

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: P194991

Luminaire Tested: **NAV-AF-03-D-UNV-5NQ-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P194991
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-03-D-UNV-5NQ-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 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: 18621 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

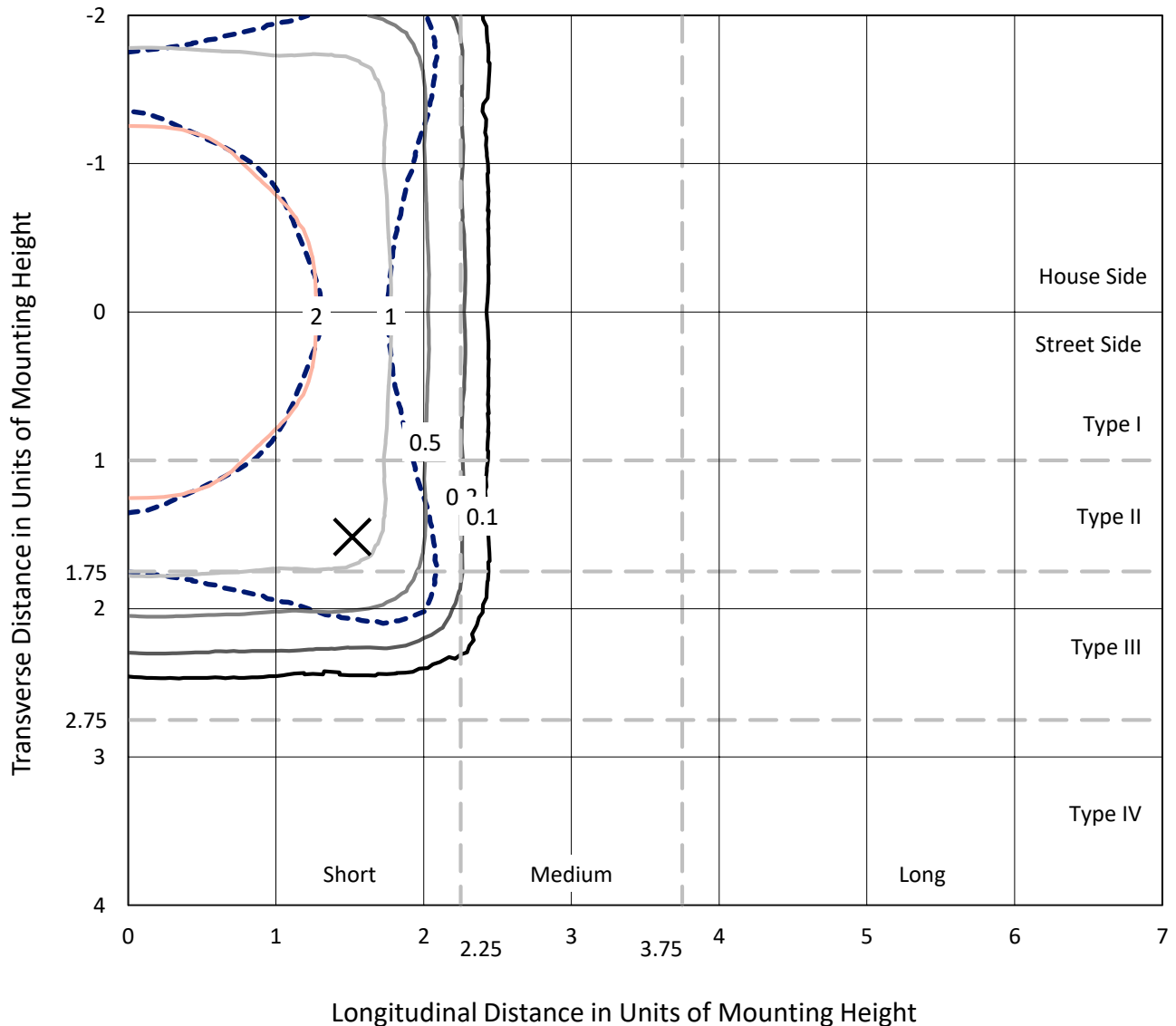
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

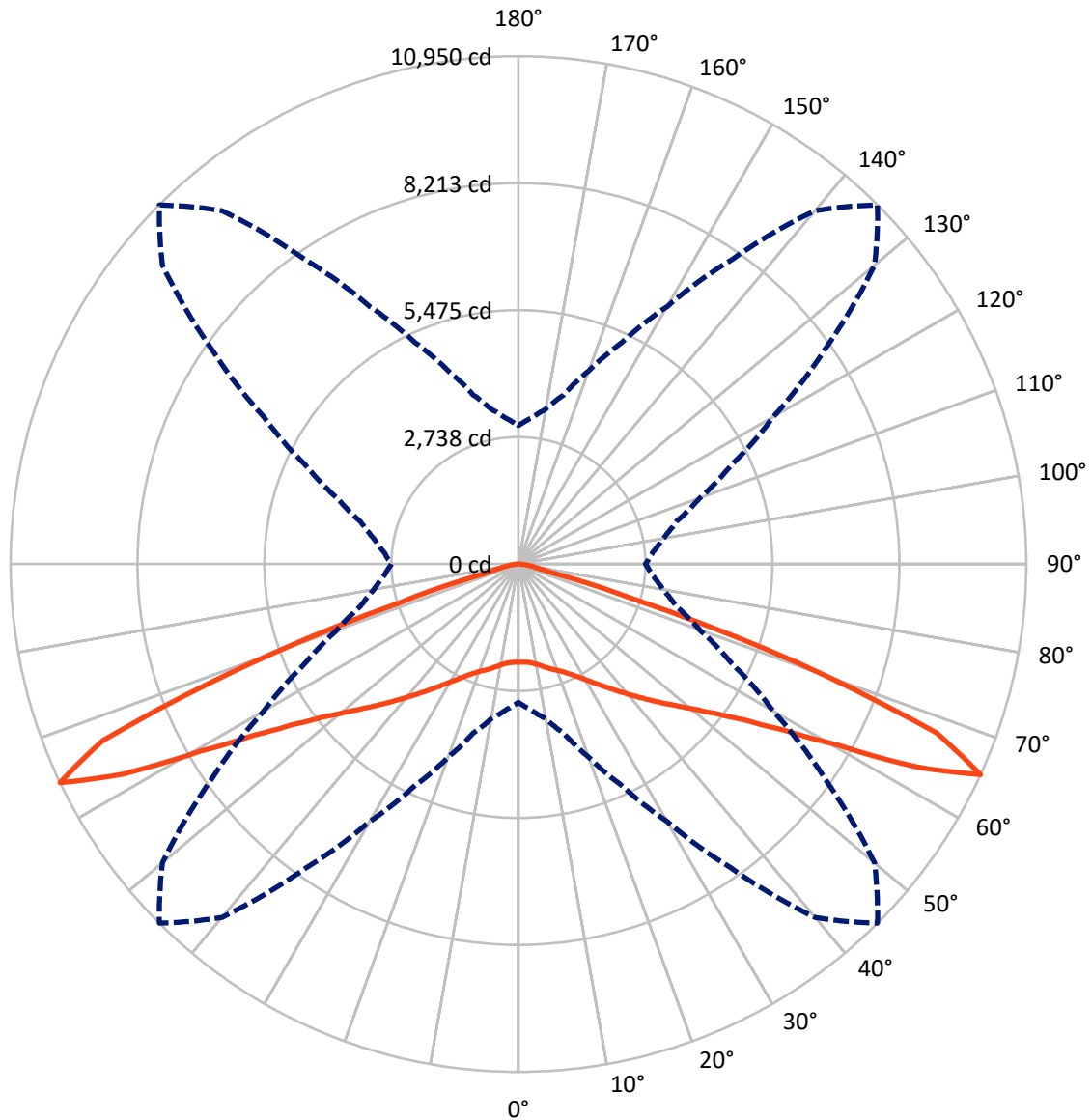
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 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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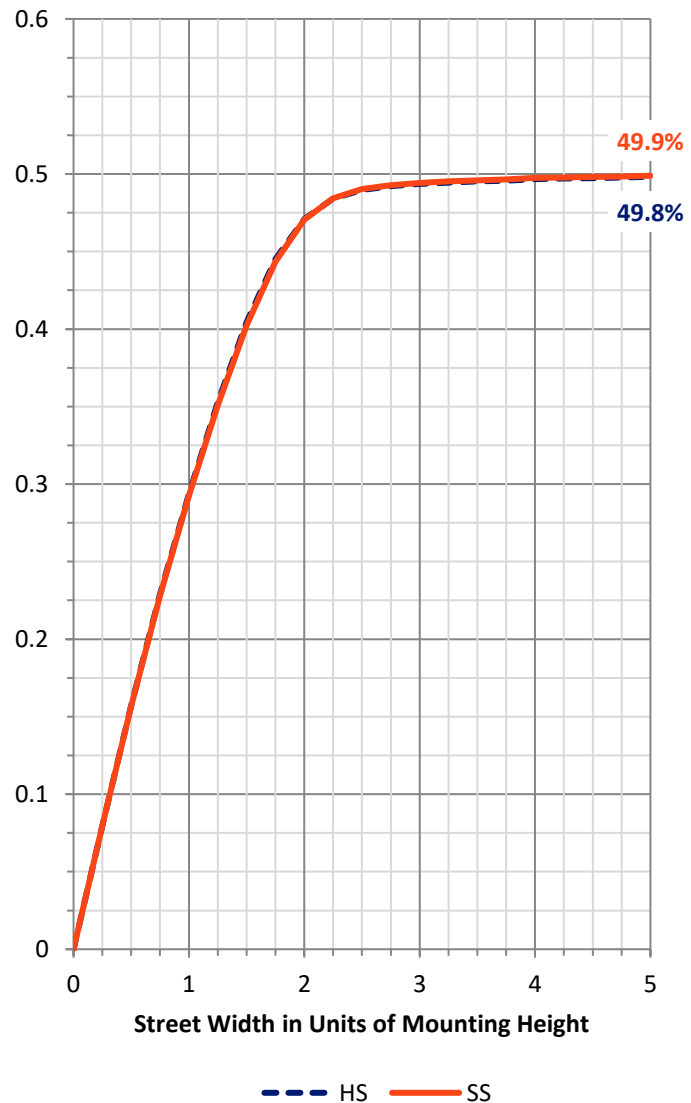
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9310.5	0.0	9310.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9310.5	0.0	9310.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	18621.0	0.0	18621.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.3	1.1
10°-20°	661.1	3.6
20°-30°	1233.2	6.6
30°-40°	2079.4	11.2
40°-50°	3377.6	18.1
50°-60°	5292.1	28.4
60°-70°	4995.5	26.8
