

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: P195110

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7060-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195110
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-7060-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9937 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 113
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

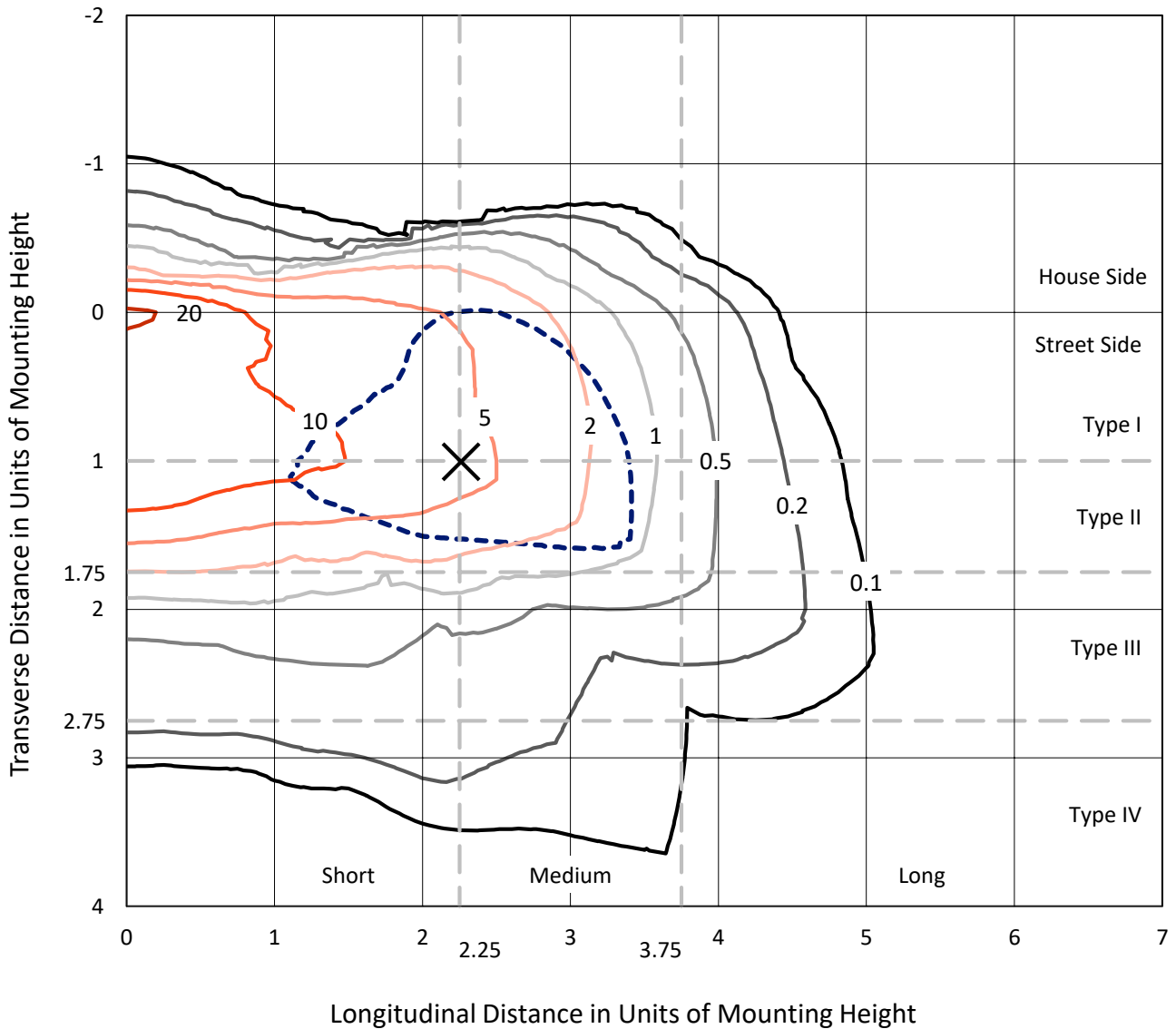


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Iso-Footcandle Lines of Horizontal Illumination

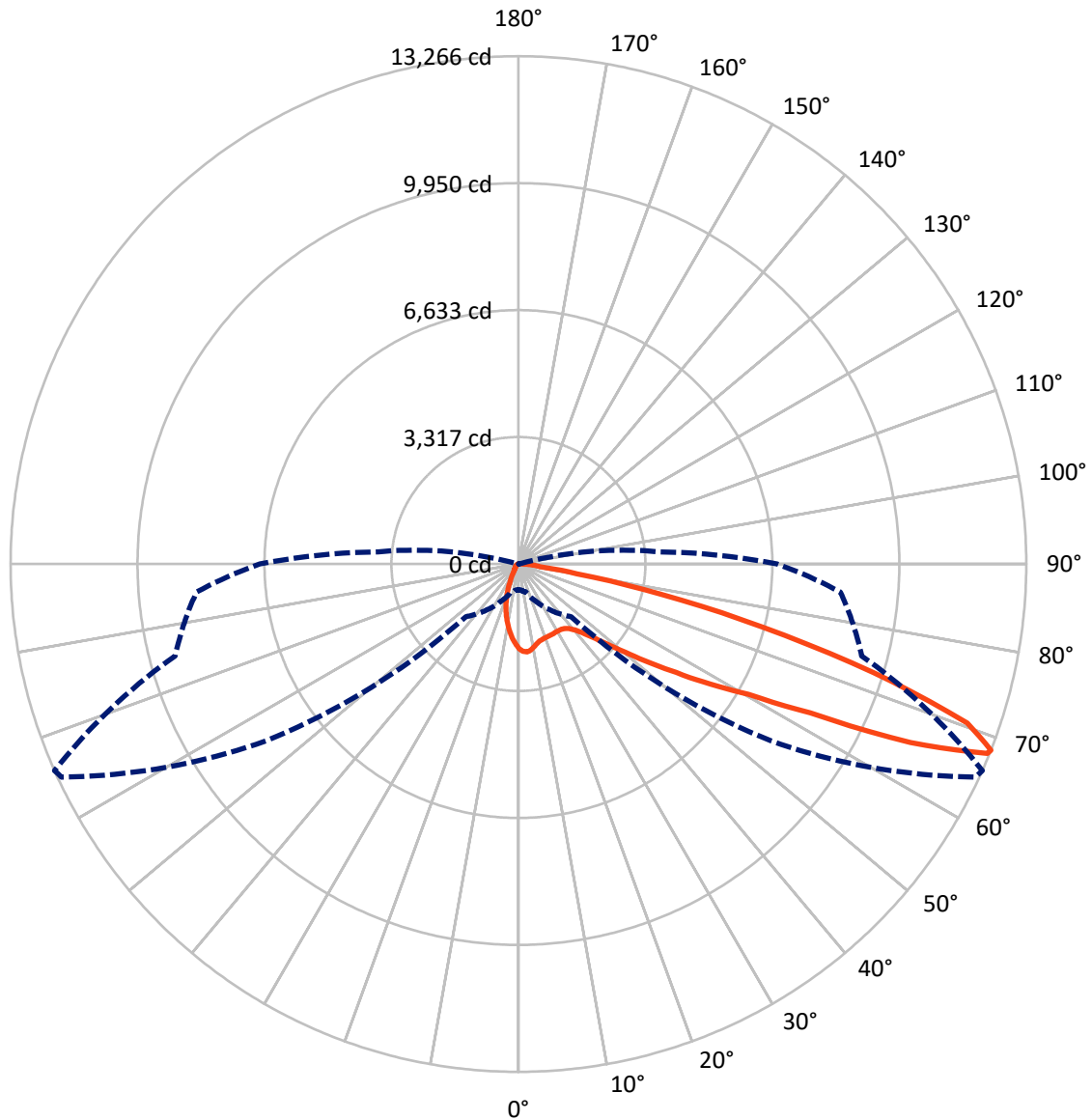
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 22.1 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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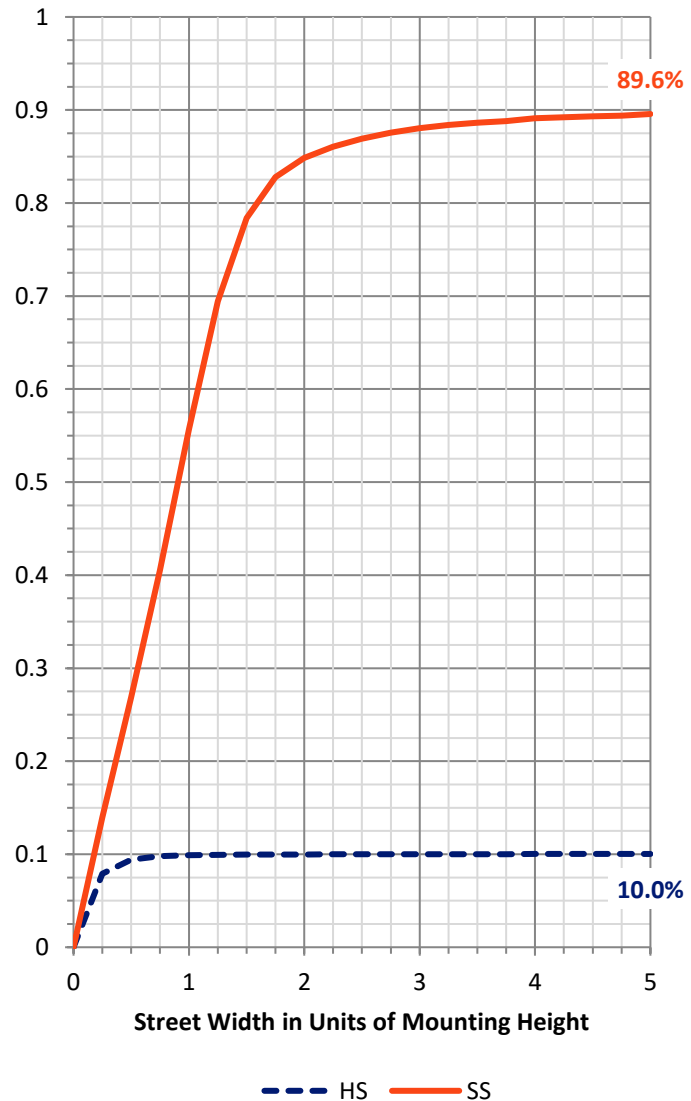
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1006.5	0.0	1006.5
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	8930.5	0.0	8930.5
	% Fixture	89.9	0.0	89.9
Total	Lumens	9937.0	0.0	9937.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.5	1.8
10°-20°	390.5	3.9
20°-30°	565.9	5.7
30°-40°	866.2	8.7
40°-50°	1481.6	14.9
50°-60°	2317.7	23.3
60°-70°	2668.8	26.9
70°-80°	1335.5	13.4
