

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: P197043

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197043
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9547 lumens
Efficiency: N/A
Efficacy: 99.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - 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

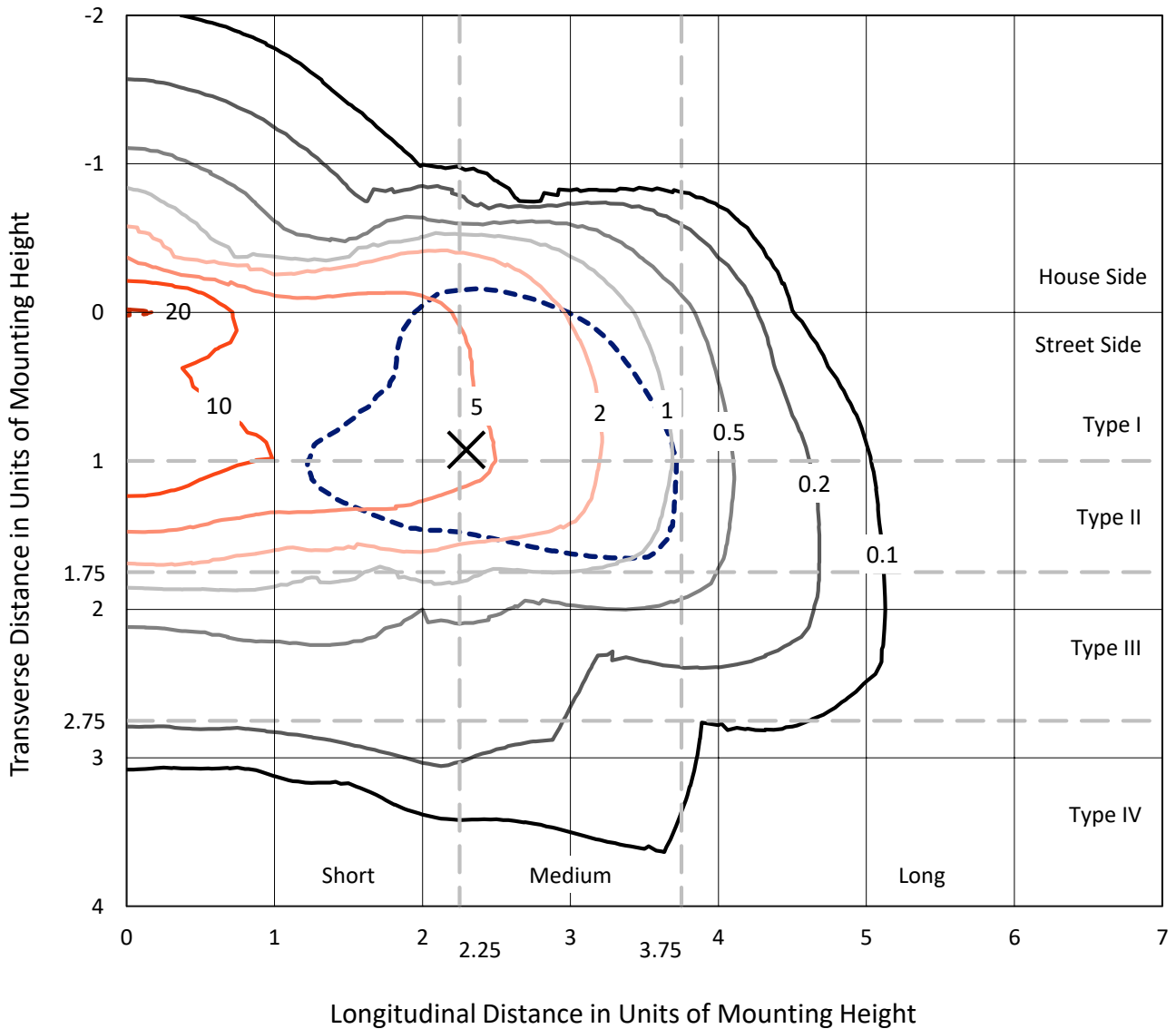


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Iso-Footcandle Lines of Horizontal Illumination

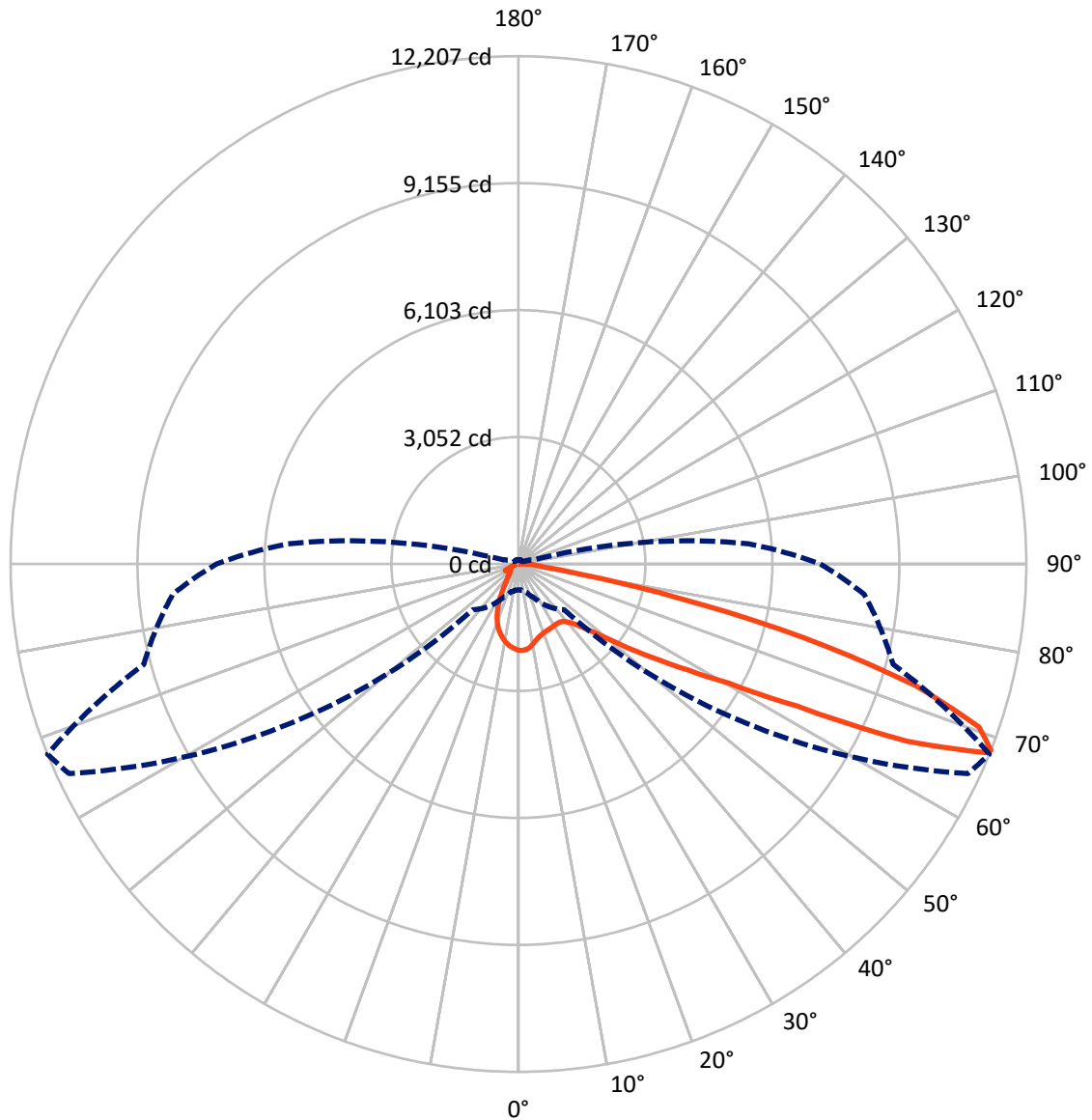
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1561.9	0.0	1561.9
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	7985.1	0.0	7985.1
	% Fixture	83.6	0.0	83.6
Total	Lumens	9547.0	0.0	9547.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.0	1.9
10°-20°	412.8	4.3
20°-30°	558.3	5.8
30°-40°	787.2	8.2
40°-50°	1294.5	13.6
50°-60°	2006.6	21.0
60°-70°	2601.7	27.3
70°-80°	1493.0	15.6
80°-90°	214.8	2.3
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°	9547.0	100.0
0°-180°	9547.0	100.0

Coefficient of Utilization



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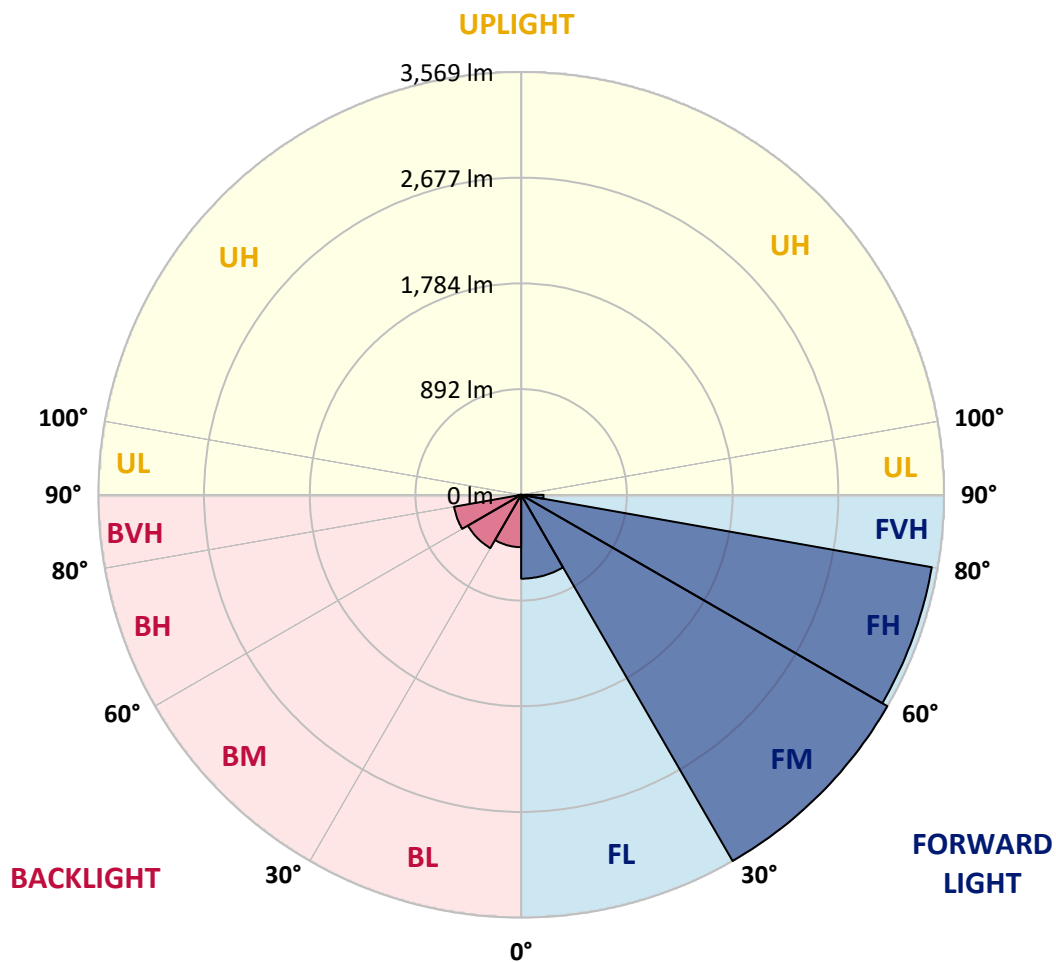
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	707.6	7.4			
FM (30°-60°)	3568.8	37.4			
FH (60°-80°)	3519.5	36.9			G2/5000
FVH (80°-90°)	189.2	2.0			G2/225
BL (0°-30°)	441.6	4.6	B1/500		
BM (30°-60°)	519.5	5.4	B1/1000		
BH (60°-80°)	575.2	6.0	B2/1000		G2/1000