70°-80°	673.2	3.6
80°-90°	102.6	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°	18621.0	100.0
0°-180°	18621.0	100.0



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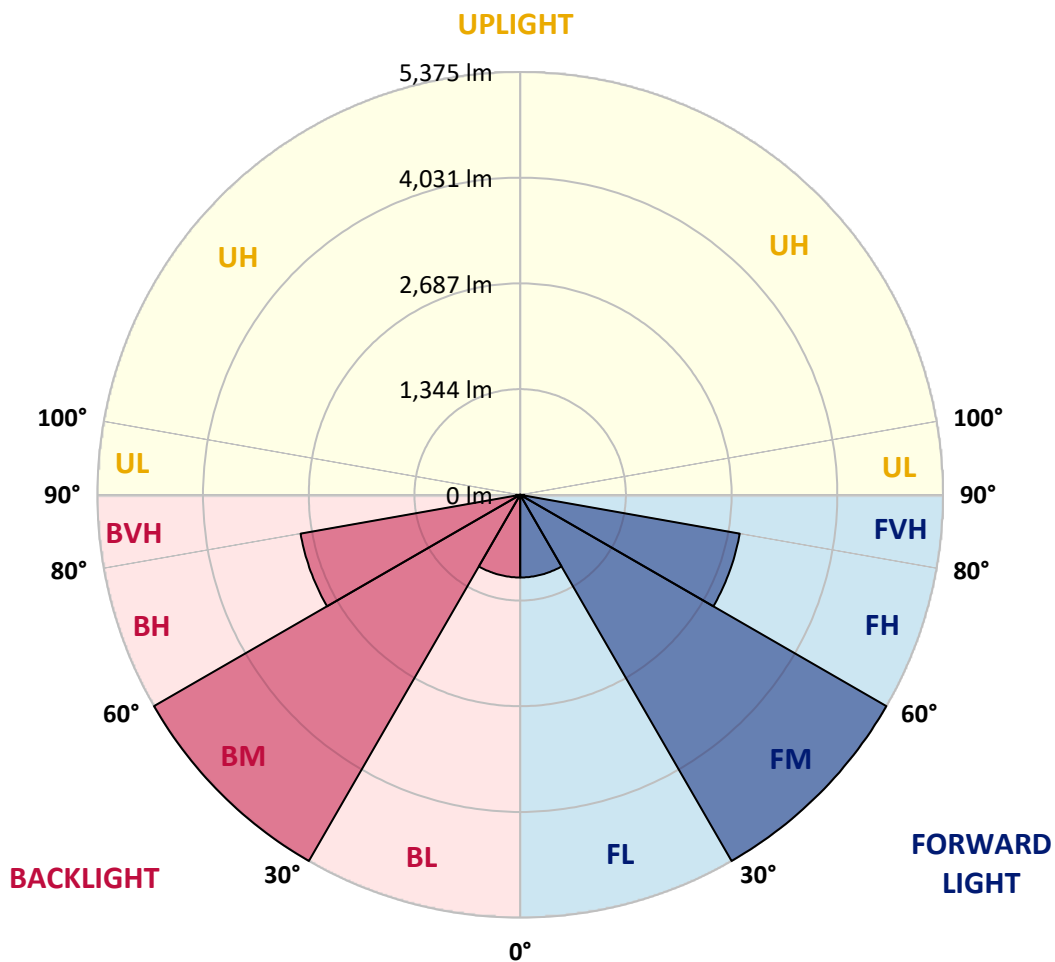
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1050.3	5.6			
FM	(30°-60°)	5374.6	28.9			
FH	(60°-80°)	2834.4	15.2			G2/5000
FVH	(80°-90°)	51.3	0.3			G1/100
BL	(0°-30°)	1050.3	5.6	B3/2500		
BM	(30°-60°)	5374.6	28.9	B4/8500		
BH	(60°-80°)	2834.4	15.2	B4/5000		G2/5000
BVH	(80°-90°)	51.3	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°	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1
2.5°	2135.5	2135.5	2139.0	2137.8	2133.2	2129.7	2126.2	2121.6	2119.3	2117.0	2115.8
5°	2147.1	2147.1	2150.6	2149.4	2146.0	2141.3	2139.0	2135.5	2132.0	2129.7	2130.9
7.5°	2176.1	2177.3	2178.4	2177.3	2173.8	2170.3	2165.7	2164.5	2159.9	2156.4	2158.7
10°	2220.2	2220.2	2221.4	2222.5	2220.2	2212.1	2212.1	2209.8	2205.1	2200.5	2201.6
12.5°	2268.9	2268.9	2270.1	2270.1	2270.1	2265.4	2266.6	2265.4	2259.6	2257.3	2259.6
15°	2316.5	2317.6	2317.6	2320.0	2320.0	2321.1	2325.8	2325.8	2323.4	2322.3	2322.3
