

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: P196107

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196107
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-03-D-UNV-SL3-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 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: 10363.5 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

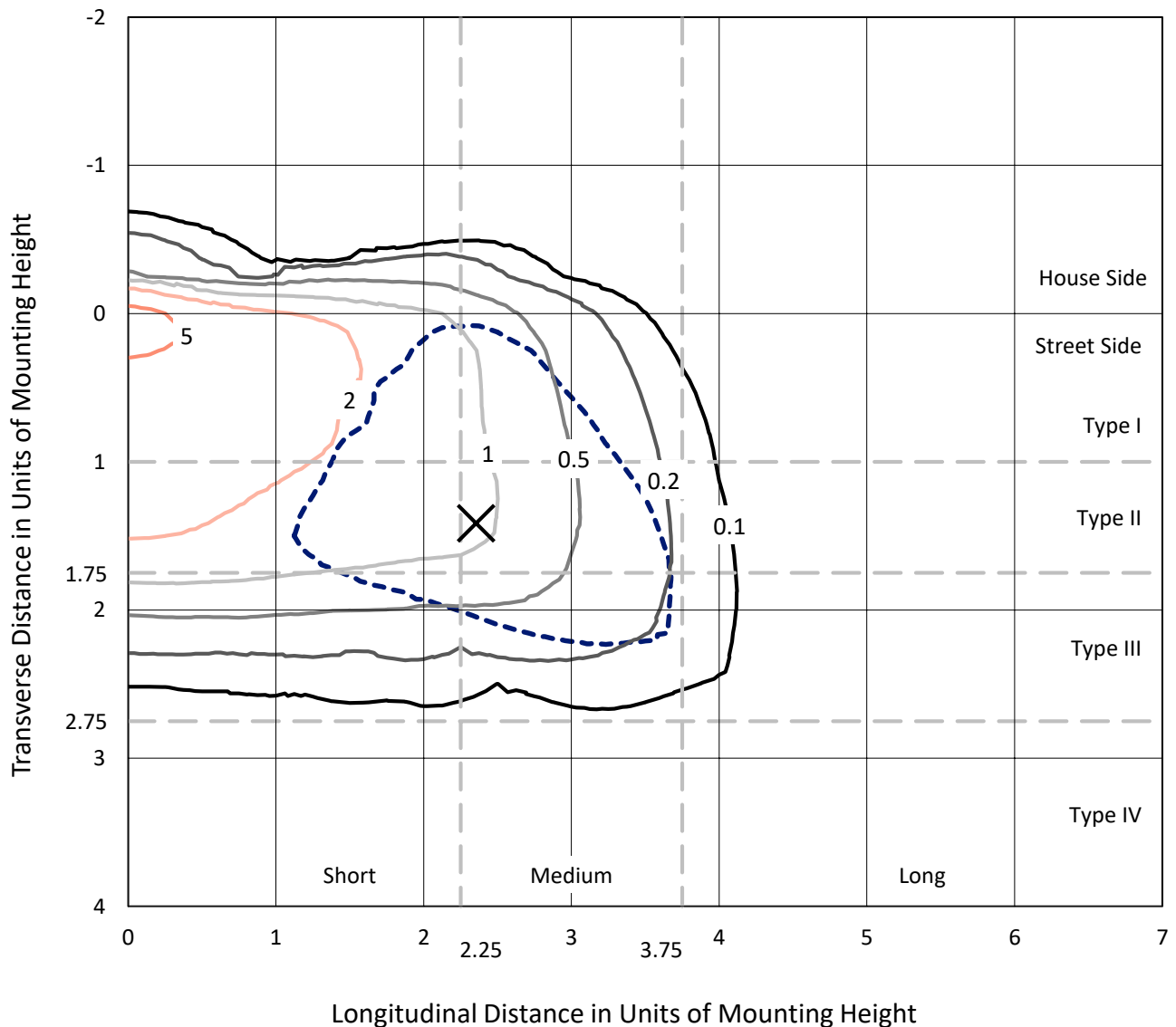
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

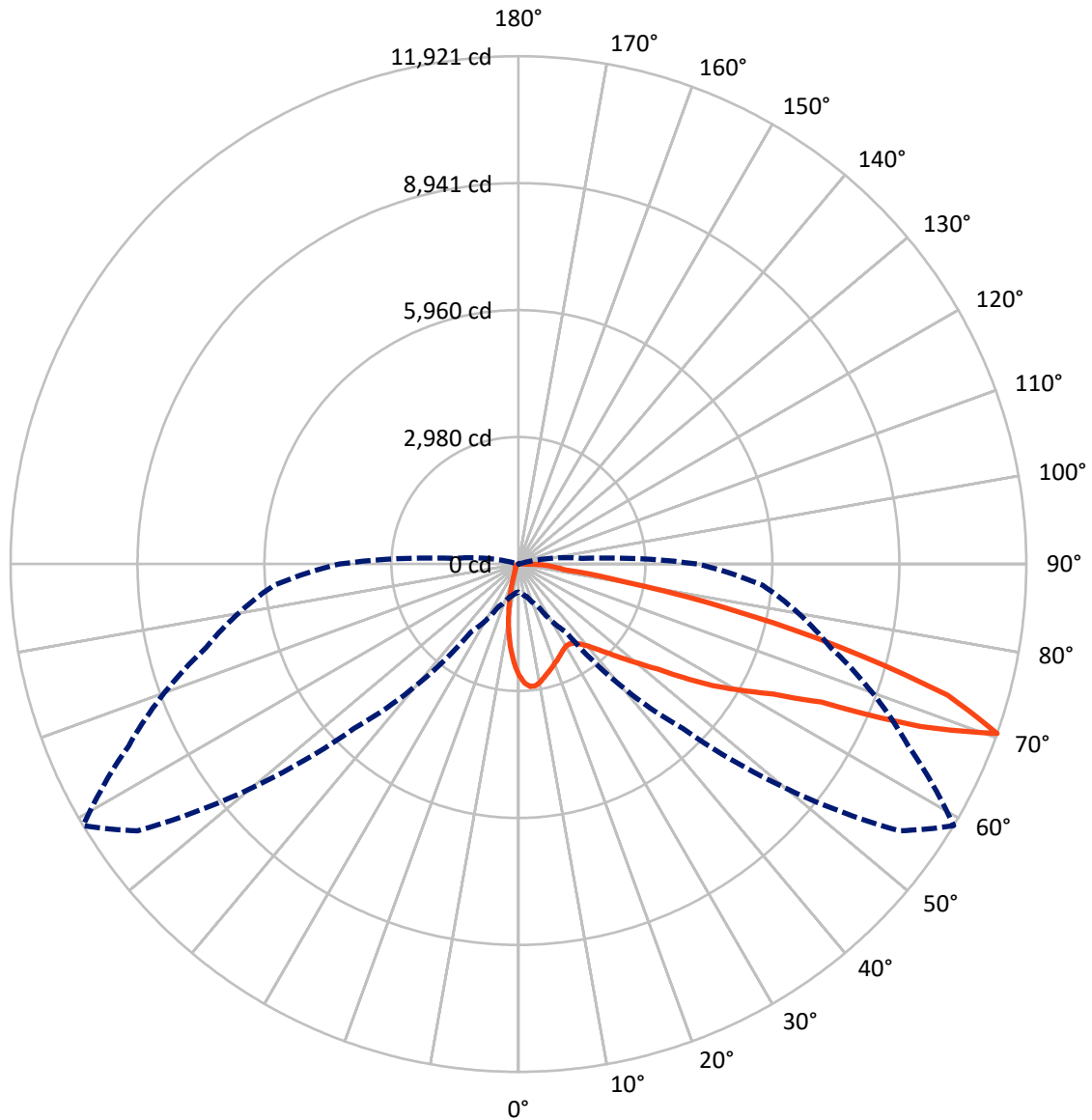
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7 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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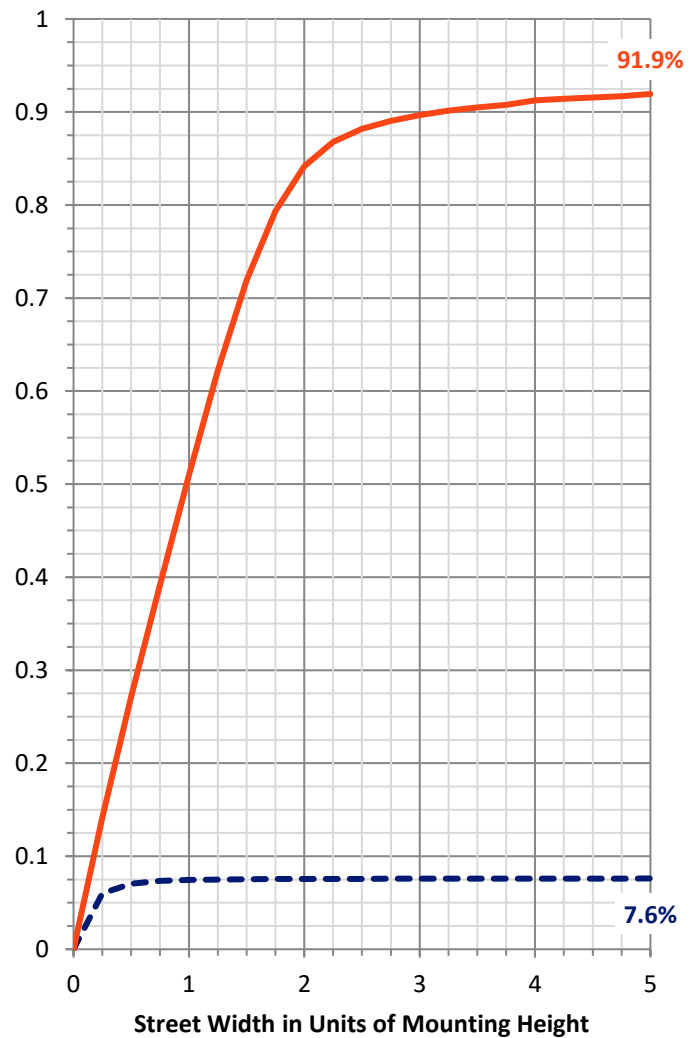
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	796.7	0.0	796.7
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	9566.8	0.0	9566.8
	% Fixture	92.3	0.0	92.3
Total	Lumens	10363.5	0.0	10363.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.5	2.1
10°-20°	452.0	4.4
20°-30°	611.8	5.9
30°-40°	883.0	8.5
40°-50°	1466.4	14.1
50°-60°	2243.0	21.6
60°-70°	2789.8	26.9
70°-80°	1542.2	14.9
80°-90°	159.9	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°	10363.5	100.0