BVH (80°-90°)	25.6	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3
2.5°	2021.8	2038.1	2038.1	2049.9	2060.5	2069.2	2076.7	2076.7	2076.7	2071.7	2067.4
5°	1809.2	1831.0	1834.1	1864.1	1903.3	1951.4	2005.0	2052.4	2061.8	2079.2	2086.1
7.5°	1661.4	1668.2	1680.1	1700.7	1740.6	1799.8	1884.0	1990.0	2015.6	2070.5	2099.2
10°	1556.6	1562.2	1572.2	1592.8	1628.9	1682.6	1765.5	1903.3	1945.8	2043.0	2099.8
12.5°	1479.9	1484.3	1493.6	1512.3	1549.1	1597.1	1682.0	1825.4	1877.8	2015.6	2108.5
15°	1420.0	1427.5	1435.0	1453.1	1490.5	1536.6	1622.7	1768.6	1825.4	1993.8	2124.7
17.5°	1396.3	1400.1	1401.3	1410.7	1444.3	1491.1	1577.2	1728.7	1787.3	1976.3	2137.2
20°	1411.3	1411.9	1399.4	1393.2	1412.5	1455.6	1539.1	1698.8	1758.7	1960.7	2142.2
22.5°	1476.8	1476.8	1444.3	1416.9	1403.8	1430.6	1513.6	1678.2	1743.1	1948.9	2142.2
25°	1601.5	1595.9	1545.4	1491.1	1433.1	1421.9	1497.4	1665.1	1731.2	1942.6	2134.1
27.5°	1765.5	1760.5	1696.3	1615.8	1511.1	1440.6	1491.7	1654.5	1719.4	1933.3	2116.6
30°	1965.1	1960.7	1887.8	1782.4	1627.7	1499.9	1504.8	1647.0	1710.0	1917.7	2087.3
32.5°	2164.0	2161.5	2103.5	1995.6	1788.6	1600.3	1539.1	1645.8	1705.0	1899.0	2051.8
35°	2364.2	2364.2	2328.7	2237.6	2005.0	1751.2	1610.9	1668.9	1714.4	1889.0	2021.2
37.5°	2659.8	2648.0	2581.9	2487.7	2277.5	1947.0	1726.9	1717.5	1750.6	1905.8	2011.2
40°	3117.6	3083.3	2918.0	2759.6	2575.0	2197.7	1896.5	1811.7	1831.6	1963.2	2034.9
42.5°	3596.5	3542.3	3323.4	3070.2	2882.5	2507.0	2119.1	1964.5	1963.8	2074.2	2110.4
