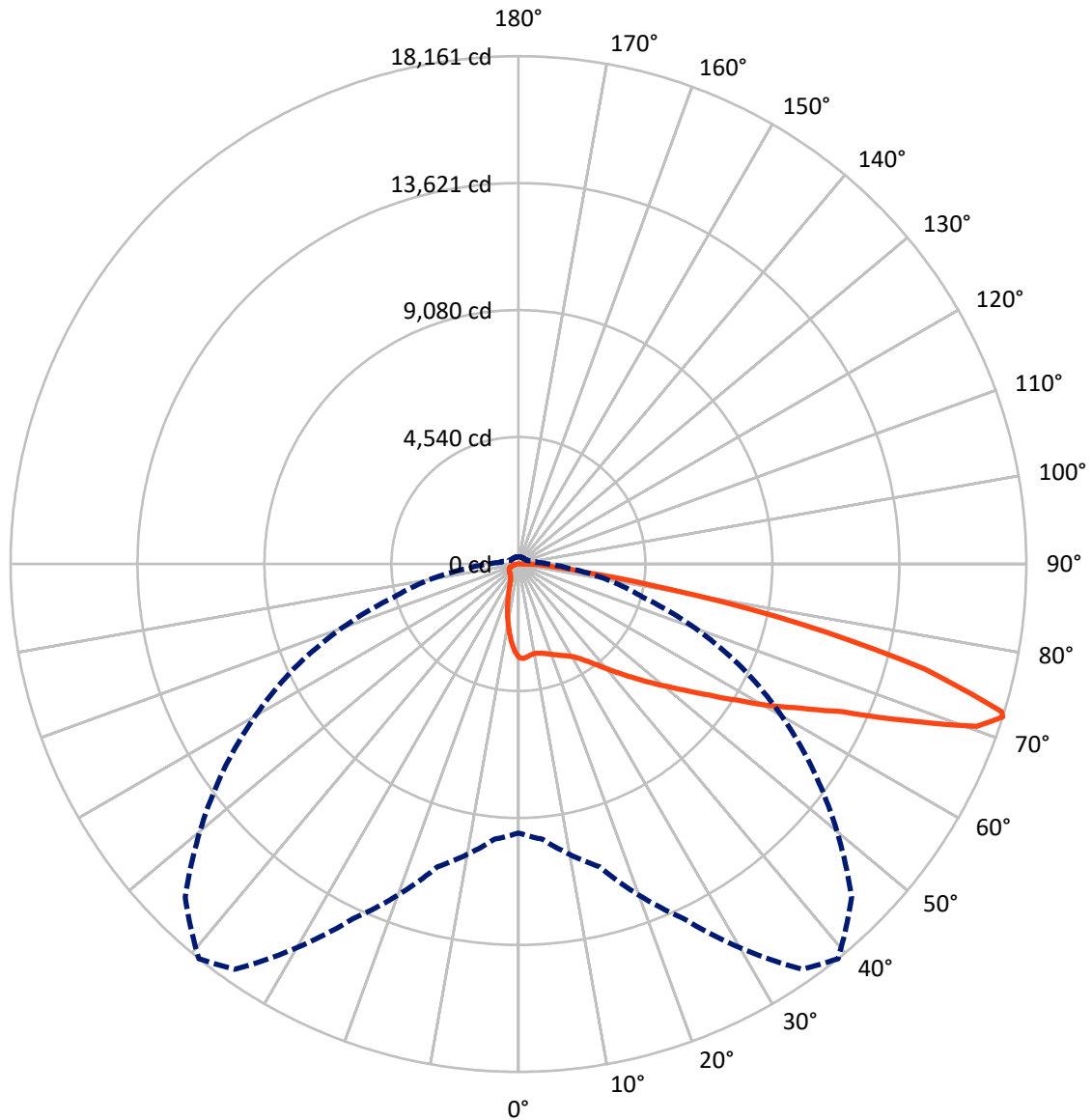
× Max cd
 - - - 1/2 Max cd



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	2511.0	0.0	2511.0
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	19387.9	0.0	19387.9
	% Fixture	88.5	0.0	88.5
Total	Lumens	21898.8	0.0	21898.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.4	1.3
10°-20°	722.2	3.3
20°-30°	1125.4	5.1
30°-40°	1732.8	7.9
40°-50°	2824.9	12.9
50°-60°	4389.5	20.0
60°-70°	5875.2	26.8
70°-80°	4225.2	19.3
80°-90°	716.3	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°	21898.8	100.0
0°-180°	21898.8	100.0



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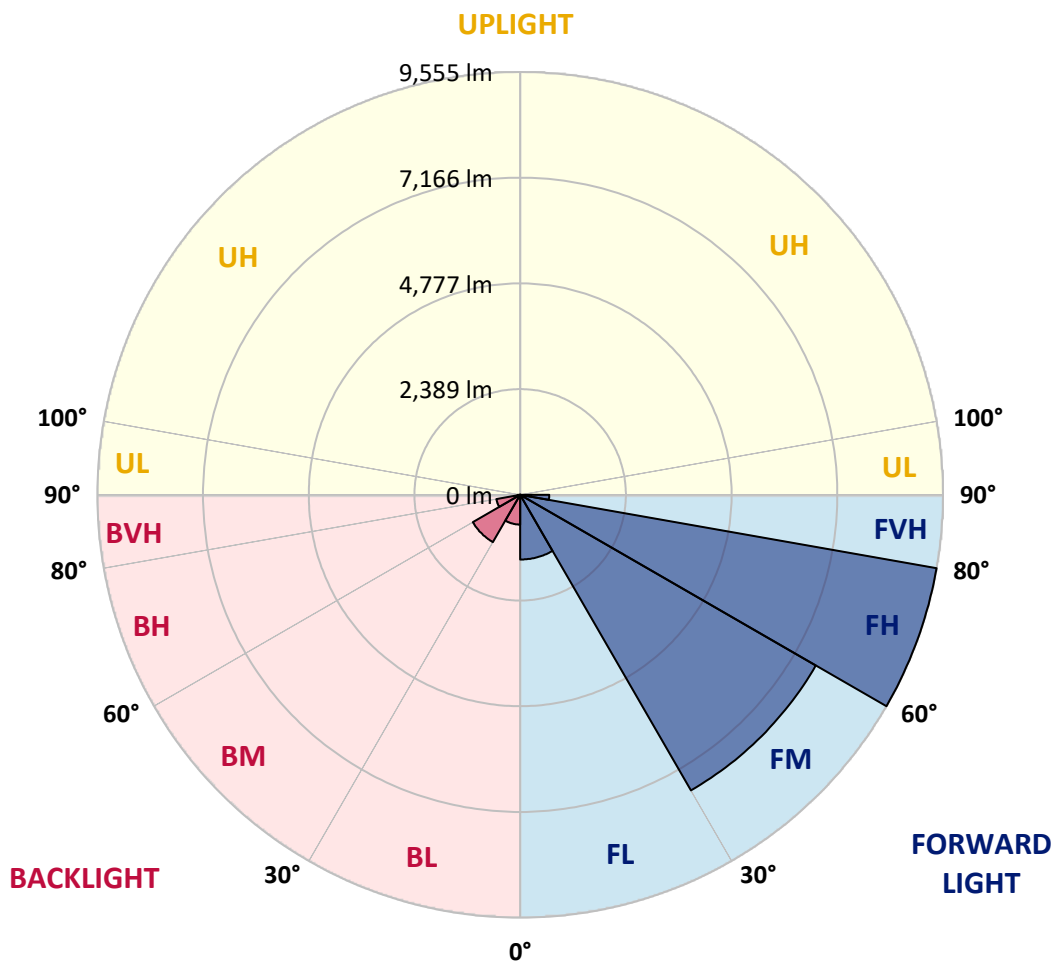
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1462.8	6.7			
FM	(30°-60°)	7713.2	35.2			
FH	(60°-80°)	9554.8	43.6			G4/12000
FVH	(80°-90°)	657.0	3.0			G4/750
BL	(0°-30°)	672.2	3.1	B2/1000		
BM	(30°-60°)	1234.0	5.6	B2/2500		
BH	(60°-80°)	545.6	2.5	B2/1000		G2/1000
BVH	(80°-90°)	59.2	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°	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3
2.5°	3416.4	3417.8	3413.5	3400.2	3388.4	3382.5	3372.3	3354.6	3331.1	3314.9	3301.7
5°	3384.1	3388.4	3385.5	3363.4	3342.9	3331.1	3314.9	3289.9	3259.1	3245.9	3215.0
7.5°	3359.0	3362.0	3353.1	3328.1	3288.4	3273.7	3244.4	3212.0	3184.2	3165.0	3128.2
10°	3341.3	3344.3	3337.0	3311.9	3268.0	3250.3	3215.0	3179.7	3143.0	3119.5	3078.3
12.5°	3316.4	3322.2	3322.2	3310.5	3281.2	3269.4	3234.1	3195.9	3162.1	3137.1	3085.6
15°	3311.9	3319.4	3332.6	3331.1	3322.2	3313.5	3285.5	3247.3	3217.9	3188.5	3125.4
17.5°	3348.8	3364.9	3391.4	3400.2	3394.3	3375.2	3342.9	3307.6	3275.3	3247.3	3169.4
20°	3441.3	3450.2	3489.8	3507.6	3478.2	3450.2	3407.6	3362.0	3332.6	3310.5	3210.6