17.5°	2372.2	2374.5	2375.6	2379.1	2380.3	2382.6	2387.2	2388.4	2389.6	2386.1	2387.2
20°	2446.4	2447.5	2451.0	2452.2	2456.8	2456.8	2459.1	2458.0	2455.7	2451.0	2451.0
22.5°	2529.9	2532.2	2539.2	2539.2	2545.0	2541.5	2542.7	2539.2	2533.4	2531.1	2528.7
25°	2638.9	2642.4	2648.2	2645.9	2648.2	2642.4	2642.4	2642.4	2638.9	2635.5	2634.3
27.5°	2777.0	2771.2	2777.0	2772.3	2771.2	2766.5	2767.7	2765.4	2761.9	2760.7	2756.1
30°	2920.8	2913.9	2917.3	2918.5	2916.2	2915.0	2910.4	2906.9	2901.1	2902.3	2898.8
32.5°	3085.5	3078.6	3082.1	3083.2	3080.9	3083.2	3082.1	3073.9	3067.0	3071.6	3071.6
35°	3281.6	3276.9	3286.2	3289.7	3282.7	3279.3	3274.6	3265.3	3254.9	3261.9	3263.0
37.5°	3517.0	3511.2	3518.2	3527.5	3514.7	3507.8	3489.2	3475.3	3468.3	3471.8	3476.4
40°	3761.8	3763.0	3782.7	3785.0	3771.1	3763.0	3744.4	3723.5	3703.8	3703.8	3709.6
42.5°	4019.3	4022.8	4046.0	4054.1	4049.5	4034.4	4008.9	3983.4	3957.8	3962.5	3969.4
45°	4310.5	4305.8	4330.2	4349.9	4346.4	4341.8	4317.4	4271.0	4247.8	4246.7	4258.3
47.5°	4616.7	4626.0	4651.5	4685.1	4684.0	4672.4	4641.1	4598.1	4555.2	4558.7	4572.6
50°	4974.0	4986.7	5029.7	5063.3	5067.9	5064.5	5027.3	4977.5	4917.1	4920.6	4939.2