45°	4007.5	3979.4	3742.5	3421.3	3233.6	2855.0	2400.4	2191.5	2169.0	2246.3	2255.7
47.5°	4246.4	4227.6	4084.8	3793.0	3650.2	3266.0	2757.1	2506.4	2464.0	2510.1	2495.8
50°	4180.3	4198.3	4157.2	4008.1	4097.9	3843.5	3211.7	2938.0	2857.5	2903.7	2868.7
52.5°	3832.3	3880.9	3917.7	3946.4	4355.5	4616.2	3783.0	3476.8	3410.1	3402.0	3368.3
55°	3205.5	3282.8	3398.8	3609.6	4286.3	5236.7	4780.8	4128.5	4031.2	3980.1	3993.2
57.5°	2181.5	2298.7	2548.8	2949.8	3926.4	5501.1	6256.3	4970.4	4805.8	4623.7	4666.1
60°	1201.8	1299.7	1597.1	2001.3	3105.1	5461.8	7564.1	6338.7	5820.4	5337.7	5425.0
62.5°	777.7	798.9	1020.3	1367.0	1905.8	4822.0	8290.7	8625.6	7527.3	6279.4	6402.3
65°	624.9	639.9	748.4	1102.6	1327.7	3102.0	8323.1	10997.9	10273.8	7559.1	7562.9
67.5°	610.5	617.4	680.4	927.4	1245.4	1688.8	7194.3	11933.3	12101.1	9069.6	8339.3
68°	619.3	627.4	691.0	898.7	1244.8	1556.6	6649.2	11919.0	12206.5	9322.2	8339.3
70°	546.3	556.3	704.7	929.8	1191.8	1338.3	4553.2	11286.0	11748.7	9902.8	7912.7
72.5°	285.6	277.5	348.6	734.0	1341.4	1394.5	2405.4	9428.8	9968.9	9171.2	6836.3
75°	222.6	202.7	195.2	290.0	1179.9	1446.2	1397.0	6701.6	7109.5	6611.2	4569.4
77.5°	209.5	185.2	170.9	171.5	519.5	1504.8	1130.0	3943.9	3943.9	3153.7	1458.1
80°	168.4	145.9	136.6	155.9	250.7	1387.0	1179.3	1797.3	1532.9	815.1	401.6
82.5°	111.0	99.2	99.8	126.6	190.2	926.1	1365.8	887.4	666.7	361.1	236.4
85°	70.5	60.5	67.4	88.6	142.2	412.8	1352.0	616.8	441.5	202.7	117.9
