

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: P270334

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270334
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-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7144.2 lumens
Efficiency: N/A
Efficacy: 108.2 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

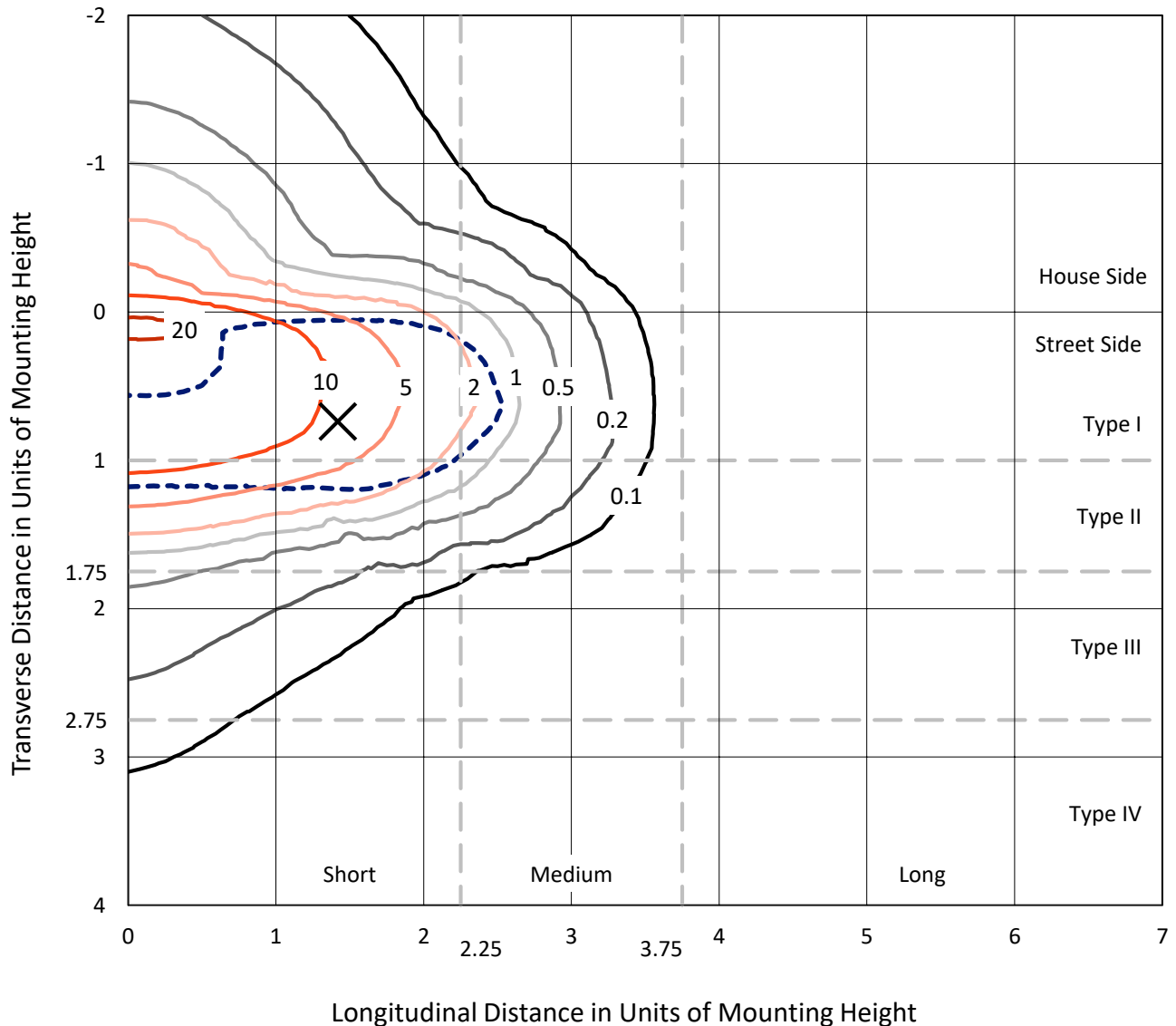


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

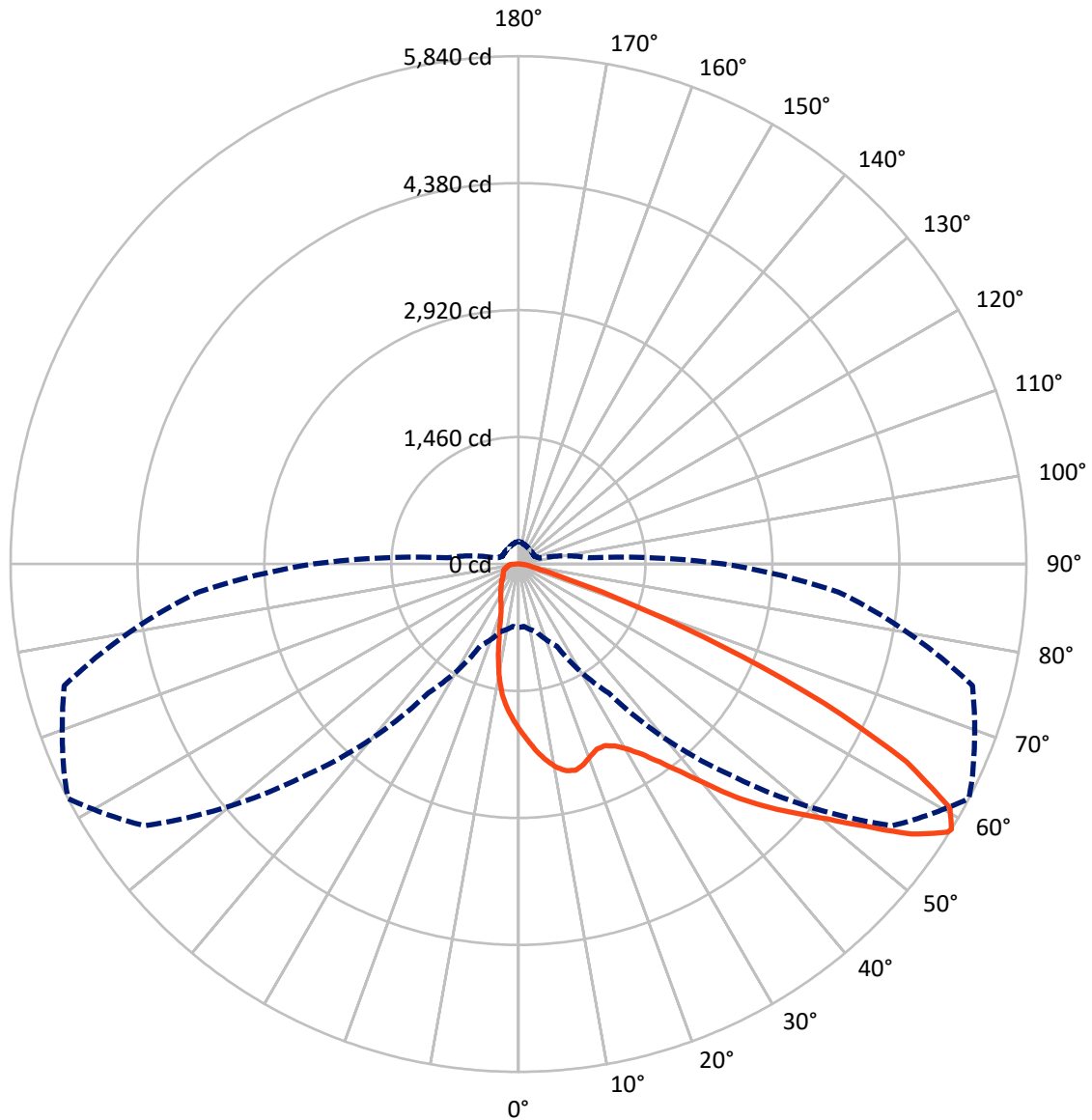


Based on 10 foot mounting height. Maximum calculated value = 22.3 fc
 Type II - Short - Full Cutoff

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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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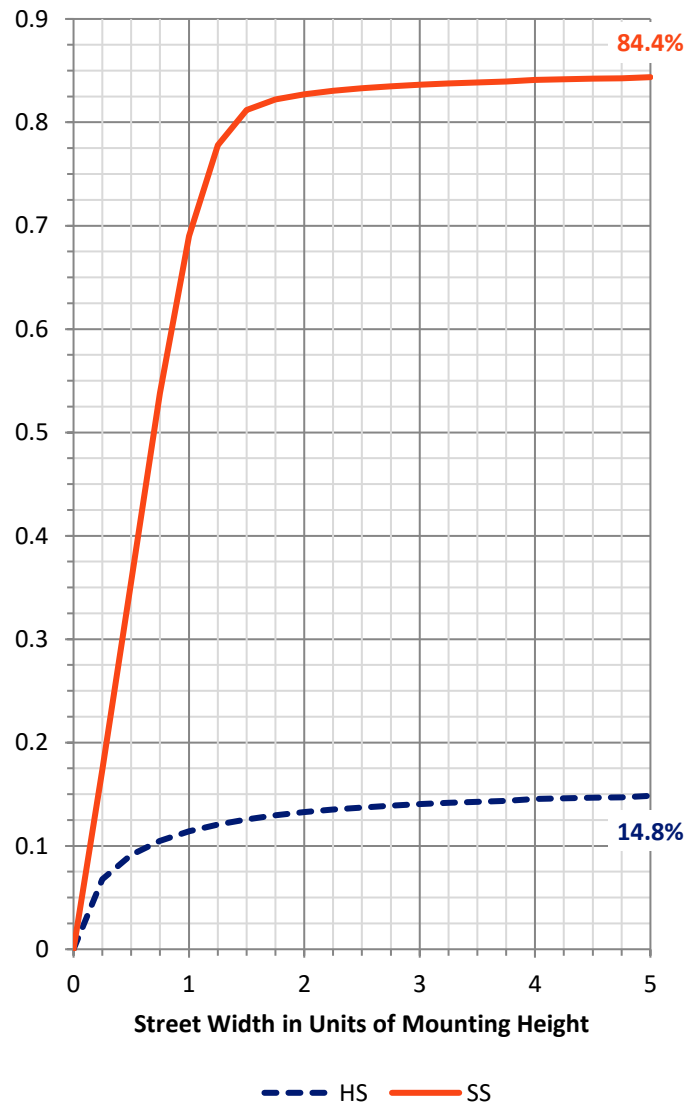
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1096.9	0.0	1096.9
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	6047.3	0.0	6047.3
	% Fixture	84.6	0.0	84.6
Total	Lumens	7144.2	0.0	7144.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.5	2.4
10°-20°	430.3	6.0
20°-30°	697.3	9.8
30°-40°	1113.3	15.6
40°-50°	1619.4	22.7
50°-60°	1694.6	23.7
60°-70°	1033.1	14.5
70°-80°	288.9	4.0
80°-90°	96.8	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°	7144.2	100.0
