

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: P196539

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196539
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-03-D-UNV-SL2-7030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 615mA 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: 9414.9 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 96
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

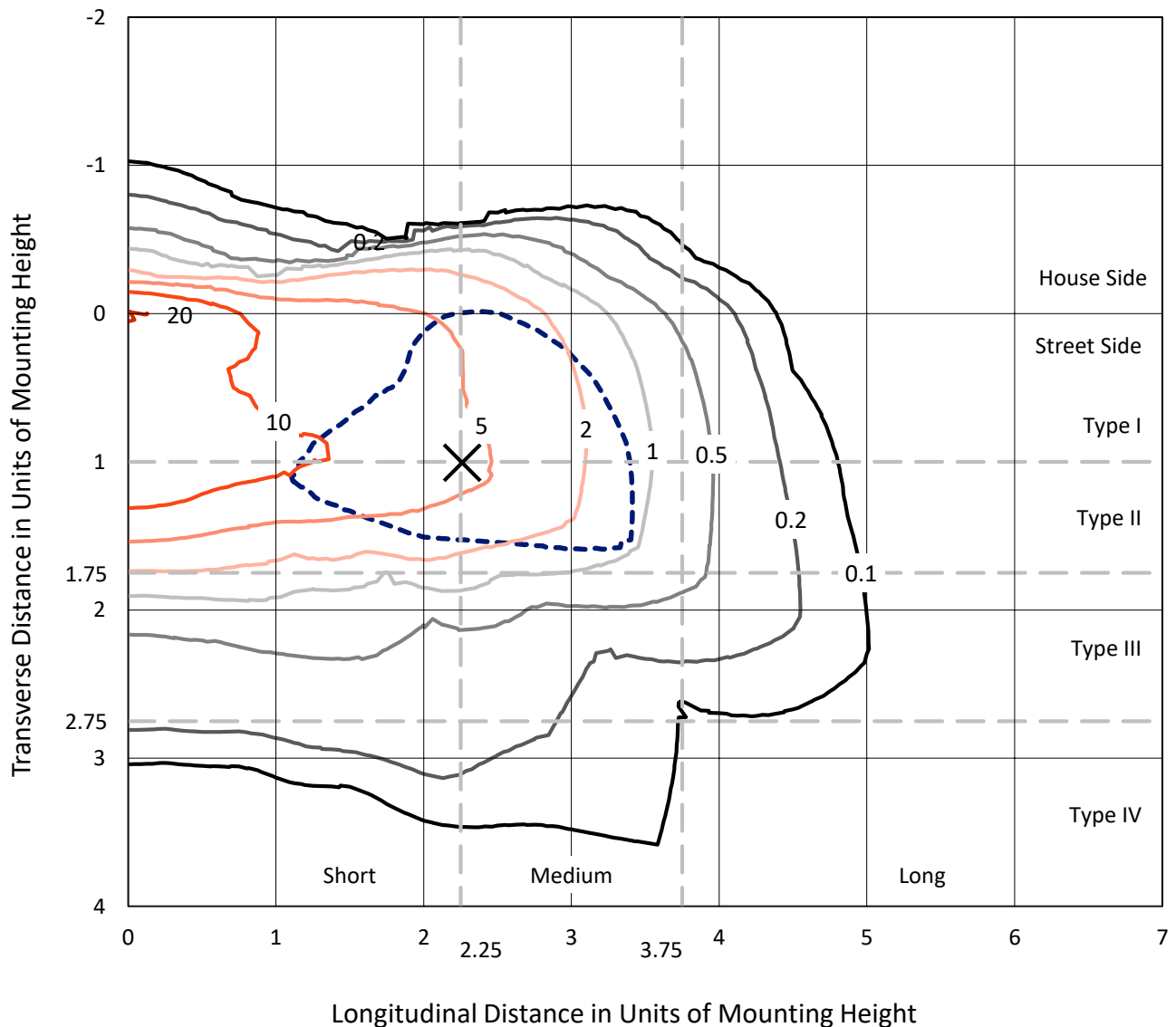


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

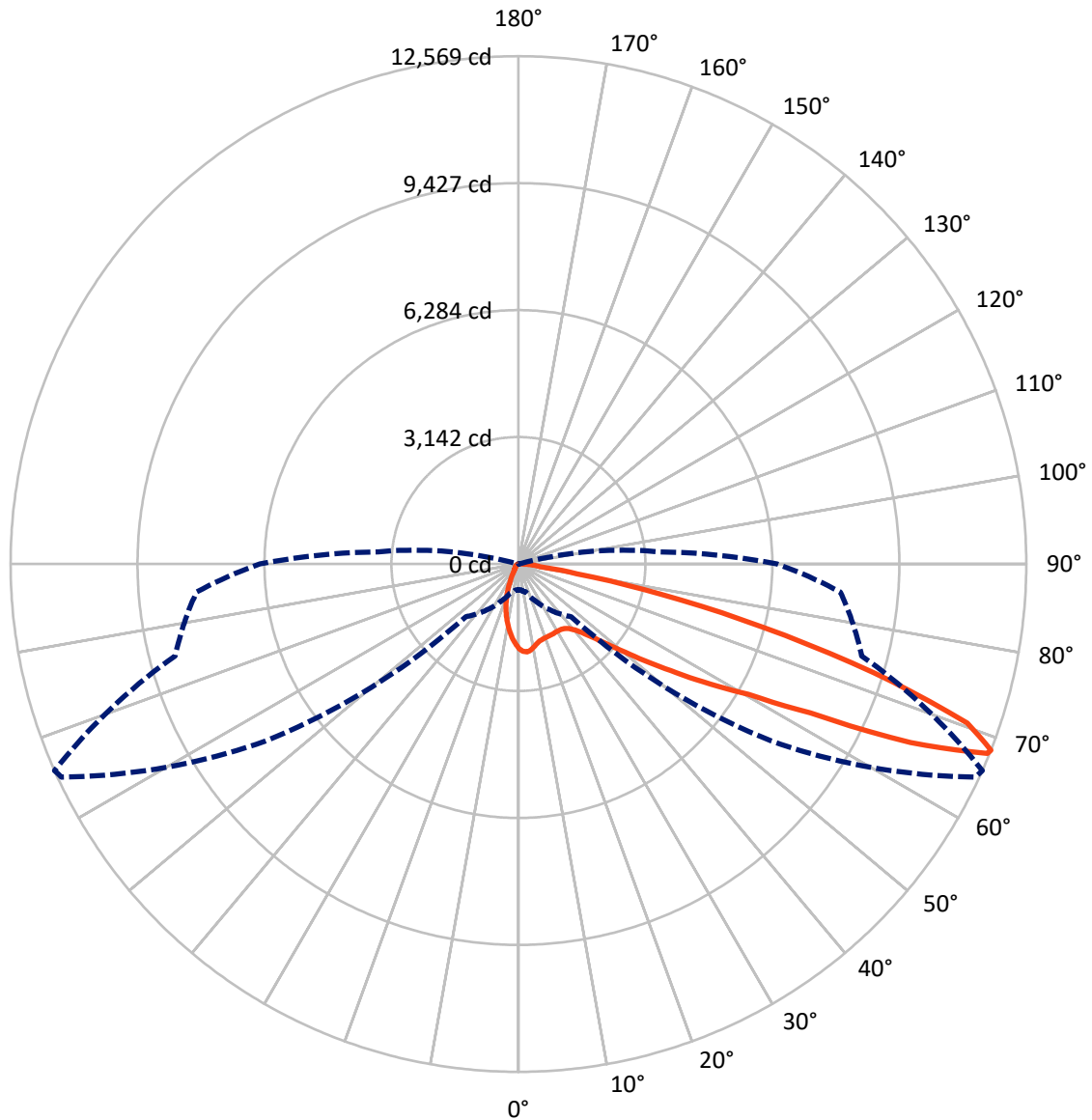


Based on 10 foot mounting height. Maximum calculated value = 21 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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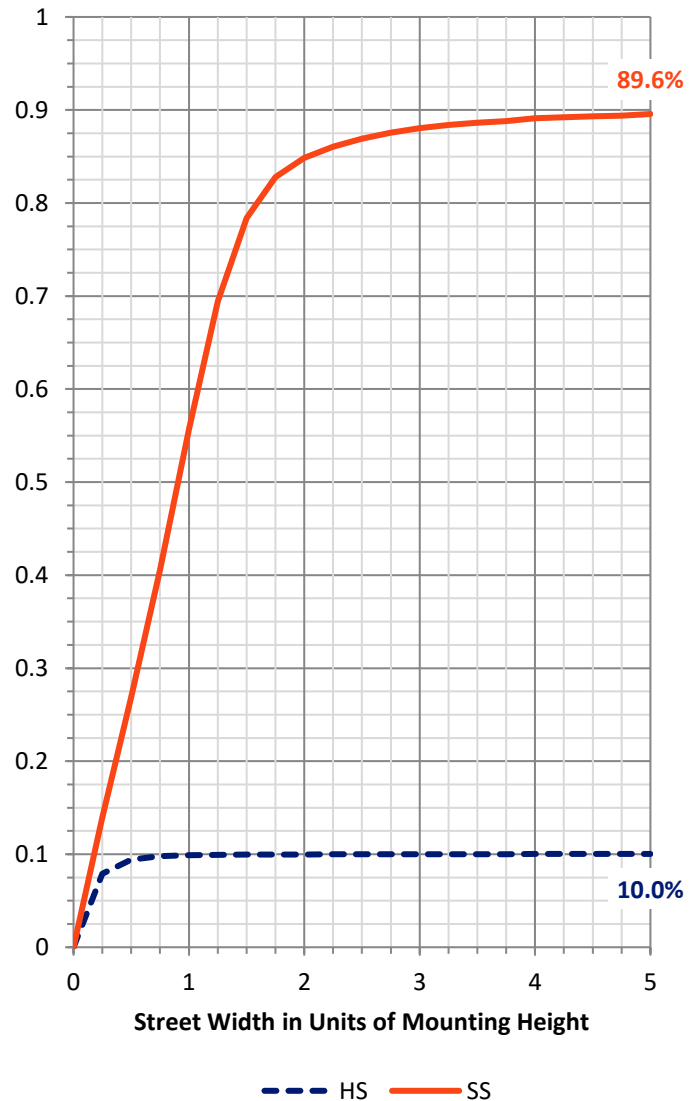
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	953.6	0.0	953.6
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	8461.3	0.0	8461.3
	% Fixture	89.9	0.0	89.9
Total	Lumens	9414.9	0.0	9414.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.0	1.8
10°-20°	370.0	3.9
20°-30°	536.1	5.7
30°-40°	820.7	8.7
40°-50°	1403.8	14.9
50°-60°	2195.9	23.3
60°-70°	2528.5	26.9
70°-80°	1265.3	13.4