80°-90°	129.3	1.3
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°	9937.0	100.0
0°-180°	9937.0	100.0

Coefficient of Utilization



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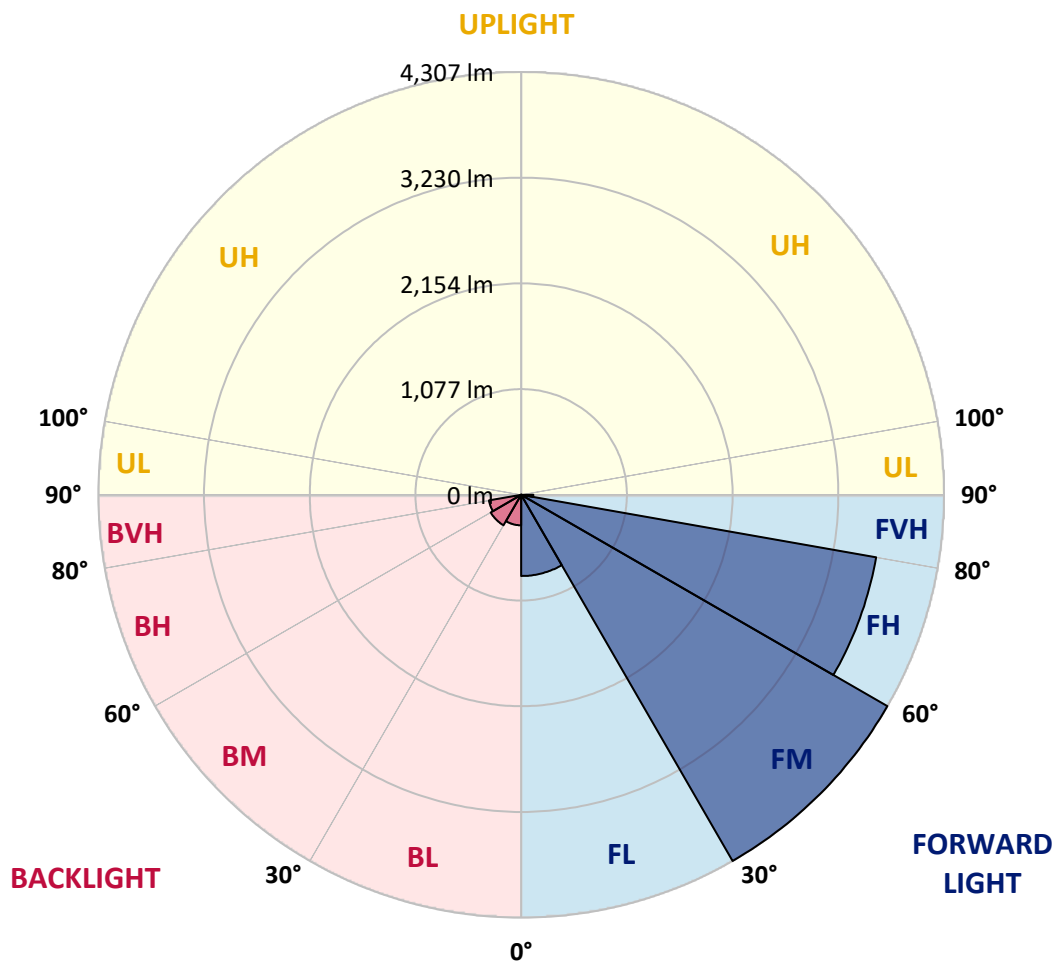
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	827.2	8.3			
FM	(30°-60°)	4307.2	43.3			
FH	(60°-80°)	3671.7	36.9			G2/5000
FVH	(80°-90°)	124.4	1.3			G2/225
BL	(0°-30°)	310.7	3.1	B1/500		
BM	(30°-60°)	358.4	3.6	B1/1000		
BH	(60°-80°)	332.5	3.3	B1/500		G1/500
BVH	(80°-90°)	4.9	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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9
2.5°	2328.5	2330.1	2329.3	2331.7	2330.1	2318.4	2305.9	2279.4	2281.7	2247.4	2209.2
5°	2164.7	2178.0	2191.2	2204.5	2236.5	2264.6	2298.1	2305.9	2305.9	2276.3	2220.1
7.5°	1997.8	1998.6	2013.4	2031.3	2074.2	2125.7	2203.7	2273.9	2275.5	2283.3	2221.7
10°	1872.2	1876.1	1886.2	1905.7	1948.6	1999.3	2086.7	2196.7	2205.3	2263.0	2206.1
12.5°	1774.7	1779.4	1790.3	1812.9	1851.9	1904.2	1996.2	2121.8	2133.5	2243.5	2201.4
15°	1699.8	1706.0	1714.6	1737.2	1779.4	1834.8	1935.4	2071.9	2085.9	2235.7	2216.2
17.5°	1668.6	1668.6	1667.8	1683.4	1725.5	1781.7	1887.0	2045.4	2063.3	2242.0	2241.2