87.5°	35.5	27.4	33.7	46.1	86.7	118.5	1113.2	550.7	327.4	84.2	64.2
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°	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3	2077.3
2.5°	2067.4	2053.6	2046.8	2035.6	2021.8	2008.1	1998.8	1994.4	1991.9	1993.2	1992.5
5°	2082.3	2064.2	2034.9	1993.2	1950.1	1904.6	1869.7	1842.9	1826.0	1821.0	1819.8
7.5°	2093.6	2067.4	2012.5	1936.4	1862.8	1783.0	1715.0	1660.8	1624.0	1607.1	1606.5
10°	2091.7	2058.0	1971.3	1859.1	1751.2	1633.9	1527.3	1436.2	1370.1	1338.3	1337.1
12.5°	2093.6	2047.4	1920.8	1768.6	1614.0	1446.2	1287.8	1146.2	1047.7	1000.9	999.1
15°	2101.0	2036.2	1869.0	1667.6	1453.7	1216.7	990.3	812.6	722.8	692.2	692.2
17.5°	2100.4	2017.5	1809.2	1550.4	1263.5	946.1	676.0	566.3	557.5	585.6	590.0
20°	2087.9	1987.5	1731.8	1411.3	1040.2	654.8	458.4	442.8	512.6	590.0	598.7
22.5°	2068.6	1948.9	1642.7	1249.8	780.2	426.6	353.6	377.3	472.1	568.1	581.9
25°	2041.8	1902.1	1540.4	1062.1	518.9	306.8	295.0	324.3	391.0	455.3	465.2
27.5°	2002.5	1842.9	1428.8	858.8	331.2	252.6	256.9	277.5	306.2	333.6	339.3
30°	1953.2	1773.6	1307.1	633.6	251.3	225.8	233.2	245.7	258.2	275.6	279.4
32.5°	1903.3	1703.2	1180.5	435.3	219.5	211.4	218.9	225.8	236.4	248.2	250.7
35°	1858.4	1637.7	1050.2	303.7	205.8	202.1	205.8	210.2	220.8	232.6	233.9
37.5°	1826.0	1584.0	914.3	240.1	197.7	194.0	195.8	197.7	210.2	227.6	229.5
40°	1821.6	1548.5	776.4	215.8	191.5	186.5	185.2	186.5	202.7	222.6	224.5