80°-90°	122.5	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°	9414.9	100.0
0°-180°	9414.9	100.0

Coefficient of Utilization



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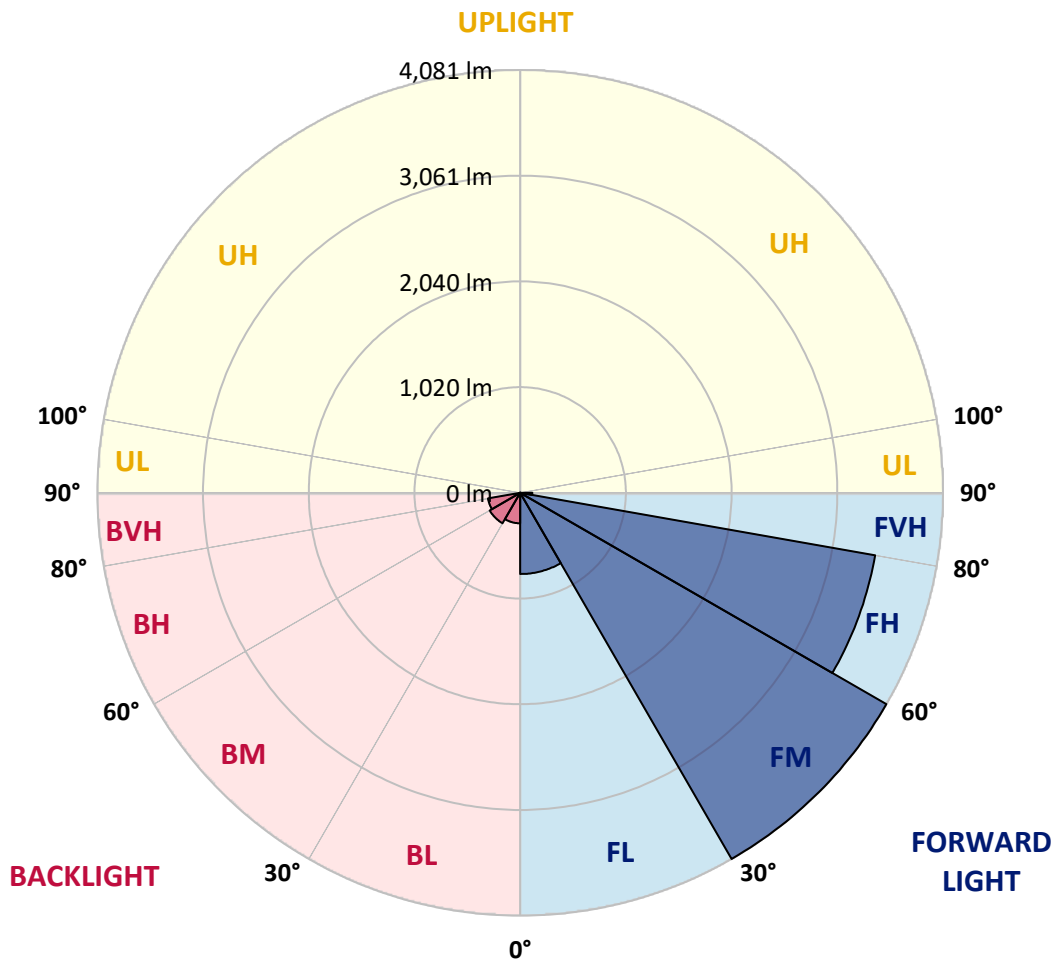
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	783.7	8.3			
FM (30°-60°)	4080.8	43.3			
FH (60°-80°)	3478.8	36.9			G2/5000
FVH (80°-90°)	117.9	1.3			G2/225
BL (0°-30°)	294.3	3.1	B1/500		
BM (30°-60°)	339.6	3.6	B1/1000		
BH (60°-80°)	315.1	3.3	B1/500		G1/500
BVH (80°-90°)	4.6	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°	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6
2.5°	2206.2	2207.7	2206.9	2209.1	2207.7	2196.5	2184.7	2159.6	2161.8	2129.4	2093.1
5°	2051.1	2063.6	2076.2	2088.7	2119.0	2145.7	2177.3	2184.7	2184.7	2156.7	2103.5
7.5°	1892.8	1893.6	1907.5	1924.6	1965.2	2013.9	2088.0	2154.5	2155.9	2163.4	2105.0
10°	1773.9	1777.5	1787.2	1805.6	1846.3	1894.3	1977.0	2081.3	2089.4	2144.1	2090.1
12.5°	1681.4	1685.9	1696.2	1717.7	1754.6	1804.1	1891.4	2010.4	2021.4	2125.6	2085.8
15°	1610.5	1616.4	1624.5	1646.0	1685.9	1738.4	1833.7	1963.1	1976.3	2118.2	2099.8
17.5°	1580.9	1580.9	1580.2	1594.9	1634.8	1688.0	1787.9	1937.9	1954.8	2124.1	2123.5