0°-180°	7144.2	100.0



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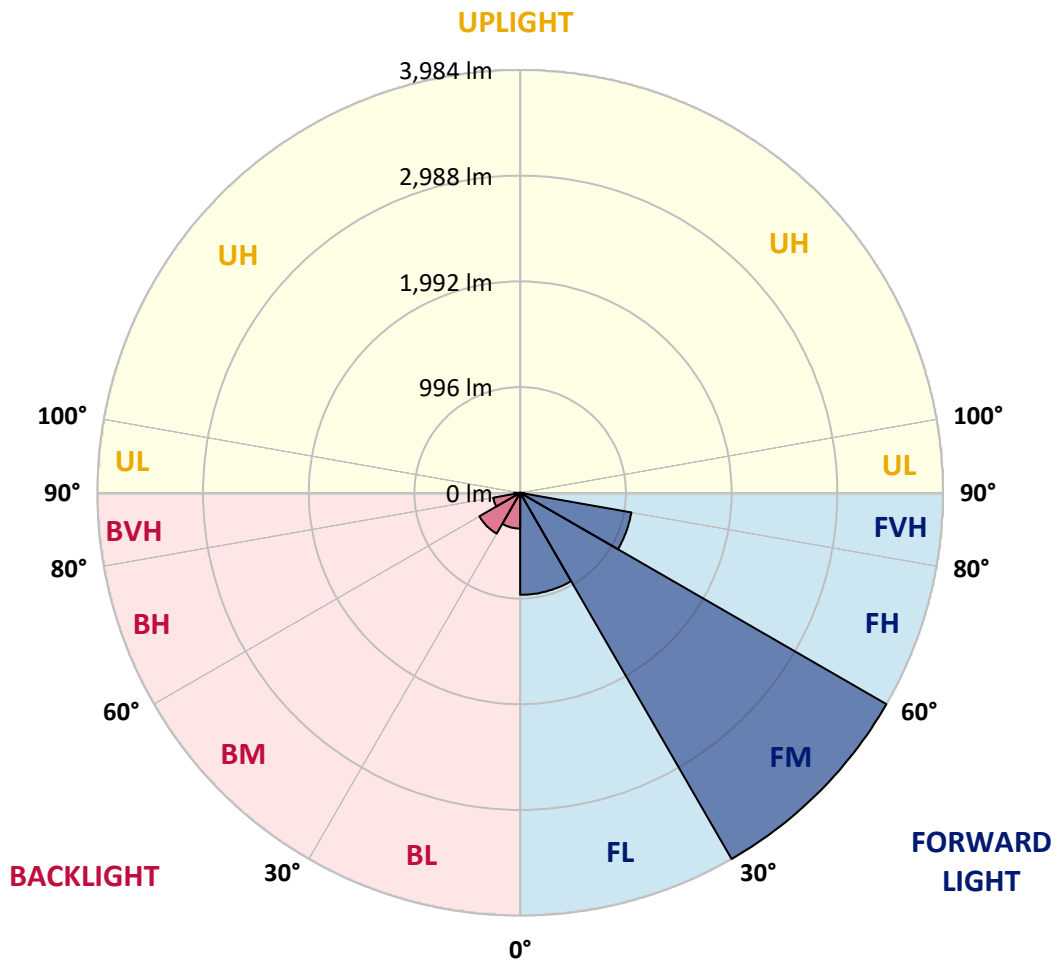
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	960.9	13.5			
FM	(30°-60°)	3983.7	55.8			
FH	(60°-80°)	1063.7	14.9			G1/1800
FVH	(80°-90°)	39.0	0.5			G1/100
BL	(0°-30°)	337.2	4.7	B1/500		
BM	(30°-60°)	443.6	6.2	B1/1000		
BH	(60°-80°)	258.2	3.6	B1/500		G1/500
BVH	(80°-90°)	57.9	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°	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5
2.5°	2165.1	2163.7	2145.4	2133.4	2119.1	2086.0	2053.0	2028.5	2015.9	1968.1	1921.7
5°	2344.1	2338.7	2328.4	2315.6	2296.7	2255.3	2203.1	2158.0	2140.1	2055.2	1970.0
7.5°	2249.4	2258.0	2289.7	2325.4	2362.9	2365.5	2328.4	2274.9	2255.3	2141.9	2016.9
10°	1987.4	1983.7	2023.5	2093.2	2216.8	2339.2	2400.5	2374.0	2353.5	2224.1	2063.8
12.5°	1907.9	1907.0	1913.7	1931.5	2009.2	2177.1	2382.0	2439.3	2432.2	2311.1	2113.7
15°	1932.1	1933.0	1932.4	1934.7	1956.1	2036.1	2279.9	2461.1	2483.5	2397.2	2164.6
17.5°	2009.2	2006.2	1996.4	1985.7	1988.7	2017.4	2169.5	2423.5	2490.6	2474.0	2207.6
20°	2128.4	2128.4	2102.2	2072.2	2052.5	2058.8	2123.6	2359.3	2457.6	2539.2	2239.7
