

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: P196490

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196490
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-AFL-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7953 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 66
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

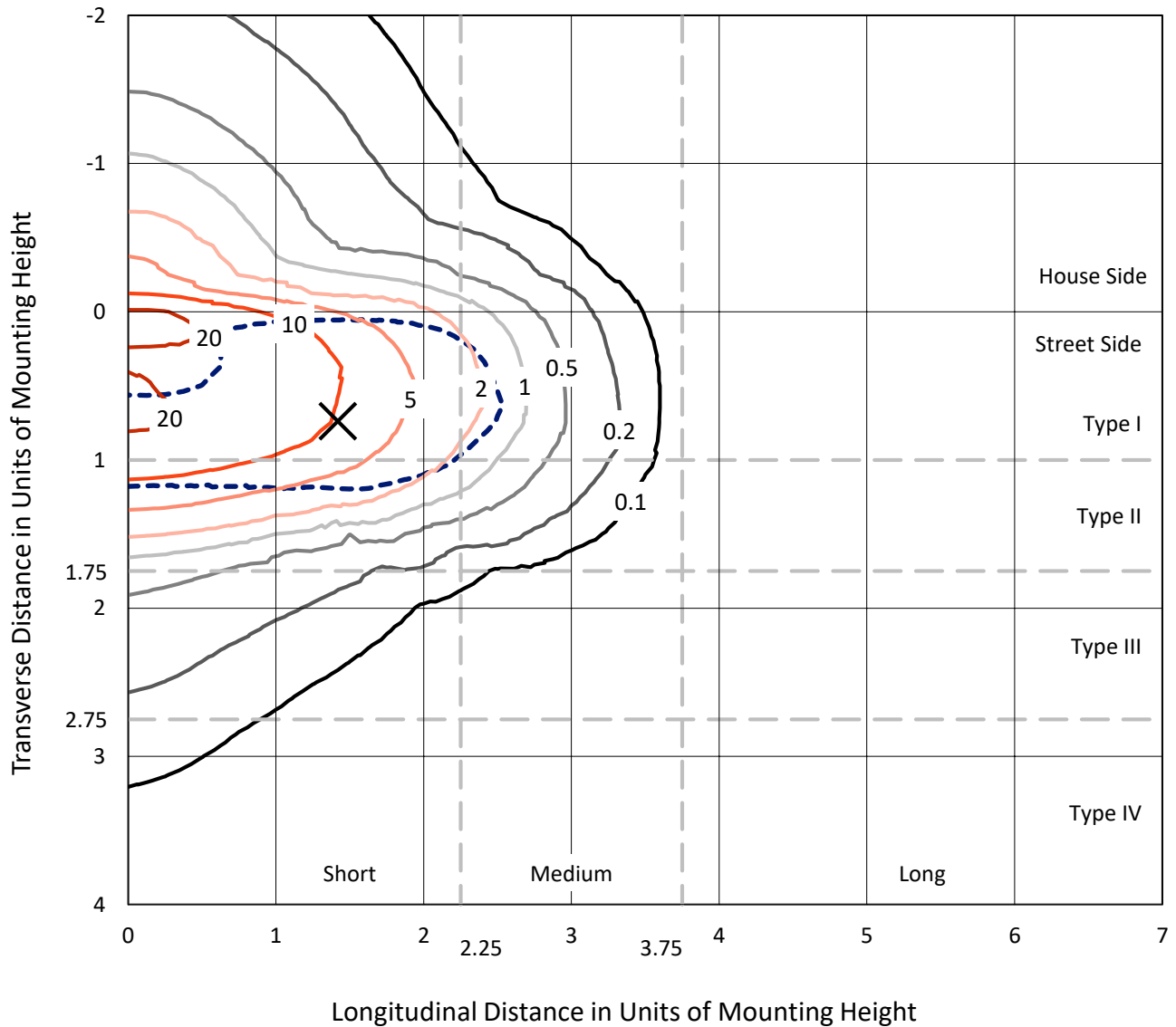


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Iso-Footcandle Lines of Horizontal Illumination

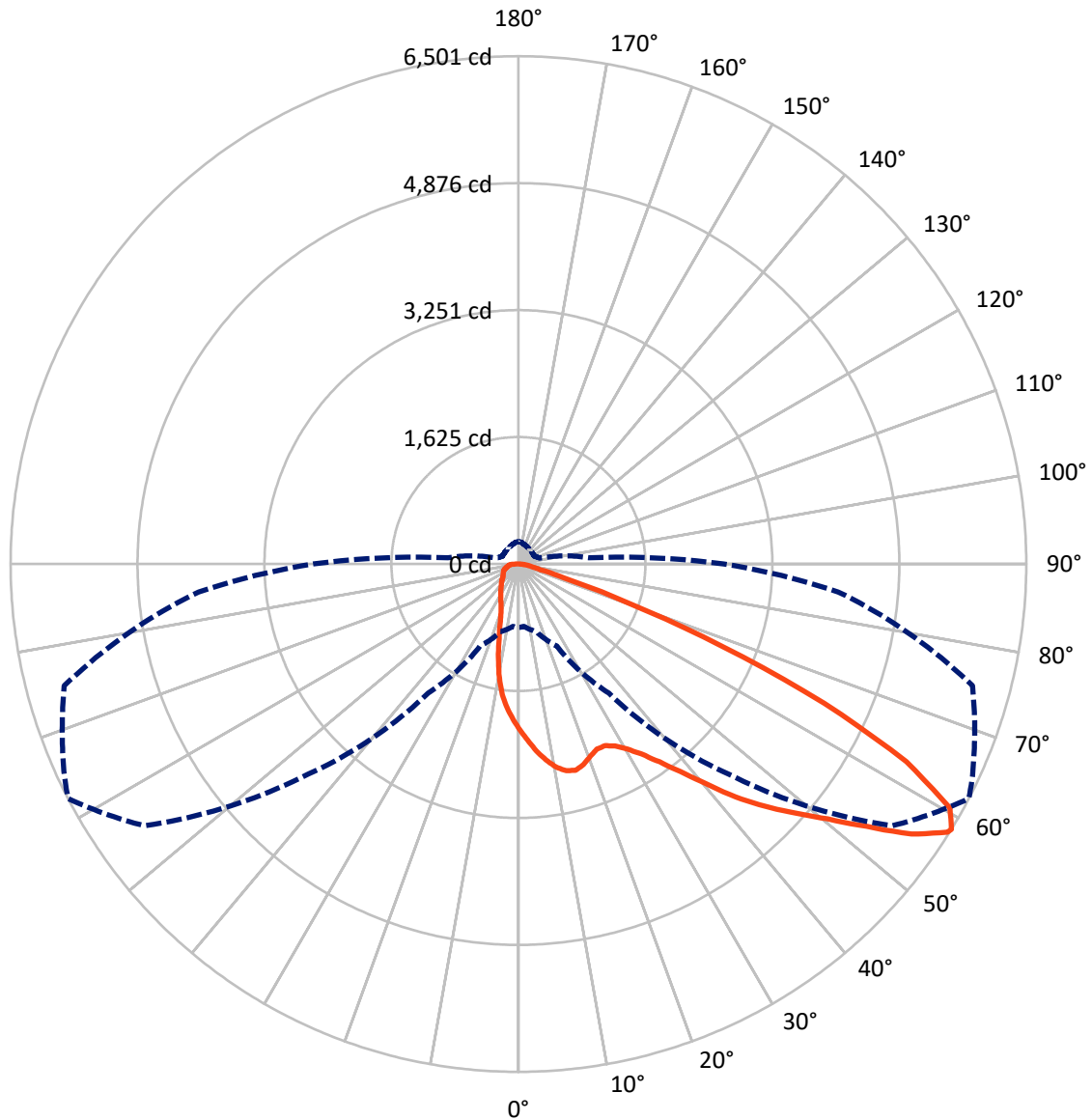
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 24.8 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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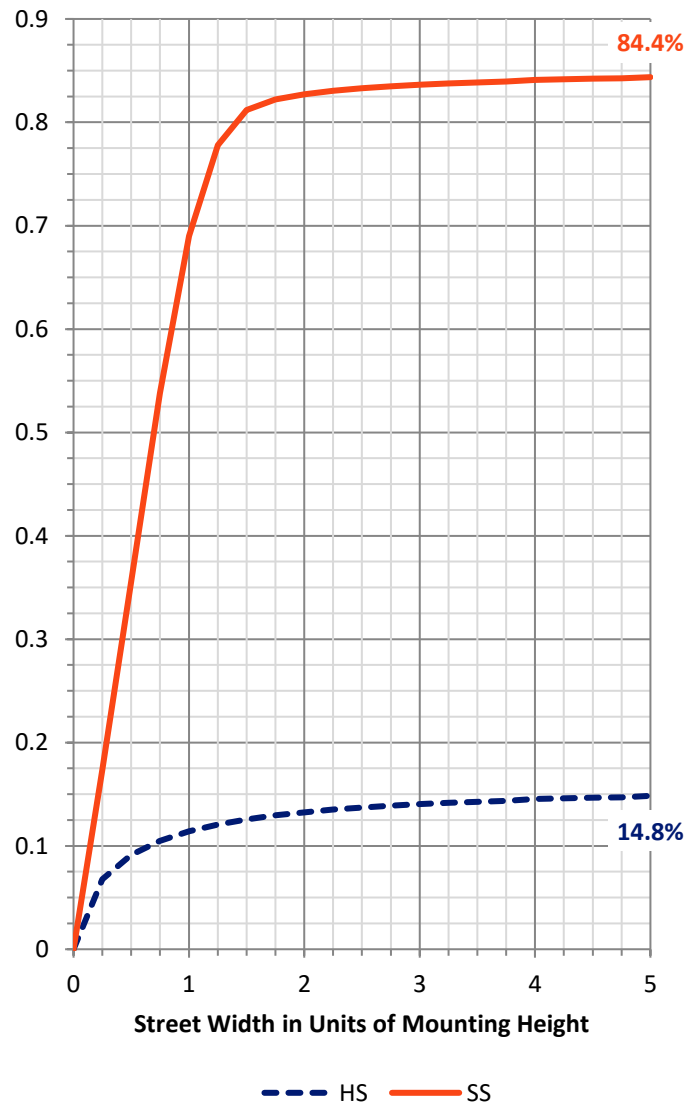
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1221.1	0.0	1221.1
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	6731.9	0.0	6731.9
	% Fixture	84.6	0.0	84.6
Total	Lumens	7953.0	0.0	7953.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.8	2.4
10°-20°	479.0	6.0
20°-30°	776.3	9.8
30°-40°	1239.4	15.6
40°-50°	1802.7	22.7
50°-60°	1886.4	23.7
60°-70°	1150.0	14.5
70°-80°	321.6	4.0
80°-90°	107.8	1.4
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°	7953.0	100.0