0°-180°	10363.5	100.0



--- HS — SS

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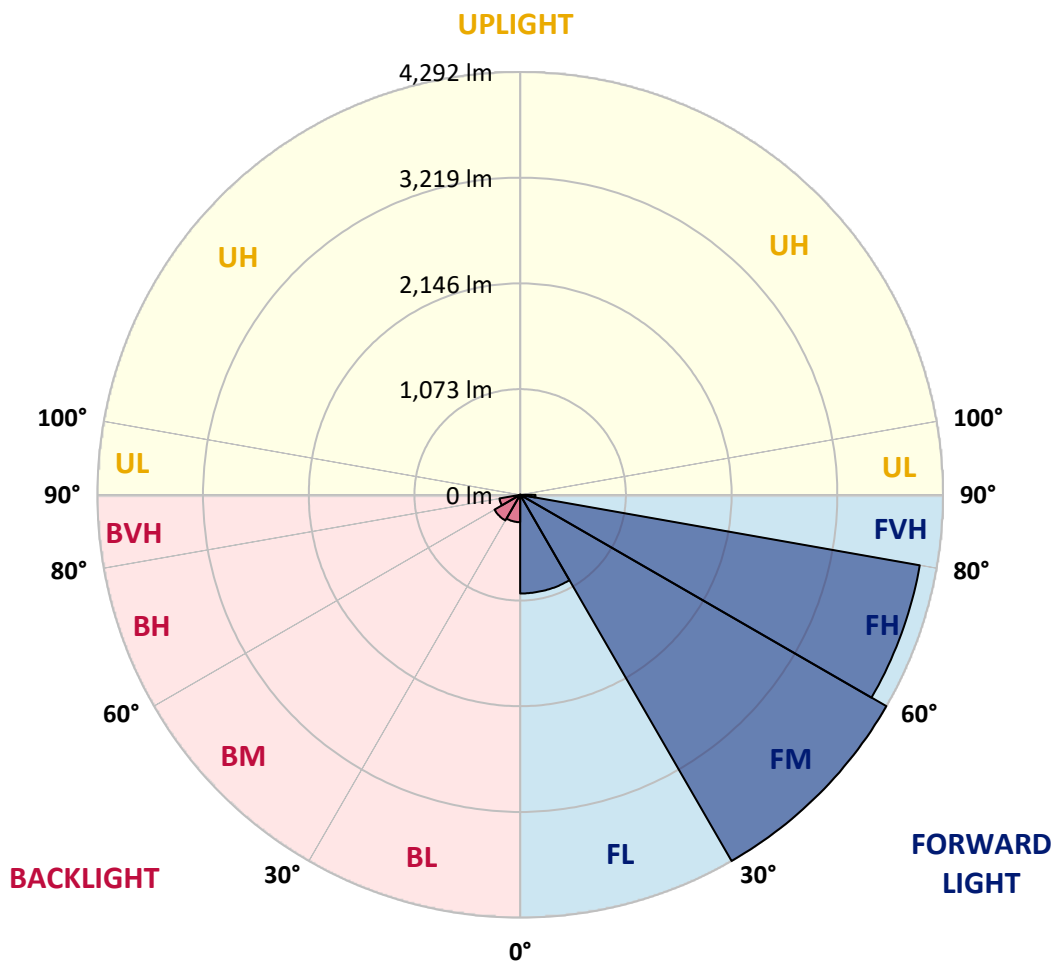
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1001.7	9.7			
FM	(30°-60°)	4291.6	41.4			
FH	(60°-80°)	4118.2	39.7			G2/5000
FVH	(80°-90°)	155.3	1.5			G2/225
BL	(0°-30°)	277.6	2.7	B1/500		
BM	(30°-60°)	300.7	2.9	B1/1000		
BH	(60°-80°)	213.7	2.1	B1/500		G1/500
BVH	(80°-90°)	4.6	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-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6
2.5°	2962.2	2957.6	2938.0	2934.0	2912.1	2868.4	2817.6	2797.3	2755.8	2690.2	2617.4
5°	3011.5	3013.8	3015.4	3006.8	3003.6	2967.7	2911.4	2887.2	2831.6	2723.7	2590.8
7.5°	2826.9	2833.2	2852.7	2861.4	2898.8	2913.0	2901.2	2885.5	2841.8	2714.4	2527.5
10°	2632.3	2644.0	2665.1	2679.2	2725.3	2762.9	2810.6	2814.4	2805.0	2683.1	2456.4
12.5°	2465.0	2476.0	2499.4	2527.5	2574.5	2622.9	2694.0	2719.1	2750.3	2662.7	2405.6
15°	2321.2	2324.2	2347.0	2382.1	2443.8	2510.3	2594.7	2631.5	2692.5	2655.0	2366.5
17.5°	2195.3	2196.1	2210.9	2242.9	2318.0	2405.6	2504.1	2552.6	2629.9	2644.0	2332.1
20°	2112.4	2111.6	2112.4	2129.6	2196.1	2300.0	2419.7	2470.4	2569.8	2630.7	2296.9
