

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: P195148

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7060-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195148
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-7060-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13645 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G3

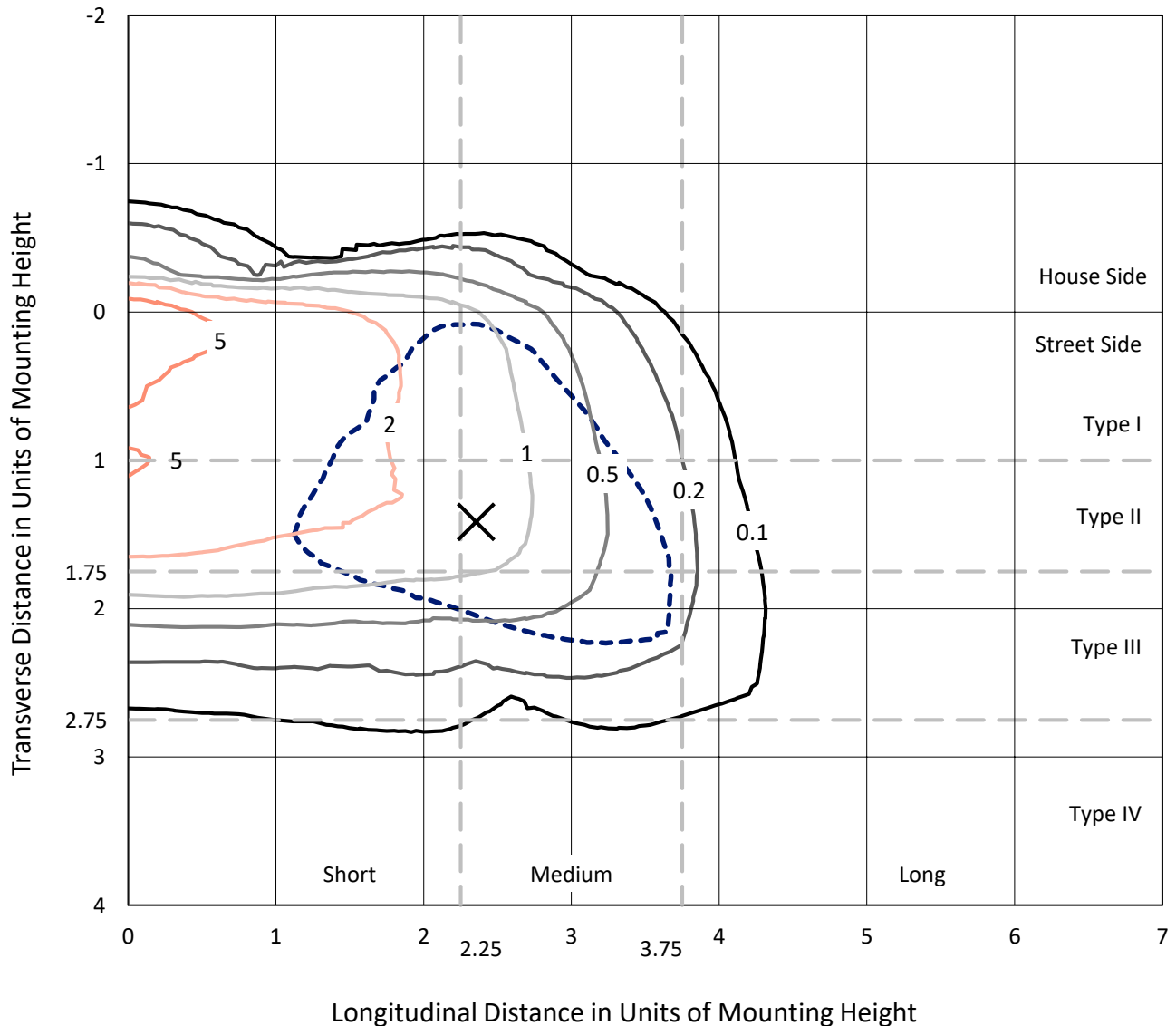
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

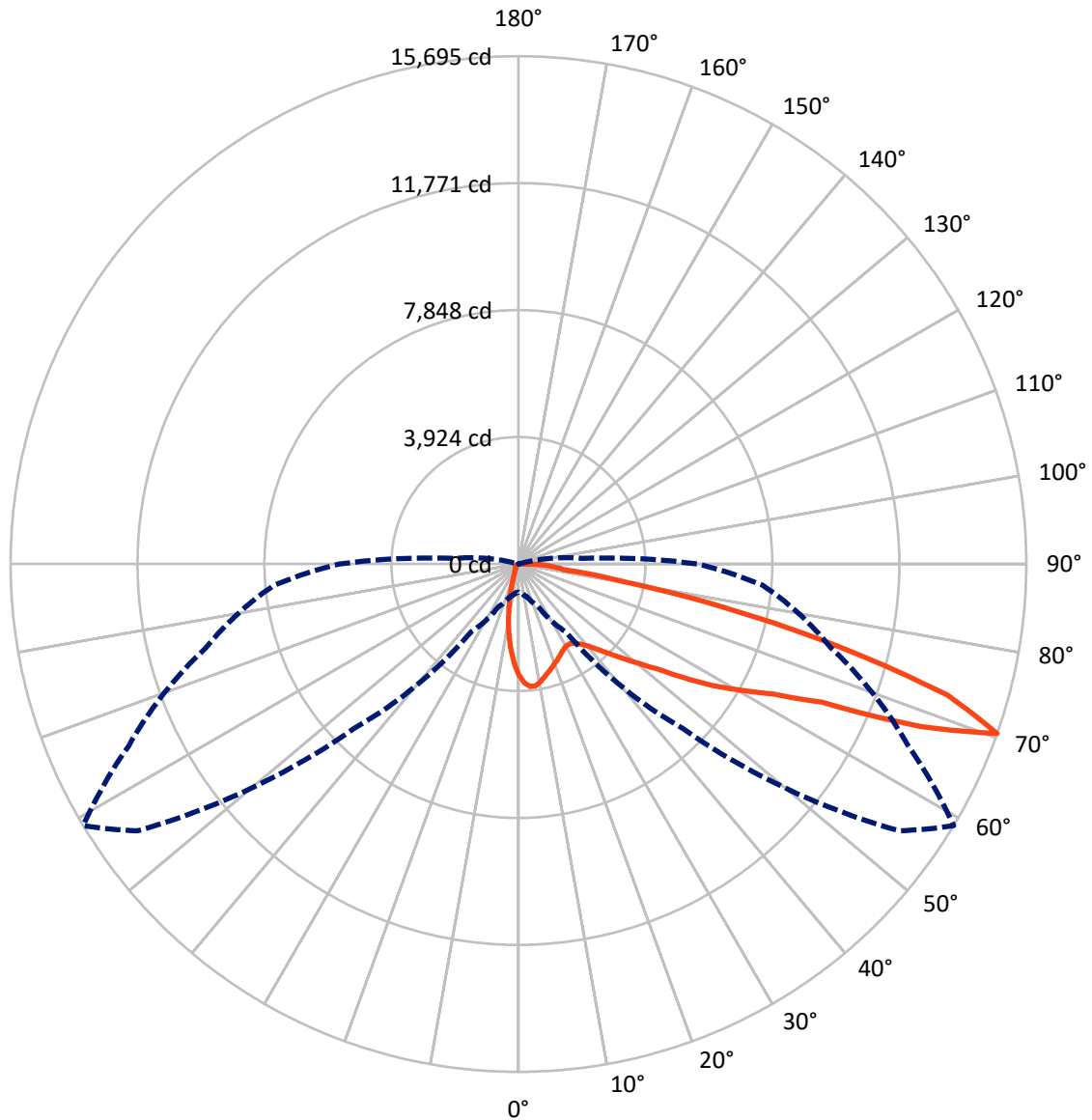
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.2 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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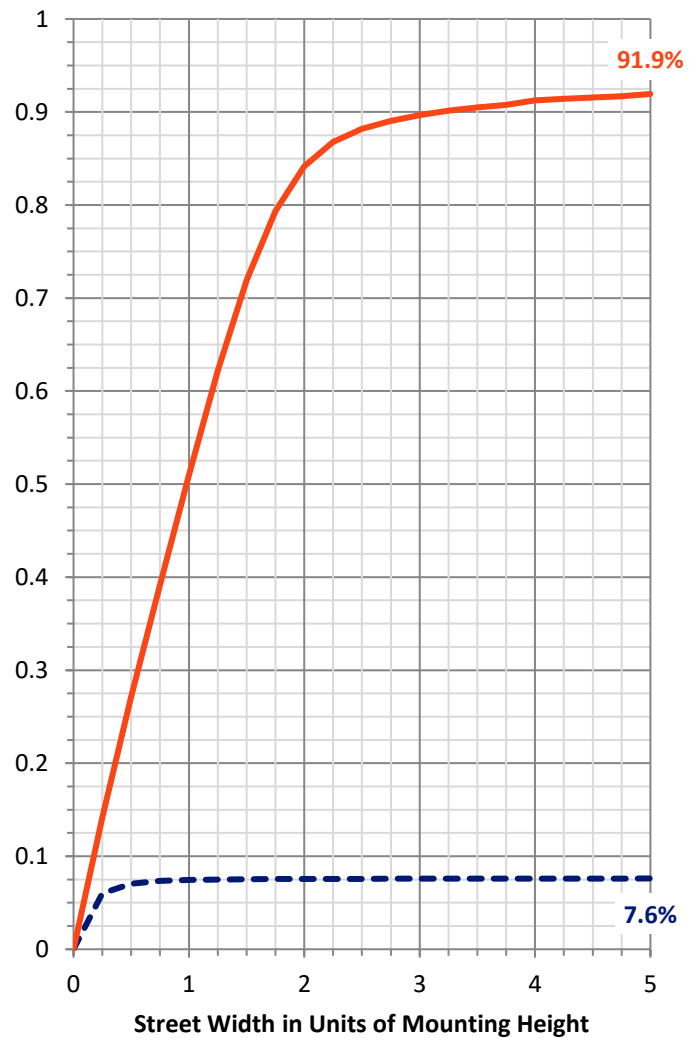
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1048.9	0.0	1048.9
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	12596.1	0.0	12596.1
	% Fixture	92.3	0.0	92.3
Total	Lumens	13645.0	0.0	13645.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.7	2.1
10°-20°	595.1	4.4
20°-30°	805.6	5.9
30°-40°	1162.5	8.5
40°-50°	1930.7	14.1
50°-60°	2953.2	21.6
60°-70°	3673.1	26.9
70°-80°	2030.5	14.9
80°-90°	210.5	1.5
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°	13645.0	100.0