0°-180°	7953.0	100.0



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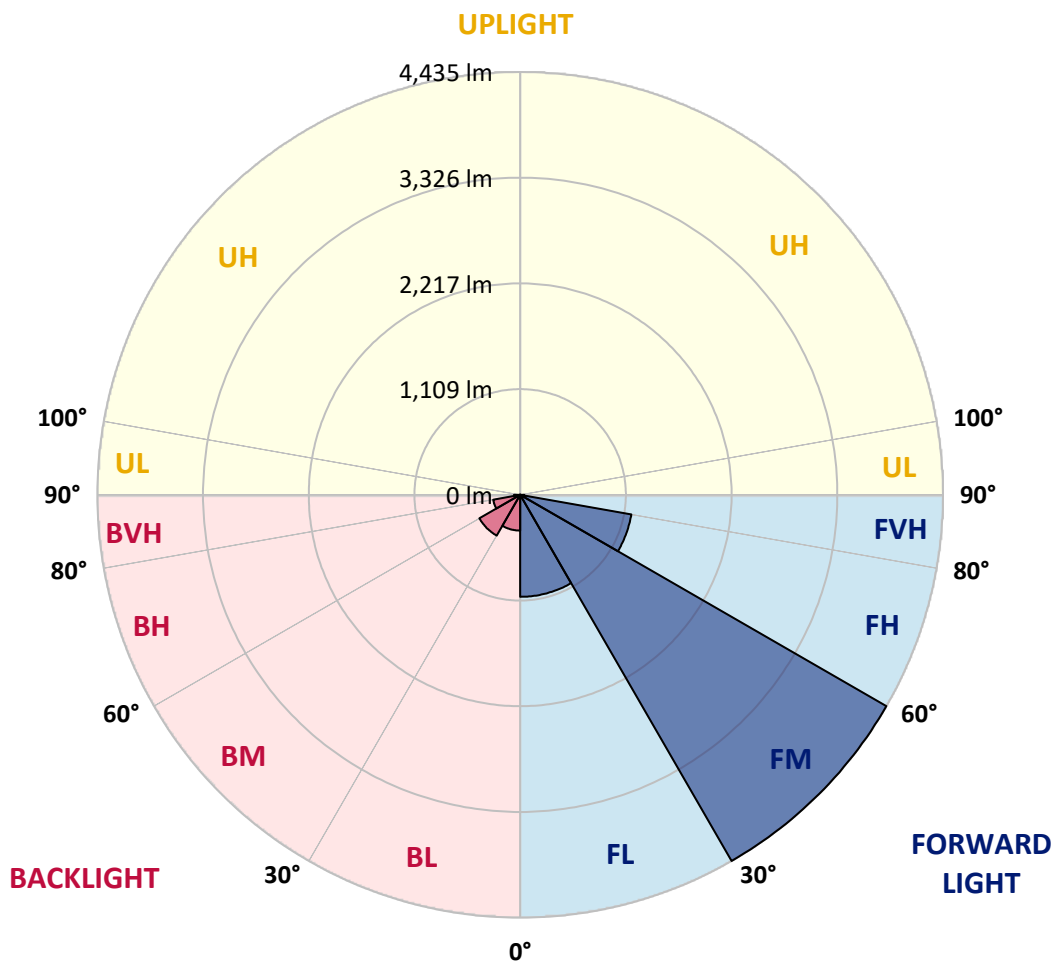
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1069.7	13.5			
FM	(30°-60°)	4434.7	55.8			
FH	(60°-80°)	1184.1	14.9			G1/1800
FVH	(80°-90°)	43.4	0.5			G1/100
BL	(0°-30°)	375.4	4.7	B1/500		
BM	(30°-60°)	493.8	6.2	B1/1000		
BH	(60°-80°)	287.5	3.6	B1/500		G1/500
BVH	(80°-90°)	64.4	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4
2.5°	2410.2	2408.7	2388.3	2374.9	2359.0	2322.2	2285.4	2258.1	2244.1	2190.9	2139.3
5°	2609.5	2603.5	2592.0	2577.7	2556.7	2510.6	2452.5	2402.3	2382.4	2287.9	2193.0
7.5°	2504.1	2513.6	2548.9	2588.7	2630.4	2633.3	2592.0	2532.4	2510.6	2384.4	2245.2
10°	2212.4	2208.3	2252.6	2330.2	2467.8	2604.0	2672.2	2642.8	2619.9	2475.9	2297.4
12.5°	2123.9	2122.9	2130.3	2150.2	2236.7	2423.6	2651.7	2715.4	2707.5	2572.7	2353.0
15°	2150.8	2151.8	2151.2	2153.7	2177.5	2266.6	2538.0	2739.7	2764.6	2668.6	2409.7
17.5°	2236.7	2233.3	2222.4	2210.5	2213.8	2245.8	2415.1	2697.9	2772.6	2754.1	2457.5
20°	2369.4	2369.4	2340.2	2306.8	2284.9	2291.9	2364.0	2626.4	2735.8	2826.7	2493.2
22.5°	2535.9	2538.4	2495.2	2434.6	2384.8	2365.9	2393.4	2573.3	2691.0	2893.8	2525.0
