

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: P196574

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196574
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-02-D-UNV-SL2-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1050mA 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: 11548.7 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

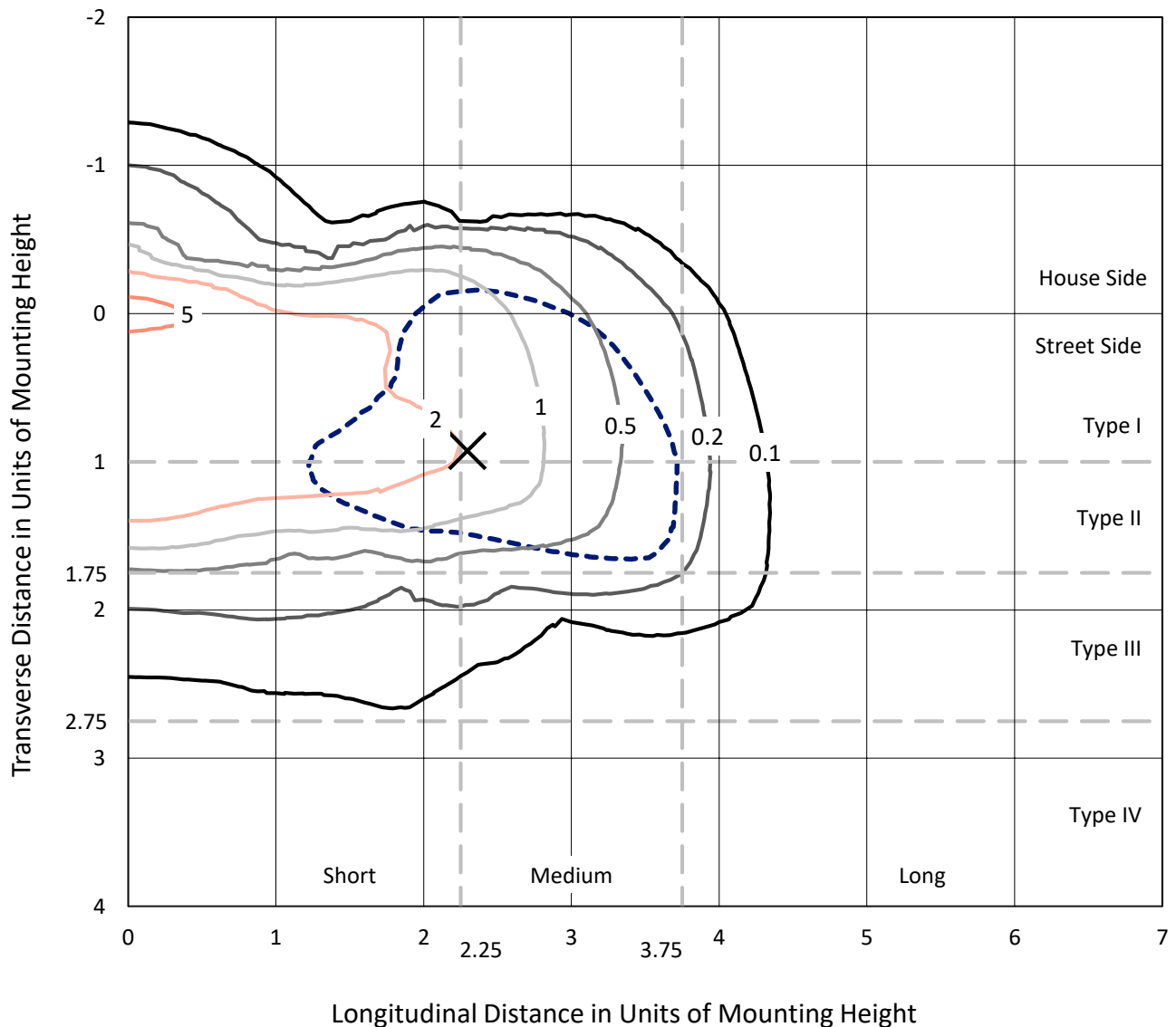
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