20°	1593.4	1591.3	1575.7	1572.0	1596.4	1649.7	1751.7	1921.7	1940.9	2135.3	2152.2
22.5°	1659.9	1655.6	1620.9	1592.0	1584.6	1620.1	1727.3	1910.5	1933.5	2158.2	2190.6
25°	1801.1	1787.9	1739.9	1674.8	1616.4	1612.6	1710.2	1904.6	1929.1	2184.7	2232.8
27.5°	1984.4	1980.8	1904.0	1816.7	1704.3	1637.1	1705.1	1900.2	1924.6	2204.0	2266.8
30°	2212.1	2213.6	2124.9	2011.0	1841.1	1705.9	1721.4	1898.0	1923.1	2205.4	2281.6
32.5°	2447.2	2448.6	2374.8	2252.7	2028.1	1824.1	1767.2	1908.3	1931.2	2199.5	2280.8
35°	2673.2	2675.5	2631.2	2532.8	2277.8	1988.2	1853.7	1943.8	1960.1	2203.2	2279.3
37.5°	2959.3	2968.2	2913.5	2821.8	2591.3	2229.1	1994.8	2015.5	2028.8	2233.6	2290.4
40°	3447.1	3435.3	3278.7	3123.4	2931.2	2522.5	2198.9	2139.0	2143.3	2311.9	2332.5
42.5°	4015.5	4000.7	3732.4	3464.8	3280.8	2876.6	2459.8	2328.1	2327.4	2443.5	2424.3
45°	4504.8	4495.9	4213.6	3856.7	3668.2	3267.5	2781.2	2600.9	2591.9	2671.1	2591.3
47.5°	4852.1	4844.8	4631.2	4273.4	4116.1	3697.7	3182.5	2972.6	2954.2	2968.9	2862.5
50°	4886.2	4878.0	4803.4	4573.5	4639.2	4328.9	3678.4	3459.7	3436.1	3413.2	3272.8
52.5°	4568.3	4567.6	4606.8	4591.9	5005.8	5141.0	4286.8	4062.0	4034.0	3975.6	3835.9
55°	3918.7	3915.0	4063.6	4279.3	4997.7	5979.2	5214.3	4779.0	4742.1	4625.3	4441.9