25°	2742.7	2742.2	2679.1	2592.0	2513.6	2468.3	2467.8	2575.7	2677.1	2972.4	2558.3
27.5°	2998.7	2975.3	2901.8	2778.0	2667.1	2598.0	2566.7	2638.3	2706.5	3068.8	2603.0
30°	3287.5	3263.6	3167.2	3008.1	2858.0	2757.1	2705.5	2746.7	2796.0	3191.6	2670.7
32.5°	3573.4	3578.8	3465.3	3286.0	3093.1	2951.0	2874.4	2899.7	2934.0	3341.7	2762.1
35°	3991.8	3991.3	3843.2	3619.0	3389.9	3193.0	3096.1	3109.5	3140.8	3553.4	2890.4
37.5°	4303.9	4299.1	4203.5	4005.2	3747.3	3511.1	3370.9	3373.0	3399.8	3819.3	3059.4
40°	4335.7	4334.8	4334.4	4305.9	4129.5	3906.8	3731.3	3695.0	3706.0	4101.7	3238.8
42.5°	4092.8	4129.0	4233.4	4393.5	4442.6	4325.8	4159.8	4078.7	4054.9	4425.8	3428.7
45°	3746.3	3764.6	3947.5	4307.4	4600.2	4719.5	4594.7	4423.7	4382.9	4740.9	3583.2
47.5°	3585.3	3577.2	3683.1	4075.3	4584.7	5032.6	5041.6	4761.2	4692.1	5012.7	3715.0
50°	3239.7	3229.3	3363.0	3733.8	4416.8	5188.1	5500.3	5129.0	5001.4	5271.2	3834.2
52.5°	2551.3	2541.4	2720.9	3198.6	4041.1	5130.0	5887.0	5580.4	5362.7	5520.3	3945.6
55°	1660.2	1661.2	1832.2	2324.7	3270.1	4791.0	6068.5	6101.8	5857.7	5769.2	4035.5
57.5°	914.1	905.6	1027.4	1330.1	2249.6	4021.2	5917.4	6477.6	6350.2	5982.9	4100.6
58°	812.7	802.7	896.7	1157.6	2017.0	3804.0	5841.3	6501.4	6413.4	6018.2	4110.2