22.5°	2084.3	2080.4	2062.4	2056.1	2098.3	2189.8	2332.8	2399.3	2515.8	2626.8	2271.1
25°	2118.6	2116.3	2078.0	2042.0	2045.9	2103.0	2244.6	2325.8	2473.6	2640.8	2264.8
27.5°	2229.6	2225.0	2166.3	2096.0	2051.4	2061.6	2178.9	2264.1	2439.9	2675.3	2273.4
30°	2375.1	2375.9	2313.3	2228.1	2123.3	2065.4	2143.7	2224.2	2417.3	2726.9	2292.2
32.5°	2536.9	2536.1	2491.6	2393.1	2259.4	2137.5	2159.3	2227.3	2420.4	2802.7	2328.1
35°	2704.2	2695.6	2680.7	2594.0	2437.6	2263.3	2230.4	2280.5	2453.2	2902.8	2389.1
37.5°	2897.3	2894.2	2909.1	2817.6	2658.0	2448.5	2355.5	2389.1	2536.1	3050.5	2487.6
40°	3204.6	3187.3	3194.4	3070.1	2906.7	2697.9	2530.7	2539.3	2668.3	3246.0	2643.2
42.5°	3790.1	3720.6	3589.9	3357.0	3180.4	2974.7	2759.7	2744.9	2855.1	3482.8	2848.1
45°	4489.8	4410.0	4081.0	3673.6	3454.0	3271.8	3042.8	3002.9	3084.9	3765.1	3112.3
47.5°	5073.8	4987.8	4551.6	4004.3	3732.2	3578.3	3356.2	3309.3	3360.1	4092.6	3429.7
50°	5273.2	5225.4	4842.4	4279.5	4012.9	3922.2	3749.4	3671.3	3683.7	4446.1	3800.3
52.5°	5181.7	5165.3	4908.8	4467.9	4272.5	4302.2	4180.2	4098.1	4084.0	4832.2	4210.0
55°	4988.6	4980.7	4855.7	4572.7	4501.6	4650.1	4784.5	4713.5	4580.5	5242.7	4548.4
