

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: P196912

Luminaire Tested: **NAV-AF-04-D-UNV-5NQ-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196912
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20465 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

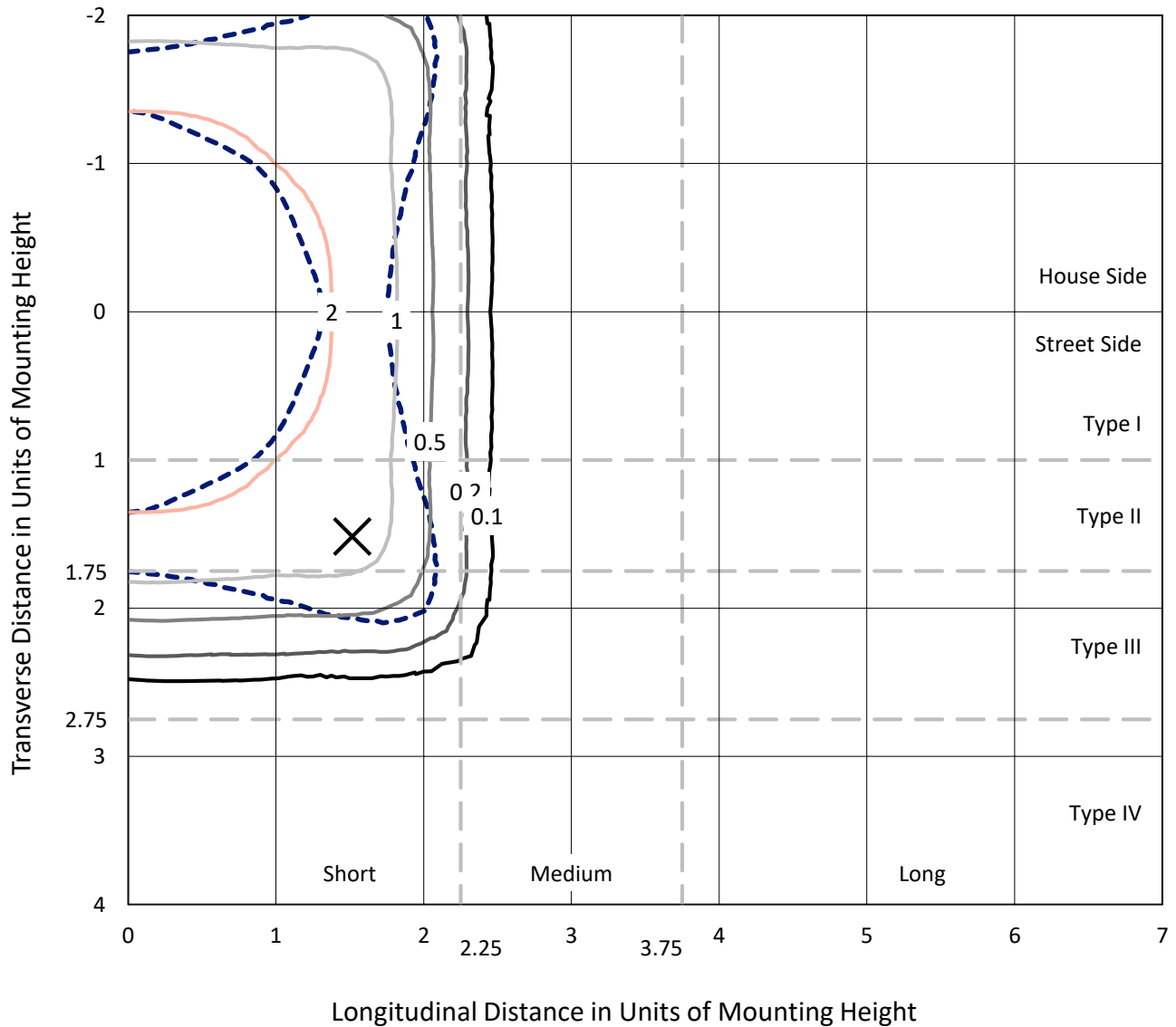
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

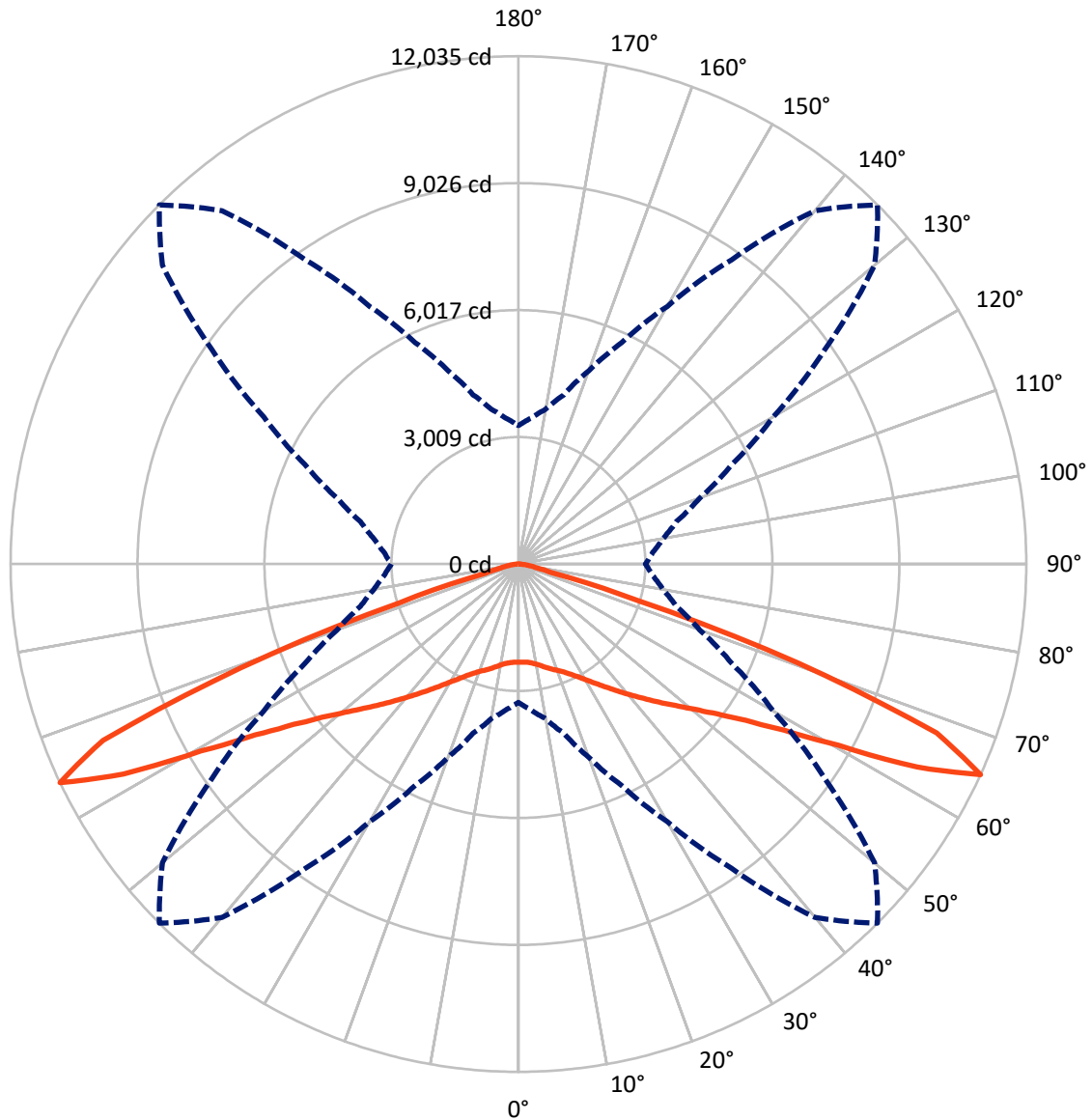
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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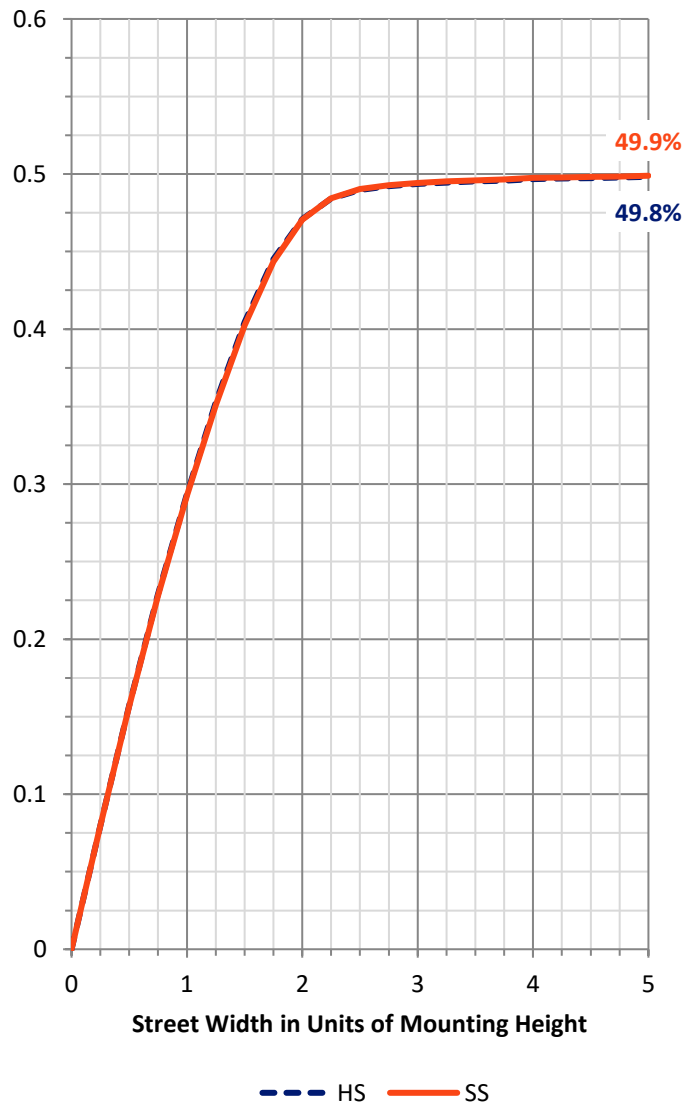
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10232.5	0.0	10232.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10232.5	0.0	10232.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	20465.0	0.0	20465.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.7	1.1
10°-20°	726.6	3.6
20°-30°	1355.4	6.6
30°-40°	2285.3	11.2
40°-50°	3712.1	18.1
50°-60°	5816.2	28.4
60°-70°	5490.2	26.8
70°-80°	739.9	3.6
80°-90°	112.7	0.6
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°	20465.0	100.0
0°-180°	20465.0	100.0