60°	579.1	562.1	547.7	652.6	1162.1	2742.7	5334.4	6346.9	6431.8	6088.8	4101.1
62.5°	488.1	468.7	417.1	413.0	547.3	1341.4	4218.5	5573.9	5812.0	5926.3	3957.1
65°	453.3	434.0	365.8	341.4	371.3	579.1	2608.6	4303.9	4622.1	5361.2	3594.2
67.5°	428.4	405.6	332.4	300.7	306.7	346.5	1106.9	2814.7	3183.6	4180.7	2883.4
70°	406.1	380.8	306.2	269.5	264.4	263.5	432.4	1469.7	1825.1	2735.8	1931.4
72.5°	380.8	355.8	282.9	243.5	232.6	213.7	259.9	607.4	832.5	1341.0	885.2
75°	343.9	323.6	257.0	222.3	203.3	173.5	191.9	291.2	358.9	513.4	411.1
77.5°	302.7	286.3	230.6	204.4	178.9	141.7	146.6	197.3	221.7	289.3	238.0
80°	214.2	220.1	201.2	180.0	157.6	114.2	112.9	144.7	159.1	194.4	160.1
82.5°	147.6	152.1	164.0	142.1	127.3	88.9	83.0	100.4	107.8	117.4	77.6
85°	105.3	102.3	113.8	101.9	93.4	56.7	53.2	63.6	68.1	71.6	37.2
87.5°	64.1	63.6	65.7	52.7	48.7	28.9	26.3	30.4	32.3	31.3	17.9
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°	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4	2123.4
2.5°	2119.9	2095.6	2042.4	1999.7	1953.4	1918.1	1882.9	1863.0	1841.0	1828.7	1827.2
5°	2143.2	2093.5	1980.3	1874.9	1766.5	1669.1	1573.7	1503.1	1445.4	1412.6	1410.6
7.5°	2169.2	2091.1	1916.1	1733.7	1540.9	1349.1	1179.5	1059.7	982.7	946.8	944.4