52.5°	5294.1	5312.7	5362.6	5432.2	5475.1	5494.8	5470.4	5424.0	5362.6	5366.0	5385.8
55°	5584.1	5613.1	5687.4	5782.5	5868.3	5948.4	5984.3	5983.2	5937.9	5948.4	5973.9
57.5°	5766.2	5806.8	5919.4	6072.5	6243.0	6404.2	6543.4	6674.5	6703.5	6758.0	6758.0
60°	5521.5	5616.6	5766.2	6028.4	6363.6	6725.5	7117.6	7499.2	7745.2	7938.9	7834.5
62.5°	4610.9	4751.3	4961.2	5306.9	5828.9	6475.0	7262.6	8150.0	9075.7	9641.7	9226.5
65°	2983.5	3159.8	3388.3	3776.9	4434.6	5266.3	6413.5	8008.5	9945.6	10950.2	10022.2
67.5°	1182.0	1301.5	1440.7	1716.8	2287.5	3104.1	4391.7	6359.0	8782.2	9729.9	8689.4
70°	564.9	584.6	611.3	670.5	813.1	1097.3	1764.3	3133.1	5385.8	6384.5	5257.0
72.5°	408.3	411.8	424.6	444.3	486.0	544.0	661.2	958.1	1857.1	2700.4	1859.4
75°	309.7	314.4	321.3	331.8	353.8	381.6	425.7	510.4	635.7	733.1	634.5
77.5°	235.5	240.1	245.9	256.4	268.0	287.7	303.9	337.6	390.9	411.8	409.5
80°	171.7	179.8	189.1	198.4	206.5	215.8	216.9	233.2	263.3	283.0	277.2
82.5°	109.0	116.0	140.4	150.8	152.0	154.3	153.1	154.3	170.5	184.4	179.8
85°	69.6	74.2	87.0	98.6	96.3	100.9	100.9	98.6	91.6	78.9	94.0
87.5°	34.8	36.0	41.8	52.2	49.9	44.1	42.9	42.9	31.3	26.7	29.0