42.5°	1864.1	1550.4	641.7	205.8	186.5	180.9	175.9	178.4	192.7	208.3	209.5
45°	1964.5	1594.0	525.1	201.4	182.1	177.7	170.3	171.5	178.4	186.5	187.7
47.5°	2141.6	1689.4	435.9	198.9	178.4	174.6	165.3	161.5	162.1	166.5	166.5
50°	2424.7	1849.1	381.7	196.4	175.2	168.4	157.8	150.3	148.4	150.9	151.5
52.5°	2846.9	2122.9	355.5	191.5	169.6	160.3	148.4	140.9	137.8	140.3	140.3
55°	3417.5	2560.0	343.0	184.6	162.8	150.3	139.7	133.5	131.0	132.8	132.8
57.5°	4068.0	3128.2	364.2	175.2	154.0	139.7	132.2	127.8	126.0	127.8	128.5
60°	4840.7	3871.6	510.1	163.4	144.7	130.3	126.0	123.5	122.2	124.1	124.1
62.5°	5867.8	4860.6	789.5	154.0	134.7	121.6	120.4	119.1	117.9	119.7	119.7
65°	6976.7	5760.6	812.6	148.4	126.0	114.1	114.7	114.7	113.5	115.4	115.4
67.5°	7329.6	5682.6	454.0	141.6	115.4	106.6	109.1	109.1	108.5	110.4	109.8
68°	7254.8	5559.1	395.4	139.7	113.5	104.8	107.3	107.9	107.3	109.1	108.5
70°	6697.3	4880.6	260.1	129.1	105.4	98.5	102.3	102.9	102.3	104.8	104.1
72.5°	5528.6	3660.8	192.1	112.9	95.4	90.4	94.2	94.8	95.4	97.9	97.3
75°	3511.1	2021.8	151.5	96.0	85.4	81.1	84.8	86.7	87.9	91.7	89.8
77.5°	961.7	613.7	122.9	81.7	73.6	71.7	74.2	76.7	78.0	82.3	79.2
80°	336.8	271.3	102.3	69.2	61.1	60.5	63.0	65.5	66.7	70.5	66.7
82.5°	204.6	177.1	81.7	54.3	48.0	47.4	50.5	53.0	54.3	54.3	51.8
85°	106.6	93.5	59.9	38.0	33.1	31.2	36.8	39.9	40.5	39.9	38.0
87.5°	59.9	53.0	31.8	18.1	15.0	15.6	19.3	23.7	25.6	24.9	23.7
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)