20°	1681.9	1679.5	1663.1	1659.2	1685.0	1741.1	1848.8	2028.2	2048.5	2253.7	2271.6
22.5°	1752.1	1747.4	1710.7	1680.3	1672.5	1709.9	1823.0	2016.5	2040.7	2277.8	2312.2
25°	1901.1	1887.0	1836.3	1767.7	1706.0	1702.1	1805.1	2010.3	2036.0	2305.9	2356.6
27.5°	2094.5	2090.6	2009.5	1917.4	1798.9	1727.9	1799.6	2005.6	2031.3	2326.2	2392.5
30°	2334.8	2336.3	2242.7	2122.6	1943.2	1800.4	1816.8	2003.2	2029.8	2327.8	2408.1
32.5°	2582.8	2584.4	2506.4	2377.7	2140.5	1925.2	1865.2	2014.2	2038.4	2321.5	2407.3
35°	2821.6	2823.9	2777.1	2673.3	2404.2	2098.4	1956.4	2051.6	2068.8	2325.4	2405.8
37.5°	3123.4	3132.8	3075.1	2978.3	2735.0	2352.7	2105.4	2127.3	2141.3	2357.4	2417.5
40°	3638.3	3625.8	3460.4	3296.6	3093.8	2662.4	2320.7	2257.6	2262.2	2440.1	2461.9
42.5°	4238.2	4222.6	3939.4	3657.0	3462.8	3036.1	2596.1	2457.3	2456.5	2578.9	2558.7
45°	4754.6	4745.2	4447.2	4070.5	3871.5	3448.7	2935.4	2745.1	2735.7	2819.2	2735.0
47.5°	5121.2	5113.4	4888.0	4510.4	4344.3	3902.7	3359.0	3137.5	3118.0	3133.6	3021.3
50°	5157.1	5148.5	5069.7	4827.1	4896.6	4568.9	3882.5	3651.6	3626.6	3602.4	3454.2
52.5°	4821.7	4820.9	4862.2	4846.6	5283.5	5426.2	4524.5	4287.3	4257.7	4196.1	4048.6
55°	4136.0	4132.1	4288.9	4516.7	5274.9	6310.9	5503.5	5044.0	5005.0	4881.7	4688.3