10°	2189.0	2080.7	1838.1	1554.3	1248.7	995.2	841.0	770.4	747.2	741.1	740.1
12.5°	2212.8	2073.2	1739.6	1324.1	954.4	757.5	710.7	706.4	711.3	714.2	714.8
15°	2235.2	2058.8	1606.9	1069.1	747.2	677.0	678.0	687.5	697.4	701.9	702.3
17.5°	2245.8	2023.5	1432.5	842.5	653.6	640.7	652.2	664.6	673.5	677.0	677.0
20°	2245.8	1966.7	1230.1	682.5	604.9	607.4	621.3	630.8	632.7	629.8	628.2
22.5°	2236.2	1896.7	1033.4	595.5	565.2	574.6	585.5	579.1	555.7	537.8	534.3
25°	2227.8	1813.7	844.0	542.3	530.4	542.8	538.3	494.1	458.3	439.9	436.9
27.5°	2213.8	1713.3	685.9	498.6	496.6	506.5	462.2	419.5	401.6	391.7	389.7
30°	2210.5	1604.5	574.0	459.8	463.3	449.4	398.7	384.7	380.8	375.3	372.8
32.5°	2221.8	1495.6	504.0	428.0	431.5	385.6	366.3	368.3	367.7	360.9	358.4
35°	2253.2	1389.8	459.3	399.2	389.2	345.5	347.9	353.9	353.9	345.5	342.4
37.5°	2307.8	1291.3	430.9	374.8	340.5	324.6	331.0	339.0	339.0	333.0	330.5
40°	2365.9	1195.4	409.6	355.4	309.6	310.2	316.7	322.6	325.0	326.0	324.1
42.5°	2418.7	1096.0	386.7	334.6	295.8	299.3	302.2	306.7	317.1	324.1	323.1
45°	2449.5	996.1	361.8	308.6	286.3	287.8	286.8	294.8	307.1	317.6	317.6
47.5°	2477.8	914.1	341.4	282.9	276.9	276.9	273.9	281.8	293.3	305.7	306.7
50°	2504.7	860.9	327.0	263.0	265.0	263.5	262.4	269.9	285.2	300.3	302.7