22.5°	2278.0	2280.3	2241.5	2187.0	2142.3	2125.3	2150.0	2311.6	2417.3	2599.5	2268.2
25°	2463.8	2463.3	2406.6	2328.4	2258.0	2217.3	2216.8	2313.8	2404.9	2670.1	2298.1
27.5°	2693.7	2672.7	2606.7	2495.5	2395.9	2333.8	2305.7	2370.0	2431.3	2756.7	2338.3
30°	2953.2	2931.7	2845.1	2702.2	2567.4	2476.7	2430.4	2467.4	2511.7	2867.0	2399.1
32.5°	3210.0	3214.9	3112.9	2951.8	2778.5	2650.9	2582.1	2604.8	2635.6	3001.9	2481.2
35°	3585.9	3585.4	3452.4	3251.0	3045.2	2868.3	2781.2	2793.3	2821.4	3192.0	2596.5
37.5°	3866.2	3861.9	3776.0	3597.9	3366.2	3154.0	3028.1	3030.0	3054.1	3430.9	2748.3
40°	3894.8	3894.0	3893.6	3868.0	3709.6	3509.5	3351.8	3319.2	3329.1	3684.6	2909.4
42.5°	3676.6	3709.1	3802.9	3946.7	3990.8	3885.9	3736.8	3663.9	3642.5	3975.7	3080.0
45°	3365.3	3381.8	3546.1	3869.4	4132.4	4239.6	4127.4	3973.8	3937.2	4258.8	3218.8
47.5°	3220.7	3213.4	3308.5	3660.9	4118.5	4520.8	4528.9	4277.0	4214.9	4502.9	3337.2
50°	2910.2	2900.9	3021.0	3354.1	3967.6	4660.5	4940.9	4607.4	4492.8	4735.1	3444.3
52.5°	2291.8	2283.0	2444.2	2873.3	3630.1	4608.3	5288.3	5012.9	4817.3	4958.9	3544.4
55°	1491.4	1492.3	1645.9	2088.3	2937.5	4303.8	5451.4	5481.3	5262.0	5182.5	3625.1
57.5°	821.1	813.5	922.9	1194.8	2020.8	3612.3	5315.6	5818.9	5704.4	5374.5	3683.6