0°-180°	13645.0	100.0



--- HS — SS

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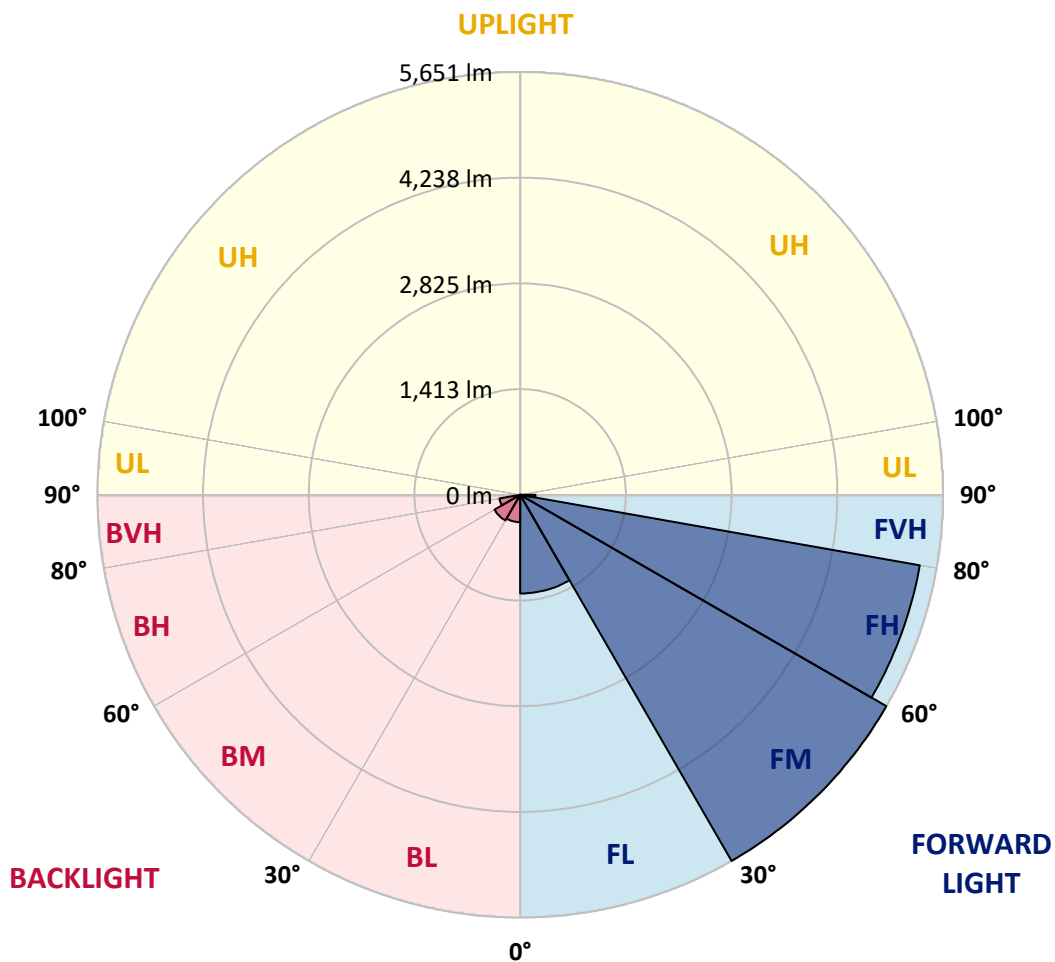
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1318.8	9.7			
FM	(30°-60°)	5650.5	41.4			
FH	(60°-80°)	5422.2	39.7			G3/7500
FVH	(80°-90°)	204.5	1.5			G2/225
BL	(0°-30°)	365.5	2.7	B1/500		
BM	(30°-60°)	395.9	2.9	B1/1000		
BH	(60°-80°)	281.4	2.1	B1/500		G1/500
BVH	(80°-90°)	6.1	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3
2.5°	3900.1	3894.0	3868.2	3863.1	3834.3	3776.6	3709.7	3683.0	3628.4	3541.9	3446.2
5°	3965.0	3968.1	3970.1	3958.8	3954.7	3907.4	3833.2	3801.3	3728.2	3586.2	3411.2
7.5°	3722.1	3730.3	3756.0	3767.4	3816.8	3835.3	3819.9	3799.3	3741.6	3573.8	3327.8
10°	3465.8	3481.2	3509.0	3527.5	3588.3	3637.7	3700.5	3705.6	3693.3	3532.7	3234.2
12.5°	3245.5	3259.9	3290.8	3327.8	3389.6	3453.4	3547.1	3580.0	3621.2	3505.9	3167.3
15°	3056.1	3060.2	3090.1	3136.4	3217.7	3305.2	3416.4	3464.7	3545.0	3495.6	3115.8
17.5°	2890.4	2891.4	2911.0	2953.2	3052.0	3167.3	3297.0	3360.8	3462.7	3481.2	3070.5
20°	2781.3	2780.2	2781.3	2803.9	2891.4	3028.3	3185.8	3252.7	3383.4	3463.7	3024.2