Coefficient of Utilization



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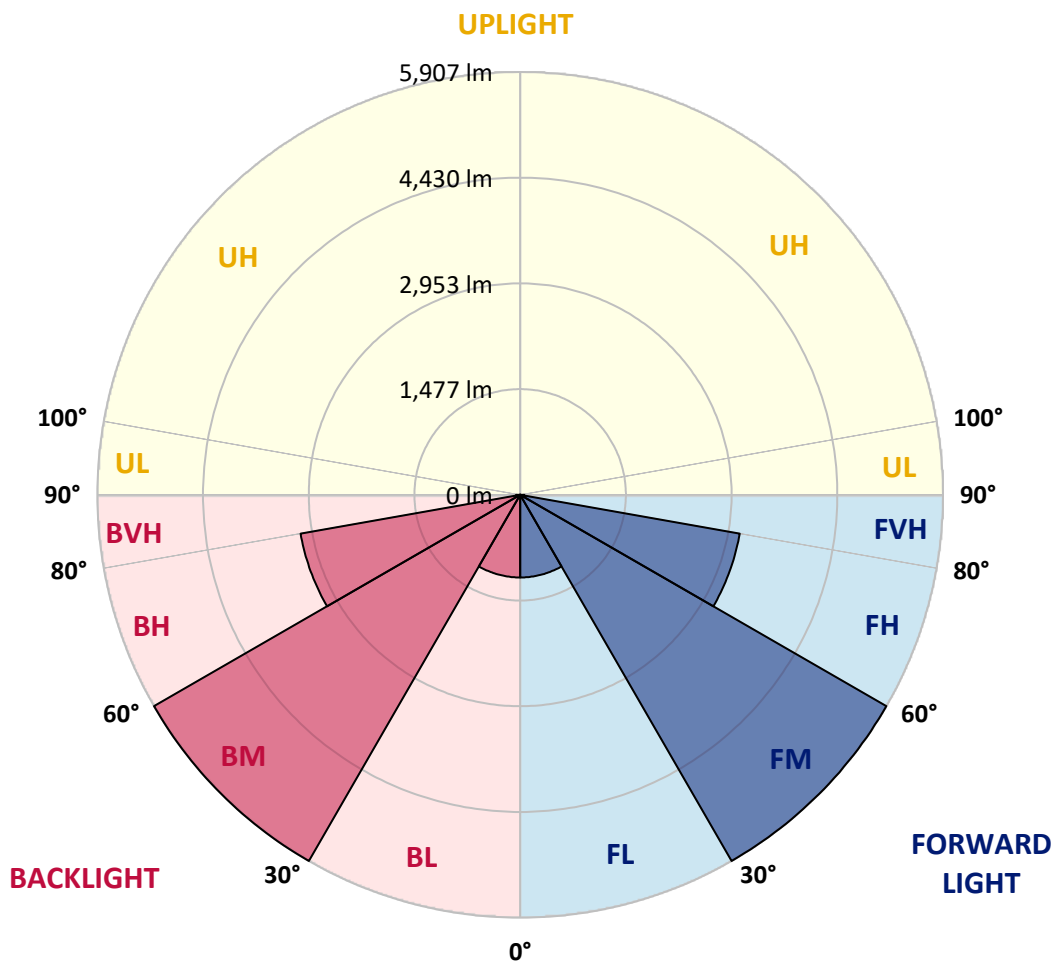
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1154.3	5.6			
FM	(30°-60°)	5906.8	28.9			
FH	(60°-80°)	3115.0	15.2			G2/5000
FVH	(80°-90°)	56.4	0.3			G1/100
BL	(0°-30°)	1154.3	5.6	B3/2500		
BM	(30°-60°)	5906.8	28.9	B4/8500		
BH	(60°-80°)	3115.0	15.2	B4/5000		G2/5000
BVH	(80°-90°)	56.4	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9
2.5°	2347.0	2347.0	2350.8	2349.5	2344.4	2340.6	2336.8	2331.7	2329.1	2326.6	2325.3
5°	2359.7	2359.7	2363.6	2362.3	2358.5	2353.4	2350.8	2347.0	2343.2	2340.6	2341.9
7.5°	2391.6	2392.9	2394.2	2392.9	2389.1	2385.2	2380.1	2378.9	2373.8	2369.9	2372.5
10°	2440.1	2440.1	2441.3	2442.6	2440.1	2431.1	2431.1	2428.6	2423.5	2418.4	2419.7
12.5°	2493.6	2493.6	2494.9	2494.9	2494.9	2489.8	2491.0	2489.8	2483.4	2480.9	2483.4
15°	2545.9	2547.1	2547.1	2549.7	2549.7	2551.0	2556.1	2556.1	2553.5	2552.2	2552.2
17.5°	2607.1	2609.6	2610.9	2614.7	2616.0	2618.5	2623.6	2624.9	2626.2	2622.4	2623.6
20°	2688.7	2689.9	2693.8	2695.0	2700.1	2700.1	2702.7	2701.4	2698.8	2693.8	2693.8