58°	730.1	721.1	805.5	1039.9	1811.9	3417.2	5247.3	5840.2	5761.2	5406.2	3692.2
60°	520.2	504.9	492.0	586.2	1043.9	2463.8	4791.9	5701.5	5777.7	5469.6	3684.0
62.5°	438.5	421.0	374.7	371.0	491.6	1205.0	3789.5	5007.1	5220.9	5323.6	3554.7
65°	407.2	389.9	328.6	306.7	333.5	520.2	2343.3	3866.2	4152.1	4816.0	3228.7
67.5°	384.8	364.4	298.6	270.1	275.5	311.3	994.3	2528.5	2859.8	3755.5	2590.2
70°	364.8	342.1	275.1	242.1	237.5	236.7	388.4	1320.2	1639.5	2457.6	1735.0
72.5°	342.1	319.6	254.1	218.7	208.9	192.0	233.5	545.6	747.8	1204.6	795.2
75°	308.9	290.7	230.9	199.7	182.6	155.9	172.4	261.6	322.4	461.2	369.3
77.5°	271.9	257.2	207.1	183.6	160.7	127.3	131.7	177.2	199.2	259.9	213.8
80°	192.4	197.7	180.7	161.7	141.6	102.6	101.4	130.0	142.9	174.6	143.8
82.5°	132.6	136.6	147.3	127.6	114.4	79.9	74.6	90.2	96.8	105.5	69.7
85°	94.6	91.9	102.2	91.5	83.9	50.9	47.8	57.1	61.2	64.3	33.4
87.5°	57.6	57.1	59.0	47.3	43.7	26.0	23.6	27.3	29.0	28.1	16.1
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°	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5	1907.5
2.5°	1904.3	1882.5	1834.7	1796.3	1754.7	1723.0	1691.4	1673.5	1653.8	1642.7	1641.4
5°	1925.2	1880.6	1778.9	1684.2	1586.9	1499.4	1413.7	1350.2	1298.4	1268.9	1267.1
7.5°	1948.6	1878.4	1721.2	1557.4	1384.2	1211.9	1059.6	951.9	882.8	850.5	848.4