57.5°	2863.2	2844.0	3154.5	3611.9	4646.7	6345.9	6687.3	5669.6	5608.3	5238.0	4955.6
60°	1580.9	1588.3	1987.4	2529.2	3815.3	6273.4	8042.8	6708.0	6547.0	5766.3	5481.9
62.5°	886.2	904.6	1201.8	1643.7	2432.3	5685.9	8770.0	8495.1	8107.1	6382.8	6147.0
65°	670.3	681.4	830.7	1268.3	1533.6	3973.3	8886.0	10994.0	10659.3	7317.0	7206.2
67.5°	631.2	640.0	713.3	1051.7	1396.9	2060.6	8012.5	12472.2	12514.3	8591.2	8026.5
68°	635.7	646.7	719.9	1011.8	1394.7	1843.3	7640.0	12479.6	12568.9	8796.7	7998.5
70°	583.9	586.8	761.3	992.6	1351.7	1452.3	5526.9	11624.4	11784.8	9041.3	7260.9
72.5°	223.2	224.0	341.4	859.6	1416.1	1460.5	2784.2	9187.6	9195.8	7868.5	5660.7
75°	116.1	97.6	107.2	269.0	1352.5	1423.5	1396.9	6273.4	6234.3	5321.5	3468.6
77.5°	79.9	68.0	71.7	93.1	562.4	1422.8	1008.9	3607.5	3599.3	2263.9	989.7
80°	45.2	39.3	42.8	78.3	197.3	1335.5	940.1	1550.6	1461.3	397.6	160.4
82.5°	23.0	19.2	23.0	65.8	122.7	840.3	914.3	608.2	541.7	94.6	104.3
85°	5.9	5.9	11.0	45.8	76.2	275.7	819.7	439.0	394.7	41.4	73.9
87.5°	1.5	0.8	4.5	17.1	27.4	59.9	454.5	244.6	210.7	21.5	42.8
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°	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6	2097.6