22.5°	2780.4	2783.0	2790.6	2790.6	2797.0	2793.2	2794.5	2790.6	2784.3	2781.7	2779.2
25°	2900.3	2904.1	2910.5	2907.9	2910.5	2904.1	2904.1	2904.1	2900.3	2896.5	2895.2
27.5°	3052.0	3045.6	3052.0	3046.9	3045.6	3040.5	3041.8	3039.2	3035.4	3034.1	3029.0
30°	3210.1	3202.4	3206.2	3207.5	3205.0	3203.7	3198.6	3194.8	3188.4	3189.7	3185.8
32.5°	3391.1	3383.4	3387.3	3388.5	3386.0	3388.5	3387.3	3378.3	3370.7	3375.8	3375.8
35°	3606.5	3601.4	3611.6	3615.5	3607.8	3604.0	3598.9	3588.7	3577.2	3584.9	3586.1
37.5°	3865.3	3859.0	3866.6	3876.8	3862.8	3855.1	3834.7	3819.4	3811.8	3815.6	3820.7
40°	4134.3	4135.6	4157.3	4159.8	4144.5	4135.6	4115.2	4092.3	4070.6	4070.6	4077.0
42.5°	4417.3	4421.2	4446.7	4455.6	4450.5	4433.9	4405.9	4377.8	4349.8	4354.9	4362.5
45°	4737.3	4732.2	4759.0	4780.7	4776.8	4771.7	4745.0	4694.0	4668.5	4667.2	4680.0
47.5°	5073.9	5084.1	5112.1	5149.1	5147.8	5135.1	5100.7	5053.5	5006.3	5010.1	5025.4
50°	5466.5	5480.6	5527.7	5564.7	5569.8	5566.0	5525.2	5470.4	5404.1	5407.9	5428.3
52.5°	5818.4	5838.8	5893.6	5970.1	6017.3	6038.9	6012.2	5961.2	5893.6	5897.4	5919.1