22.5°	2744.2	2739.1	2715.4	2707.1	2762.7	2883.2	3071.5	3159.0	3312.4	3458.6	2990.2
25°	2789.5	2786.4	2736.0	2688.6	2693.8	2768.9	2955.2	3062.3	3256.8	3477.1	2982.0
27.5°	2935.7	2929.5	2852.3	2759.6	2701.0	2714.4	2868.8	2981.0	3212.6	3522.4	2993.3
30°	3127.1	3128.1	3045.8	2933.6	2795.7	2719.5	2822.4	2928.5	3182.7	3590.3	3018.0
32.5°	3340.2	3339.2	3280.5	3150.8	2974.8	2814.2	2843.0	2932.6	3186.8	3690.2	3065.4
35°	3560.5	3549.1	3529.6	3415.3	3209.5	2979.9	2936.7	3002.6	3230.1	3821.9	3145.6
37.5°	3814.7	3810.6	3830.2	3709.7	3499.7	3223.9	3101.4	3145.6	3339.2	4016.5	3275.3
40°	4219.2	4196.6	4205.9	4042.2	3827.1	3552.2	3332.0	3343.3	3513.1	4273.8	3480.2
42.5°	4990.2	4898.6	4726.7	4420.0	4187.3	3916.6	3633.6	3614.0	3759.1	4585.7	3749.9
45°	5911.5	5806.5	5373.1	4836.8	4547.6	4307.8	4006.2	3953.7	4061.8	4957.3	4097.8
47.5°	6680.4	6567.2	5992.8	5272.3	4914.0	4711.3	4418.9	4357.2	4424.1	5388.6	4515.7
50°	6942.9	6880.1	6375.7	5634.6	5283.6	5164.2	4936.7	4833.8	4850.2	5853.8	5003.6
52.5°	6822.4	6800.8	6463.2	5882.6	5625.3	5664.4	5503.9	5395.8	5377.2	6362.3	5543.0
55°	6568.2	6557.9	6393.2	6020.6	5926.9	6122.5	6299.5	6205.9	6030.9	6902.7	5988.7
57.5°	6204.8	6243.9	6362.3	6286.1	6297.5	6606.3	7038.6	7087.0	6825.5	7333.0	6319.1