57.5°	3022.0	3001.8	3329.4	3812.3	4904.4	6697.8	7058.2	5984.0	5919.3	5528.4	5230.4
60°	1668.6	1676.4	2097.6	2669.4	4026.8	6621.3	8488.8	7080.0	6910.0	6086.2	5785.9
62.5°	935.3	954.8	1268.4	1734.9	2567.2	6001.2	9256.4	8966.3	8556.7	6736.8	6487.9
65°	707.5	719.2	876.8	1338.6	1618.7	4193.7	9378.9	11603.7	11250.3	7722.8	7605.8
67.5°	666.2	675.6	752.8	1110.1	1474.4	2174.9	8456.9	13163.9	13208.3	9067.7	8471.7
68°	670.9	682.6	759.8	1067.9	1472.0	1945.5	8063.7	13171.7	13266.1	9284.5	8442.0
70°	616.3	619.4	803.5	1047.6	1426.8	1532.9	5833.4	12269.1	12438.4	9542.7	7663.5
72.5°	235.6	236.4	360.4	907.2	1494.6	1541.4	2938.6	9697.2	9705.8	8304.7	5974.6
75°	122.5	103.0	113.1	283.9	1427.5	1502.4	1474.4	6621.3	6580.0	5616.6	3660.9
77.5°	84.2	71.8	75.7	98.3	593.6	1501.7	1064.8	3807.6	3799.0	2389.4	1044.5
80°	47.6	41.3	45.2	82.7	208.3	1409.6	992.3	1636.6	1542.2	419.7	169.3
82.5°	24.2	20.3	24.2	69.4	129.5	887.0	965.0	642.0	571.8	99.9	110.0
85°	6.2	6.2	11.7	48.4	80.3	291.0	865.1	463.4	416.6	43.7	78.0
87.5°	1.6	0.8	4.7	17.9	28.9	63.2	479.7	258.2	222.3	22.6	45.2
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°	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9	2213.9