10°	1966.4	1869.1	1651.2	1396.2	1121.7	894.0	755.5	692.1	671.2	665.7	664.8
12.5°	1987.8	1862.4	1562.7	1189.4	857.3	680.5	638.4	634.6	639.0	641.6	642.1
15°	2007.9	1849.4	1443.5	960.4	671.2	608.2	609.1	617.6	626.5	630.5	630.9
17.5°	2017.4	1817.7	1286.8	756.8	587.1	575.5	585.9	597.0	605.0	608.2	608.2
20°	2017.4	1766.7	1105.0	613.1	543.4	545.6	558.1	566.7	568.4	565.8	564.3
22.5°	2008.8	1703.8	928.3	534.9	507.7	516.2	526.0	520.2	499.2	483.1	480.0
25°	2001.2	1629.3	758.2	487.2	476.5	487.6	483.6	443.9	411.7	395.2	392.5
27.5°	1988.7	1539.1	616.1	447.9	446.1	455.0	415.2	376.8	360.8	351.9	350.1
30°	1985.7	1441.3	515.6	413.0	416.2	403.7	358.2	345.6	342.1	337.1	334.9
32.5°	1995.9	1343.5	452.7	384.5	387.6	346.4	329.0	330.8	330.3	324.2	322.0
35°	2024.1	1248.5	412.6	358.6	349.6	310.4	312.5	317.9	317.9	310.4	307.6
37.5°	2073.1	1160.0	387.1	336.7	305.9	291.6	297.3	304.5	304.5	299.1	296.9
40°	2125.3	1073.8	367.9	319.3	278.1	278.7	284.5	289.8	291.9	292.8	291.1
42.5°	2172.7	984.5	347.4	300.6	265.7	268.9	271.5	275.5	284.9	291.1	290.2
45°	2200.4	894.8	325.0	277.2	257.2	258.5	257.6	264.8	275.9	285.3	285.3
47.5°	2225.8	821.1	306.7	254.1	248.7	248.7	246.0	253.1	263.5	274.6	275.5