57.5°	4712.6	4742.3	4832.2	4774.4	4783.0	5017.6	5345.8	5382.7	5184.0	5569.5	4799.4
60°	3975.4	4055.2	4467.1	4991.0	5392.0	5628.9	5947.0	6015.9	5695.4	5793.1	5089.5
62.5°	2938.7	3052.9	3640.0	4602.4	5727.4	6791.4	6746.9	6716.4	6183.2	6092.5	5617.1
65°	1726.2	1859.9	2356.3	3596.2	5221.6	7538.8	8240.1	7817.9	6926.7	6714.8	6457.6
67.5°	860.0	860.7	1085.1	1898.2	3858.9	7017.3	10419.7	10175.8	8507.5	7631.8	6789.0
70°	661.4	679.3	802.9	1103.2	1951.4	5465.5	10919.3	11920.8	10096.0	7591.2	5760.2
72.5°	560.6	572.2	714.5	960.0	1458.8	3000.5	9452.6	10537.0	9634.0	6413.8	4245.9
75°	403.5	412.8	632.5	870.9	1343.1	1488.5	6484.2	7814.7	7228.5	4511.7	2336.7
77.5°	100.0	99.3	220.4	706.8	1201.7	1239.9	3720.6	5011.2	4147.3	1847.3	600.4
80°	44.6	43.0	50.0	148.5	1118.0	1170.4	1636.3	2530.7	1590.9	299.4	183.7
82.5°	31.3	29.7	31.3	54.7	373.7	1085.9	989.0	1096.8	582.5	102.4	78.2
85°	10.1	9.4	17.2	46.1	104.8	626.3	964.7	819.3	433.1	43.8	52.4
87.5°	1.5	1.5	6.2	25.1	30.5	208.8	566.0	567.5	194.7	25.8	23.4
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°	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6	2620.6
2.5°	2580.7	2534.6	2469.7	2404.8	2346.1	2286.0	2237.5	2214.8	2204.7	2190.5	2160.1