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°	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1	2118.1
2.5°	2112.3	2114.6	2111.2	2111.2	2110.0	2112.3	2108.8	2108.8
5°	2128.6	2132.0	2130.9	2130.9	2133.2	2135.5	2134.4	2133.2
7.5°	2157.6	2159.9	2162.2	2163.4	2165.7	2164.5	2166.8	2165.7
10°	2201.6	2199.3	2202.8	2199.3	2200.5	2198.2	2199.3	2199.3
12.5°	2257.3	2253.8	2251.5	2249.2	2249.2	2244.6	2244.6	2245.7
15°	2321.1	2315.3	2310.7	2308.4	2306.0	2306.0	2302.6	2304.9
17.5°	2383.8	2378.0	2369.8	2369.8	2366.4	2364.0	2361.7	2367.5
20°	2449.9	2444.1	2439.4	2438.3	2431.3	2429.0	2430.2	2437.1
22.5°	2526.4	2522.9	2522.9	2520.6	2516.0	2512.5	2512.5	2520.6
25°	2629.7	2622.7	2623.9	2625.0	2622.7	2622.7	2620.4	2626.2
27.5°	2756.1	2750.3	2753.8	2756.1	2753.8	2757.3	2753.8	2758.4
30°	2904.6	2901.1	2904.6	2908.1	2902.3	2902.3	2899.9	2903.4
32.5°	3082.1	3077.4	3079.7	3079.7	3071.6	3064.7	3055.4	3062.3
35°	3276.9	3271.1	3275.8	3279.3	3270.0	3263.0	3249.1	3254.9
37.5°	3491.5	3493.8	3499.6	3514.7	3512.4	3500.8	3490.4	3495.0
40°	3731.6	3743.2	3768.8	3779.2	3776.9	3765.3	3751.4	3753.7