50°	2250.0	773.4	293.7	236.3	238.1	236.7	235.7	242.5	256.2	269.8	271.9
52.5°	2274.5	757.4	282.2	223.3	226.8	225.0	226.0	235.3	250.9	264.8	266.9
55°	2308.9	767.5	270.1	214.3	216.1	215.7	219.2	230.0	243.8	257.6	258.5
57.5°	2351.3	805.1	259.9	207.6	205.8	208.5	214.3	224.5	238.1	254.5	255.8
58°	2359.8	814.0	258.1	205.8	203.6	207.6	213.4	223.3	237.2	254.5	255.8
60°	2372.8	845.7	253.6	202.3	196.0	203.1	210.4	220.2	235.3	256.7	259.4
62.5°	2310.3	852.0	252.2	198.3	187.9	196.9	205.4	216.5	233.5	264.3	270.1
65°	2093.6	787.6	242.9	191.6	181.3	192.0	201.0	213.8	238.9	287.1	289.8
67.5°	1680.5	654.1	220.2	181.3	173.7	186.2	197.4	213.8	241.1	290.7	292.5
70°	1155.5	491.6	191.6	170.0	164.7	179.0	196.0	218.7	233.5	275.1	269.8
72.5°	603.8	342.1	168.0	157.2	154.0	172.8	208.9	213.8	224.5	256.7	251.3
75°	304.0	232.7	147.9	142.4	142.0	170.6	234.0	205.8	215.2	241.6	253.1
77.5°	179.5	182.1	131.7	128.5	130.9	166.5	234.4	197.7	204.5	222.4	234.8
80°	122.8	150.5	119.3	118.3	120.2	153.2	216.1	187.9	192.0	210.4	223.7
82.5°	69.2	83.1	104.6	110.3	109.5	125.5	186.7	170.9	175.9	248.7	263.1
85°	33.4	50.0	87.6	103.1	93.3	83.5	151.9	151.9	153.2	178.1	180.4
87.5°	12.4	22.3	59.0	81.7	65.1	50.0	103.1	107.5	119.7	123.2	125.9
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)