5°	2521.3	2437.6	2295.3	2155.4	2024.8	1899.7	1792.6	1731.7	1666.0	1662.9	1630.8
7.5°	2425.9	2307.1	2082.7	1865.4	1666.0	1475.2	1311.0	1204.7	1132.0	1086.7	1055.4
10°	2319.5	2167.1	1870.1	1564.4	1293.1	1038.2	827.2	689.6	605.9	563.6	539.4
12.5°	2235.1	2043.5	1660.6	1275.9	935.8	643.4	447.2	347.1	302.6	285.4	277.5
15°	2162.4	1930.2	1464.3	1017.9	624.6	369.8	258.8	226.0	218.9	218.9	218.1
17.5°	2089.0	1820.8	1273.6	764.6	393.2	242.3	204.1	199.4	200.1	202.4	202.4
20°	2019.4	1716.8	1089.9	544.9	258.0	193.8	185.3	183.7	186.1	189.1	188.4
22.5°	1963.0	1625.4	917.8	374.5	198.6	175.9	170.4	168.1	169.6	172.0	171.2
25°	1923.2	1547.2	760.0	261.2	172.8	160.3	154.1	150.9	149.4	150.9	150.1
27.5°	1899.0	1481.5	611.3	196.2	154.8	144.6	136.8	130.5	126.6	126.6	125.1
30°	1883.4	1419.8	479.3	162.6	139.9	129.0	118.0	109.5	103.2	101.7	100.9
32.5°	1882.5	1366.6	358.0	143.8	125.8	113.3	100.0	89.1	82.0	80.5	79.8
35°	1902.1	1323.6	263.5	129.8	113.3	98.5	83.7	71.9	65.7	65.7	64.9
37.5°	1952.9	1298.5	199.4	118.9	103.2	86.0	70.4	59.4	53.9	55.5	55.5
40°	2047.5	1293.8	162.6	110.3	94.6	75.1	57.1	48.5	46.1	48.5	48.5
42.5°	2192.2	1318.9	144.6	103.9	86.7	64.1	47.7	41.4	40.6	43.0	43.0