42.5°	4003.1	4018.2	4044.8	4062.2	4054.1	4037.9	4020.5	4027.4
45°	4298.9	4322.1	4356.9	4374.3	4363.8	4346.4	4322.1	4334.8
47.5°	4612.1	4658.5	4704.9	4728.1	4724.6	4700.2	4668.9	4672.4
50°	4986.7	5048.2	5107.4	5130.6	5113.2	5076.1	5032.0	5030.8
52.5°	5453.0	5519.2	5567.9	5562.1	5519.2	5461.2	5411.3	5409.0
55°	6035.4	6057.4	6050.4	6000.6	5925.2	5834.7	5770.9	5760.4
57.5°	6739.5	6665.2	6556.2	6405.4	6236.0	6064.4	5948.4	5905.4
60°	7600.2	7264.9	6875.2	6464.5	6089.9	5809.2	5631.7	5523.8
62.5°	8311.2	7340.3	6469.2	5755.8	5172.3	4825.5	4583.1	4433.4
65°	8067.6	6341.6	5079.5	4159.7	3522.8	3164.4	2908.1	2737.5
67.5°	6232.6	4237.4	2948.7	2043.9	1549.7	1311.9	1146.1	1038.2
70°	3142.4	1625.1	984.8	694.8	593.9	552.1	524.3	508.1
72.5°	922.2	615.9	511.5	452.4	416.4	390.9	374.7	366.6
75°	510.4	416.4	367.7	334.1	310.9	293.5	283.0	276.1
77.5°	351.5	302.8	278.4	256.4	237.8	225.0	216.9	210.0
80°	245.9	221.6	211.1	199.5	185.6	175.2	163.6	158.9
82.5°	163.6	153.1	150.8	141.5	133.4	121.8	100.9	94.0
85°	96.3	95.1	95.1	91.6	85.8	75.4	60.3	60.3
87.5°	33.6	34.8	36.0	38.3	37.1	31.3	25.5	24.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)