22.5°	3581.0	3592.8	3625.1	3626.7	3564.8	3531.0	3476.6	3420.8	3392.8	3384.1	3266.5
25°	3804.5	3801.5	3810.3	3773.6	3661.9	3622.2	3556.1	3491.4	3472.3	3489.8	3348.8
27.5°	4072.0	4064.7	4036.7	3941.2	3772.1	3720.8	3641.3	3583.9	3583.9	3625.1	3460.5
30°	4380.8	4373.3	4282.2	4122.1	3903.0	3844.2	3760.3	3700.1	3730.9	3810.3	3611.9
32.5°	4707.1	4680.6	4552.8	4338.1	4089.7	4025.0	3944.2	3882.4	3941.2	4076.5	3829.4
35°	5014.4	4999.6	4842.4	4588.1	4330.7	4276.3	4220.4	4144.1	4238.1	4448.4	4136.7
37.5°	5331.9	5320.1	5127.5	4857.0	4624.7	4588.1	4541.0	4488.1	4639.4	4915.8	4552.8
40°	5686.1	5662.6	5420.1	5149.6	4967.3	4949.7	4924.7	4909.9	5154.0	5565.5	5079.0
42.5°	6087.5	6041.8	5728.8	5471.4	5340.7	5355.4	5342.1	5400.9	5774.4	6315.3	5705.2
45°	6546.0	6454.9	6036.0	5814.0	5753.7	5812.6	5840.5	5990.4	6507.9	7181.2	6405.0
47.5°	6975.3	6857.7	6372.6	6185.9	6219.7	6321.2	6400.5	6665.2	7311.9	8036.7	7119.5
50°	7370.7	7238.5	6732.8	6571.1	6735.8	6879.8	7044.5	7417.8	8167.5	8917.3	7775.0
52.5°	7663.3	7567.8	7093.0	6991.5	7328.1	7519.2	7782.4	8254.3	9031.9	9756.7	8360.1
55°	7889.7	7838.3	7444.3	7473.7	7998.6	8271.9	8590.9	9133.4	9946.3	10509.3	8830.6
57.5°	8151.4	8113.1	7845.6	8055.8	8830.6	9174.5	9550.9	10153.6	10816.5	11172.3	9199.5
60°	8427.7	8427.7	8292.6	8757.0	9871.3	10265.4	10640.2	11109.2	11683.8	11769.2	9349.5
62.5°	8636.5	8690.9	8739.4	9503.8	10859.2	11348.8	11760.3	12210.2	12582.1	12063.2	8996.6
65°	8939.4	9055.4	9328.9	10366.7	12082.3	12723.2	13279.0	13656.7	13309.8	11829.4	7845.6
67.5°	9459.6	9631.8	10213.9	11651.5	13955.1	14915.1	15454.5	14801.9	13167.2	10357.9	6009.5
70°	9928.7	10171.3	11166.4	13281.8	16389.6	17386.2	17137.8	14535.8	11467.8	7592.8	3697.2
72°	9617.0	9881.6	11210.5	13991.8	17690.5	18160.8	16851.0	12882.0	8861.4	4633.5	1822.9