55°	6137.1	6169.0	6250.6	6355.1	6449.4	6537.4	6576.9	6575.7	6525.9	6537.4	6565.5
57.5°	6337.3	6381.9	6505.5	6673.8	6861.2	7038.4	7191.4	7335.5	7367.3	7427.3	7427.3
60°	6068.3	6172.8	6337.3	6625.4	6993.8	7391.6	7822.5	8241.9	8512.1	8725.0	8610.3
62.5°	5067.5	5221.8	5452.5	5832.4	6406.1	7116.2	7981.8	8957.1	9974.4	10596.5	10140.1
65°	3278.9	3472.7	3723.8	4150.9	4873.7	5787.8	7048.6	8801.5	10930.5	12034.5	11014.7
67.5°	1299.1	1430.4	1583.4	1886.8	2514.0	3411.5	4826.6	6988.7	9651.9	10693.4	9549.9
70°	620.9	642.5	671.8	736.9	893.7	1206.0	1939.0	3443.4	5919.1	7016.8	5777.6
72.5°	448.7	452.6	466.6	488.3	534.2	597.9	726.7	1053.0	2041.0	2967.8	2043.6
75°	340.4	345.5	353.1	364.6	388.8	419.4	467.9	560.9	698.6	805.7	697.3
77.5°	258.8	263.9	270.3	281.7	294.5	316.2	334.0	371.0	429.6	452.6	450.0
80°	188.7	197.6	207.8	218.0	226.9	237.1	238.4	256.2	289.4	311.1	304.7
82.5°	119.8	127.5	154.3	165.7	167.0	169.6	168.3	169.6	187.4	202.7	197.6
85°	76.5	81.6	95.6	108.4	105.8	110.9	110.9	108.4	100.7	86.7	103.3
87.5°	38.2	39.5	45.9	57.4	54.8	48.4	47.2	47.2	34.4	29.3	31.9