60°	5234.2	5339.2	5881.6	6571.3	7099.3	7411.2	7830.1	7920.7	7498.7	7627.4	6701.0
62.5°	3869.3	4019.6	4792.6	6059.7	7540.9	8941.8	8883.2	8843.0	8141.0	8021.6	7395.8
65°	2272.8	2448.8	3102.4	4734.9	6874.9	9925.9	10849.2	10293.3	9119.9	8841.0	8502.3
67.5°	1132.3	1133.3	1428.7	2499.2	5080.8	9239.3	13719.0	13397.8	11201.2	10048.4	8938.7
70°	870.8	894.5	1057.1	1452.4	2569.2	7196.1	14376.7	15695.3	13292.8	9994.8	7584.1
72.5°	738.0	753.5	940.8	1264.0	1920.7	3950.6	12445.7	13873.4	12684.5	8444.7	5590.3
75°	531.1	543.5	832.7	1146.7	1768.4	1959.9	8537.3	10289.2	9517.2	5940.3	3076.7
77.5°	131.8	130.7	290.3	930.5	1582.1	1632.5	4898.6	6598.0	5460.6	2432.3	790.5
80°	58.7	56.6	65.9	195.6	1471.9	1540.9	2154.4	3332.0	2094.7	394.2	241.9
82.5°	41.2	39.1	41.2	72.1	492.0	1429.7	1302.1	1444.2	766.9	134.8	102.9
85°	13.4	12.4	22.6	60.7	137.9	824.5	1270.2	1078.7	570.3	57.6	69.0
87.5°	2.1	2.1	8.2	32.9	40.1	274.8	745.2	747.3	256.3	34.0	30.9
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°	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3	3450.3
2.5°	3397.8	3337.1	3251.7	3166.2	3089.0	3009.8	2946.0	2916.1	2902.7	2884.2	2844.1