72.5°	9412.6	9687.6	11068.0	13974.3	17725.7	18062.4	16452.7	12224.9	8044.1	4054.4	1474.5
75°	7863.3	8098.6	9517.0	12385.1	15620.7	15003.3	12839.4	7911.8	3697.2	1309.8	758.6
77.5°	5134.8	5314.2	6562.2	8580.6	10941.6	10347.6	7814.8	3704.6	1386.3	795.3	570.4
80°	2579.9	2707.8	3511.9	4511.6	5905.1	5433.3	3607.5	1792.0	927.6	574.8	448.4
82.5°	1794.9	1912.5	2418.2	2303.5	2468.1	2388.9	1696.5	1495.0	693.9	363.1	235.2
85°	1505.4	1627.3	2000.7	1642.0	1343.7	1224.6	1215.7	1412.7	458.7	179.3	198.5
87.5°	1312.8	1498.0	1650.9	1199.5	921.7	812.9	895.3	1295.2	145.6	98.5	60.3
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°	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3	3344.3
2.5°	3279.6	3275.3	3253.2	3219.5	3194.4	3178.3	3147.3	3145.9	3148.9	3122.4	3132.7
5°	3187.1	3169.4	3112.0	3034.1	2971.0	2910.6	2844.6	2822.5	2803.4	2763.7	2768.1
7.5°	3090.1	3059.2	2959.2	2831.4	2709.3	2597.5	2487.3	2432.8	2391.8	2340.4	2340.4
10°	3032.7	2984.2	2831.4	2644.6	2450.5	2287.4	2122.7	2024.2	1952.3	1886.1	1881.7
12.5°	3029.8	2956.2	2743.1	2485.8	2219.7	1990.4	1765.5	1614.1	1506.8	1428.9	1421.6
15°	3053.2	2950.3	2669.6	2337.4	2002.1	1703.8	1426.0	1233.3	1096.6	1009.9	1001.2
17.5°	3073.9	2943.0	2590.2	2181.6	1790.5	1427.4	1118.7	918.8	789.4	718.8	711.5
20°	3093.0	2926.8	2488.8	2016.9	1556.7	1168.6	874.6	712.9	627.7	588.1	583.6
22.5°	3120.9	2912.2	2383.0	1831.6	1327.5	951.1	721.7	605.7	560.1	541.0	538.0
25°	3166.5	2913.6	2280.0	1642.0	1117.2	792.3	624.8	552.8	527.7	514.5	514.5
27.5°	3232.7	2931.3	2178.6	1449.5	939.4	683.5	567.4	524.8	508.6	498.3	495.4
30°	3329.6	2963.6	2071.3	1267.2	798.2	608.6	533.6	507.2	494.0	485.1	483.7
32.5°	3470.7	3020.9	1958.2	1101.2	690.9	555.7	508.6	492.4	482.2	474.8	473.3