52.5°	2532.0	843.1	314.1	248.6	252.5	250.5	251.6	261.9	279.3	294.8	297.1
55°	2570.3	854.4	300.7	238.6	240.6	240.1	244.0	256.0	271.4	286.8	287.8
57.5°	2617.5	896.2	289.3	231.1	229.1	232.1	238.6	249.9	265.0	283.3	284.8
58°	2626.9	906.1	287.3	229.1	226.6	231.1	237.6	248.6	264.0	283.3	284.8
60°	2641.4	941.4	282.3	225.2	218.2	226.1	234.2	245.1	261.9	285.8	288.8
62.5°	2571.8	948.4	280.8	220.7	209.2	219.2	228.7	241.0	259.9	294.2	300.7
65°	2330.6	876.8	270.4	213.3	201.8	213.7	223.7	238.0	265.9	319.6	322.6
67.5°	1870.8	728.2	245.1	201.8	193.4	207.3	219.7	238.0	268.4	323.6	325.6
70°	1286.3	547.3	213.3	189.3	183.4	199.3	218.2	243.5	259.9	306.2	300.3
72.5°	672.1	380.8	187.0	175.0	171.4	192.4	232.6	238.0	249.9	285.8	279.8
75°	338.4	259.0	164.6	158.5	158.1	189.9	260.5	229.1	239.6	268.9	281.8
77.5°	199.8	202.7	146.6	143.1	145.7	185.4	260.9	220.1	227.7	247.6	261.4
80°	136.7	167.5	132.8	131.7	133.8	170.5	240.6	209.2	213.7	234.2	249.0
82.5°	77.0	92.5	116.4	122.8	121.9	139.7	207.8	190.3	195.8	276.9	292.9
85°	37.2	55.7	97.5	114.8	103.9	93.0	169.1	169.1	170.5	198.3	200.8
87.5°	13.8	24.8	65.7	91.0	72.5	55.7	114.8	119.7	133.2	137.2	140.2
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)