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9	2327.9
2.5°	2321.5	2324.0	2320.2	2320.2	2318.9	2321.5	2317.7	2317.7
5°	2339.3	2343.2	2341.9	2341.9	2344.4	2347.0	2345.7	2344.4
7.5°	2371.2	2373.8	2376.3	2377.6	2380.1	2378.9	2381.4	2380.1
10°	2419.7	2417.1	2420.9	2417.1	2418.4	2415.8	2417.1	2417.1
12.5°	2480.9	2477.0	2474.5	2471.9	2471.9	2466.8	2466.8	2468.1
15°	2551.0	2544.6	2539.5	2536.9	2534.4	2534.4	2530.6	2533.1
17.5°	2619.8	2613.4	2604.5	2604.5	2600.7	2598.1	2595.6	2602.0
20°	2692.5	2686.1	2681.0	2679.7	2672.1	2669.5	2670.8	2678.5
22.5°	2776.6	2772.8	2772.8	2770.2	2765.1	2761.3	2761.3	2770.2
25°	2890.1	2882.4	2883.7	2885.0	2882.4	2882.4	2879.9	2886.3
27.5°	3029.0	3022.7	3026.5	3029.0	3026.5	3030.3	3026.5	3031.6
30°	3192.2	3188.4	3192.2	3196.0	3189.7	3189.7	3187.1	3190.9
32.5°	3387.3	3382.2	3384.7	3384.7	3375.8	3368.1	3357.9	3365.6
35°	3601.4	3595.1	3600.2	3604.0	3593.8	3586.1	3570.8	3577.2
37.5°	3837.3	3839.8	3846.2	3862.8	3860.2	3847.5	3836.0	3841.1
40°	4101.2	4113.9	4142.0	4153.4	4150.9	4138.2	4122.9	4125.4
42.5°	4399.5	4416.1	4445.4	4464.5	4455.6	4437.7	4418.6	4426.3