5°	3319.6	3209.5	3022.1	2837.9	2666.0	2501.3	2360.3	2280.0	2193.5	2189.4	2147.2
7.5°	3194.0	3037.6	2742.1	2456.0	2193.5	1942.4	1726.2	1586.2	1490.5	1430.8	1389.6
10°	3054.0	2853.3	2462.2	2059.7	1702.5	1367.0	1089.0	907.9	797.7	742.2	710.2
12.5°	2942.9	2690.7	2186.3	1679.9	1232.1	847.1	588.8	457.0	398.4	375.7	365.4
15°	2847.1	2541.4	1927.9	1340.2	822.4	486.9	340.7	297.5	288.2	288.2	287.2
17.5°	2750.4	2397.3	1676.8	1006.7	517.8	319.1	268.7	262.5	263.5	266.6	266.6
20°	2658.8	2260.4	1434.9	717.4	339.7	255.3	244.0	241.9	245.0	249.1	248.1
22.5°	2584.7	2140.0	1208.4	493.1	261.5	231.6	224.4	221.3	223.4	226.5	225.4
25°	2532.2	2037.1	1000.5	343.8	227.5	211.0	202.8	198.7	196.6	198.7	197.6
27.5°	2500.3	1950.6	804.9	258.4	203.8	190.4	180.1	171.9	166.8	166.8	164.7
30°	2479.7	1869.3	631.0	214.1	184.3	169.8	155.4	144.1	135.9	133.8	132.8
32.5°	2478.6	1799.3	471.4	189.4	165.7	149.3	131.8	117.3	108.1	106.0	105.0
35°	2504.4	1742.7	346.9	170.9	149.3	129.7	110.1	94.7	86.5	86.5	85.4
37.5°	2571.3	1709.7	262.5	156.5	135.9	113.2	92.6	78.2	71.0	73.1	73.1
40°	2695.8	1703.5	214.1	145.1	124.5	98.8	75.1	63.8	60.7	63.8	63.8
42.5°	2886.3	1736.5	190.4	136.9	114.3	84.4	62.8	54.6	53.5	56.6	56.6