2.5°	2078.3	2057.7	2017.0	1971.1	1938.6	1903.2	1882.4	1857.3	1838.1	1821.2	1833.7
5°	2070.9	2031.0	1940.9	1839.6	1754.6	1673.3	1612.6	1555.1	1511.5	1484.1	1495.2
7.5°	2051.7	1992.6	1846.3	1688.0	1549.2	1418.3	1311.8	1216.5	1142.7	1102.8	1115.3
10°	2019.2	1935.6	1739.1	1519.6	1325.2	1140.4	982.2	840.3	733.1	682.9	694.8
12.5°	1995.5	1885.4	1628.2	1357.0	1101.3	838.9	629.0	466.3	382.9	332.5	337.1
15°	1985.2	1846.3	1524.7	1185.5	856.6	538.7	340.1	246.2	217.3	206.9	207.7
17.5°	1986.7	1815.3	1426.5	1007.4	609.7	309.6	208.4	187.7	183.3	181.1	181.1
20°	1990.3	1784.2	1324.4	821.8	390.3	199.5	173.7	167.0	164.9	161.8	162.6
22.5°	2001.4	1760.5	1221.7	635.7	240.2	162.6	153.7	147.8	144.1	139.8	140.4
25°	2018.4	1742.8	1120.5	457.5	169.3	141.9	133.8	125.6	119.0	113.8	114.6
27.5°	2028.8	1717.7	1012.5	311.9	140.4	124.1	113.1	102.0	94.6	90.1	89.5
30°	2021.4	1677.0	889.9	204.8	124.1	107.2	93.9	81.3	73.9	70.3	70.3
32.5°	2001.4	1624.5	754.7	149.2	110.2	92.5	76.2	65.0	59.9	57.7	58.4
35°	1978.5	1569.8	610.5	126.4	99.0	78.3	62.1	53.2	51.1	50.3	50.3
37.5°	1966.0	1522.5	472.3	114.6	88.7	65.0	51.1	45.8	43.6	43.6	43.6
40°	1980.0	1486.4	349.6	105.7	78.3	54.0	42.8	39.3	38.5	38.5	38.5
42.5°	2039.9	1473.8	255.7	98.4	68.0	45.2	36.9	34.0	33.3	34.0	34.0