45°	4724.6	4750.1	4788.3	4807.4	4796.0	4776.8	4750.1	4764.1
47.5°	5068.8	5119.8	5170.8	5196.3	5192.4	5165.7	5131.3	5135.1
50°	5480.6	5548.1	5613.1	5638.6	5619.5	5578.7	5530.3	5529.0
52.5°	5993.1	6065.7	6119.3	6112.9	6065.7	6002.0	5947.2	5944.6
55°	6633.0	6657.2	6649.6	6594.8	6511.9	6412.5	6342.4	6330.9
57.5°	7406.9	7325.3	7205.4	7039.7	6853.6	6664.9	6537.4	6490.2
60°	8352.8	7984.4	7556.0	7104.7	6692.9	6384.4	6189.4	6070.8
62.5°	9134.3	8067.2	7109.8	6325.8	5684.5	5303.4	5036.9	4872.5
65°	8866.6	6969.6	5582.6	4571.6	3871.7	3477.8	3196.0	3008.6
67.5°	6849.7	4657.0	3240.7	2246.3	1703.2	1441.9	1259.5	1141.0
70°	3453.6	1786.1	1082.3	763.6	652.7	606.8	576.2	558.4
72.5°	1013.5	676.9	562.2	497.2	457.7	429.6	411.8	402.9
75°	560.9	457.7	404.1	367.2	341.7	322.5	311.1	303.4
77.5°	386.3	332.7	306.0	281.7	261.3	247.3	238.4	230.7
80°	270.3	243.5	232.0	219.3	204.0	192.5	179.8	174.7
82.5°	179.8	168.3	165.7	155.5	146.6	133.9	110.9	103.3
85°	105.8	104.5	104.5	100.7	94.3	82.9	66.3	66.3
87.5°	37.0	38.2	39.5	42.1	40.8	34.4	28.0	26.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)