35°	3681.0	3122.4	1847.8	960.0	614.5	517.5	488.1	474.8	468.9	466.0	464.6
37.5°	3989.7	3285.5	1743.4	849.7	564.6	492.4	467.5	460.1	457.1	457.1	457.1
40°	4377.8	3500.1	1649.4	771.8	536.6	473.3	452.8	446.9	446.9	448.4	448.4
42.5°	4849.7	3769.2	1568.5	718.8	520.4	460.1	442.5	439.6	438.0	438.0	439.6
45°	5398.0	4086.8	1518.6	677.7	508.6	452.8	435.2	433.6	427.7	424.8	424.8
47.5°	5949.2	4426.3	1515.7	654.1	494.0	443.9	427.7	427.7	416.1	410.2	411.6
50°	6463.8	4730.6	1547.9	648.2	485.1	430.7	420.4	421.8	405.7	398.4	396.9
52.5°	6878.3	4962.9	1587.6	655.7	485.1	419.0	407.2	414.5	396.9	388.1	386.7
55°	7198.8	5124.6	1602.4	671.8	491.0	408.6	395.4	407.2	394.0	382.2	382.2
57.5°	7428.1	5176.0	1539.1	679.1	499.9	407.2	383.7	405.7	398.4	383.7	383.7
60°	7344.3	4877.6	1303.9	651.1	498.3	404.3	374.9	408.6	413.1	396.9	396.9
62.5°	6690.2	4080.9	1046.7	588.1	473.3	394.0	364.6	405.7	423.4	417.5	414.5
65°	5446.5	2993.0	811.5	513.1	430.7	371.9	342.5	379.2	399.9	405.7	407.2
67.5°	3838.3	1894.9	630.7	436.6	377.8	339.6	317.5	335.2	342.5	345.5	351.4
70°	2099.2	1026.1	501.3	367.5	323.4	307.2	291.0	292.5	289.6	286.7	289.6
72°	1054.1	670.3	423.4	319.0	286.7	276.3	269.0	264.6	264.6	260.1	261.6
72.5°	907.1	623.4	408.6	307.2	277.8	269.0	263.1	258.7	257.3	254.3	255.7
75°	604.2	494.0	341.0	257.3	236.6	230.7	233.7	229.3	230.7	227.8	229.3
77.5°	488.1	424.8	289.6	217.5	202.9	194.1	200.0	201.4	204.4	201.4	200.0
80°	408.6	361.6	242.5	179.3	169.1	161.7	164.7	175.0	176.5	167.6	166.1
82.5°	264.6	291.0	191.1	139.7	129.4	126.4	133.8	144.1	147.0	135.3	132.3
85°	222.1	233.7	138.2	95.6	85.2	82.3	97.0	107.3	114.6	102.9	100.0
87.5°	61.7	114.6	67.6	45.6	38.2	38.2	47.1	55.8	66.1	67.6	67.6
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)