2.5°	2193.6	2171.7	2128.8	2080.5	2046.2	2008.7	1986.9	1960.3	1940.1	1922.1	1935.4
5°	2185.8	2143.7	2048.5	1941.6	1851.9	1766.1	1702.1	1641.3	1595.3	1566.4	1578.1
7.5°	2165.5	2103.1	1948.6	1781.7	1635.0	1497.0	1384.6	1284.0	1206.0	1163.9	1177.1
10°	2131.2	2043.0	1835.5	1603.8	1398.7	1203.7	1036.7	887.0	773.8	720.8	733.3
12.5°	2106.2	1990.0	1718.5	1432.2	1162.3	885.4	663.8	492.2	404.1	351.0	355.7
15°	2095.3	1948.6	1609.3	1251.2	904.1	568.7	358.8	259.8	229.3	218.4	219.2
17.5°	2096.9	1915.9	1505.6	1063.3	643.6	326.9	220.0	198.1	193.5	191.1	191.1
20°	2100.8	1883.1	1397.9	867.4	411.9	210.6	183.3	176.3	174.0	170.8	171.6
22.5°	2112.5	1858.2	1289.5	670.9	253.5	171.6	162.3	156.0	152.1	147.4	148.2
25°	2130.4	1839.4	1182.6	482.9	178.6	149.8	141.2	132.6	125.6	120.1	120.9
27.5°	2141.3	1812.9	1068.7	329.2	148.2	131.1	119.4	107.7	99.9	95.2	94.4
30°	2133.5	1770.0	939.2	216.1	131.1	113.1	99.1	85.8	78.0	74.1	74.1
32.5°	2112.5	1714.6	796.5	157.6	116.2	97.5	80.3	68.6	63.2	60.8	61.6
35°	2088.3	1656.9	644.3	133.4	104.5	82.7	65.5	56.2	53.8	53.0	53.0
37.5°	2075.0	1607.0	498.5	120.9	93.6	68.6	53.8	48.4	46.0	46.0	46.0
40°	2089.8	1568.7	369.0	111.6	82.7	56.9	45.2	41.3	40.6	40.6	40.6
42.5°	2153.0	1555.5	269.9	103.8	71.8	47.6	39.0	35.9	35.1	35.9	35.9