45°	2380.5	1368.1	134.5	98.5	78.2	53.2	39.9	36.0	35.2	38.3	38.3
47.5°	2608.8	1434.6	125.1	92.3	69.6	43.8	33.7	30.5	30.5	33.7	34.4
50°	2879.3	1524.5	115.7	86.0	62.5	36.7	28.1	25.8	26.6	29.7	30.5
52.5°	3190.5	1634.7	107.1	80.5	54.7	29.7	23.4	21.9	22.7	25.8	26.6
55°	3458.6	1730.8	97.0	75.1	44.6	24.2	19.5	18.7	19.5	23.4	23.4
57.5°	3692.4	1823.1	87.6	66.5	35.2	19.5	15.7	15.7	17.2	21.1	21.9
60°	4002.8	1968.6	79.8	56.3	26.6	14.8	12.5	13.3	15.7	18.7	19.5
62.5°	4552.3	2215.6	69.6	47.0	19.5	11.8	10.1	10.9	14.1	18.0	18.7
65°	5240.4	2449.4	57.9	39.1	14.8	8.6	7.8	10.1	14.1	18.0	18.7
67.5°	5170.0	2130.4	45.3	31.3	10.9	7.1	6.2	9.4	13.3	18.0	18.7
70°	4192.8	1493.2	33.7	21.1	8.6	6.2	6.2	9.4	13.3	17.2	18.0
72.5°	2908.2	831.0	25.8	14.1	7.8	6.2	5.4	8.6	12.5	17.2	18.0
75°	1383.7	254.8	20.4	10.1	7.1	5.4	4.7	8.6	12.5	17.2	18.0
77.5°	265.8	64.9	16.4	8.6	6.2	5.4	4.7	7.8	12.5	16.4	17.2
80°	89.9	28.9	13.3	7.8	6.2	5.4	4.7	7.8	11.8	15.7	16.4
82.5°	49.2	16.4	11.8	7.1	6.2	4.7	3.9	7.1	10.9	15.7	16.4
85°	38.3	11.8	9.4	7.1	6.2	4.7	3.9	7.1	10.9	14.8	15.7
87.5°	19.5	8.6	7.8	7.1	6.2	4.7	3.9	6.2	10.1	14.1	15.7
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)