45°	2156.7	1501.1	193.6	90.9	58.4	36.9	31.8	29.6	29.6	30.3	30.3
47.5°	2354.7	1571.2	158.9	83.5	48.7	31.0	27.4	25.9	25.9	26.7	26.7
50°	2662.2	1701.3	142.7	75.4	40.7	26.7	23.0	22.2	22.2	23.0	23.6
52.5°	3129.3	1948.9	134.5	67.3	33.3	22.2	19.2	18.5	19.2	20.0	20.0
55°	3648.9	2266.0	124.9	59.1	28.1	18.5	15.6	15.6	16.3	17.7	17.7
57.5°	4133.0	2572.1	116.1	48.7	24.4	14.7	12.6	12.6	14.1	15.6	15.6
60°	4644.5	2872.1	104.3	39.3	20.6	11.8	10.4	10.4	12.6	14.1	14.7
62.5°	5276.3	3221.0	88.7	31.0	16.3	8.8	7.4	9.7	11.8	14.1	14.1
65°	6189.9	3654.8	69.5	24.4	12.6	6.7	5.9	8.8	11.0	13.3	14.1
67.5°	6521.8	3599.3	52.5	20.0	9.7	5.1	5.1	8.0	11.0	13.3	13.3
68°	6400.5	3478.2	50.3	19.2	8.8	5.1	5.1	8.0	11.0	13.3	13.3
70°	5577.1	2843.3	41.4	14.7	7.4	4.5	4.5	7.4	11.0	12.6	13.3
72.5°	4175.9	1889.1	35.5	9.7	6.7	4.5	3.8	7.4	10.4	12.6	12.6
75°	2395.4	784.2	30.3	7.4	5.9	3.8	3.8	6.7	10.4	12.6	12.6
77.5°	677.0	183.3	24.4	5.9	5.1	3.8	2.9	6.7	9.7	11.8	11.8
80°	124.1	54.7	19.2	5.1	4.5	3.8	2.9	6.7	9.7	11.8	11.8
82.5°	82.1	25.9	14.1	5.1	4.5	3.8	2.9	5.9	8.8	11.0	11.0
85°	61.3	18.5	8.8	5.1	4.5	3.8	2.9	5.9	8.8	11.0	11.0
87.5°	34.0	8.0	6.7	5.9	5.1	3.8	2.9	5.1	8.0	10.4	10.4
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)