45°	2276.3	1584.3	204.4	95.9	61.6	39.0	33.5	31.2	31.2	32.0	32.0
47.5°	2485.3	1658.5	167.7	88.1	51.5	32.8	28.9	27.3	27.3	28.1	28.1
50°	2809.9	1795.7	150.6	79.6	42.9	28.1	24.2	23.4	23.4	24.2	25.0
52.5°	3302.9	2057.1	142.0	71.0	35.1	23.4	20.3	19.5	20.3	21.1	21.1
55°	3851.3	2391.7	131.8	62.4	29.6	19.5	16.4	16.4	17.2	18.7	18.7
57.5°	4362.2	2714.7	122.5	51.5	25.7	15.6	13.3	13.3	14.8	16.4	16.4
60°	4902.0	3031.4	110.0	41.3	21.8	12.5	10.9	10.9	13.3	14.8	15.6
62.5°	5569.0	3399.6	93.6	32.8	17.2	9.4	7.8	10.1	12.5	14.8	14.8
65°	6533.2	3857.5	73.3	25.7	13.3	7.0	6.2	9.4	11.7	14.0	14.8
67.5°	6883.4	3799.0	55.4	21.1	10.1	5.5	5.5	8.6	11.7	14.0	14.0
68°	6755.5	3671.1	53.0	20.3	9.4	5.5	5.5	8.6	11.7	14.0	14.0
70°	5886.5	3001.0	43.7	15.6	7.8	4.7	4.7	7.8	11.7	13.3	14.0
72.5°	4407.5	1993.9	37.4	10.1	7.0	4.7	3.9	7.8	10.9	13.3	13.3
75°	2528.2	827.7	32.0	7.8	6.2	3.9	3.9	7.0	10.9	13.3	13.3
77.5°	714.6	193.5	25.7	6.2	5.5	3.9	3.1	7.0	10.1	12.5	12.5
80°	131.1	57.7	20.3	5.5	4.7	3.9	3.1	7.0	10.1	12.5	12.5
82.5°	86.6	27.3	14.8	5.5	4.7	3.9	3.1	6.2	9.4	11.7	11.7
85°	64.7	19.5	9.4	5.5	4.7	3.9	3.1	6.2	9.4	11.7	11.7
87.5°	35.9	8.6	7.0	6.2	5.5	3.9	3.1	5.5	8.6	10.9	10.9
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)