45°	3134.3	1801.3	177.0	129.7	102.9	70.0	52.5	47.3	46.3	50.4	50.4
47.5°	3434.9	1888.8	164.7	121.5	91.6	57.6	44.3	40.1	40.1	44.3	45.3
50°	3791.0	2007.2	152.3	113.2	82.3	48.4	37.1	34.0	35.0	39.1	40.1
52.5°	4200.7	2152.3	141.0	106.0	72.1	39.1	30.9	28.8	29.9	34.0	35.0
55°	4553.8	2278.9	127.6	98.8	58.7	31.9	25.7	24.7	25.7	30.9	30.9
57.5°	4861.5	2400.4	115.3	87.5	46.3	25.7	20.6	20.6	22.6	27.8	28.8
60°	5270.2	2591.9	105.0	74.1	35.0	19.6	16.5	17.5	20.6	24.7	25.7
62.5°	5993.8	2917.1	91.6	61.8	25.7	15.4	13.4	14.4	18.5	23.7	24.7
65°	6899.6	3224.9	76.2	51.5	19.6	11.3	10.3	13.4	18.5	23.7	24.7
67.5°	6807.0	2804.9	59.7	41.2	14.4	9.3	8.2	12.4	17.5	23.7	24.7
70°	5520.3	1966.0	44.3	27.8	11.3	8.2	8.2	12.4	17.5	22.6	23.7
72.5°	3829.1	1094.2	34.0	18.5	10.3	8.2	7.2	11.3	16.5	22.6	23.7
75°	1821.9	335.6	26.8	13.4	9.3	7.2	6.2	11.3	16.5	22.6	23.7
77.5°	350.0	85.4	21.6	11.3	8.2	7.2	6.2	10.3	16.5	21.6	22.6
80°	118.4	38.1	17.5	10.3	8.2	7.2	6.2	10.3	15.4	20.6	21.6
82.5°	64.8	21.6	15.4	9.3	8.2	6.2	5.1	9.3	14.4	20.6	21.6
85°	50.4	15.4	12.4	9.3	8.2	6.2	5.1	9.3	14.4	19.6	20.6
87.5°	25.7	11.3	10.3	9.3	8.2	6.2	5.1	8.2	13.4	18.5	20.6
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)