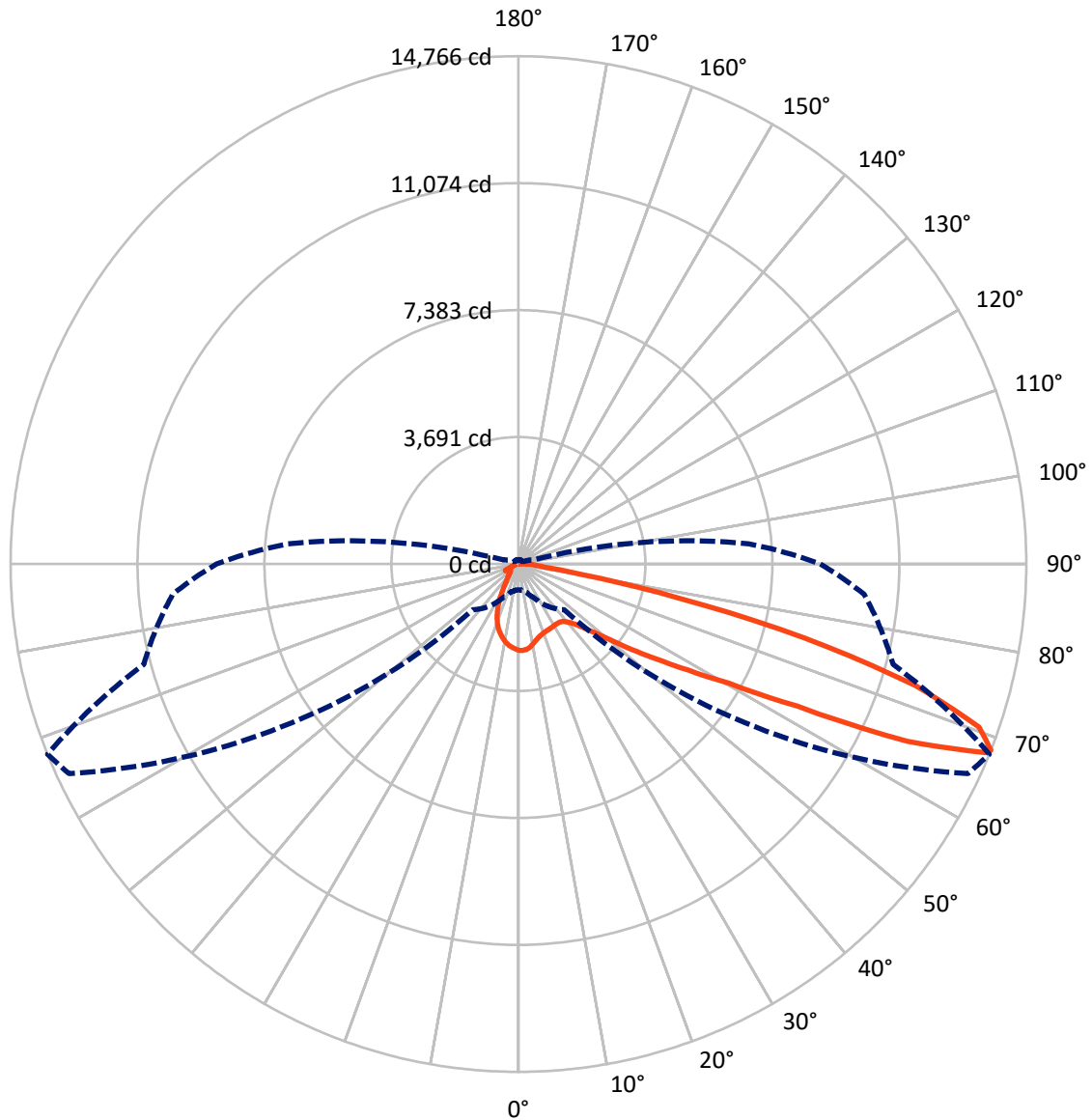
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.3 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	1889.4	0.0	1889.4
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	9659.3	0.0	9659.3
	% Fixture	83.6	0.0	83.6
Total	Lumens	11548.7	0.0	11548.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.3	1.9
10°-20°	499.4	4.3
20°-30°	675.4	5.8
30°-40°	952.3	8.2
40°-50°	1565.9	13.6
50°-60°	2427.3	21.0
60°-70°	3147.2	27.3
70°-80°	1806.0	15.6
80°-90°	259.9	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°	11548.7	100.0
0°-180°	11548.7	100.0



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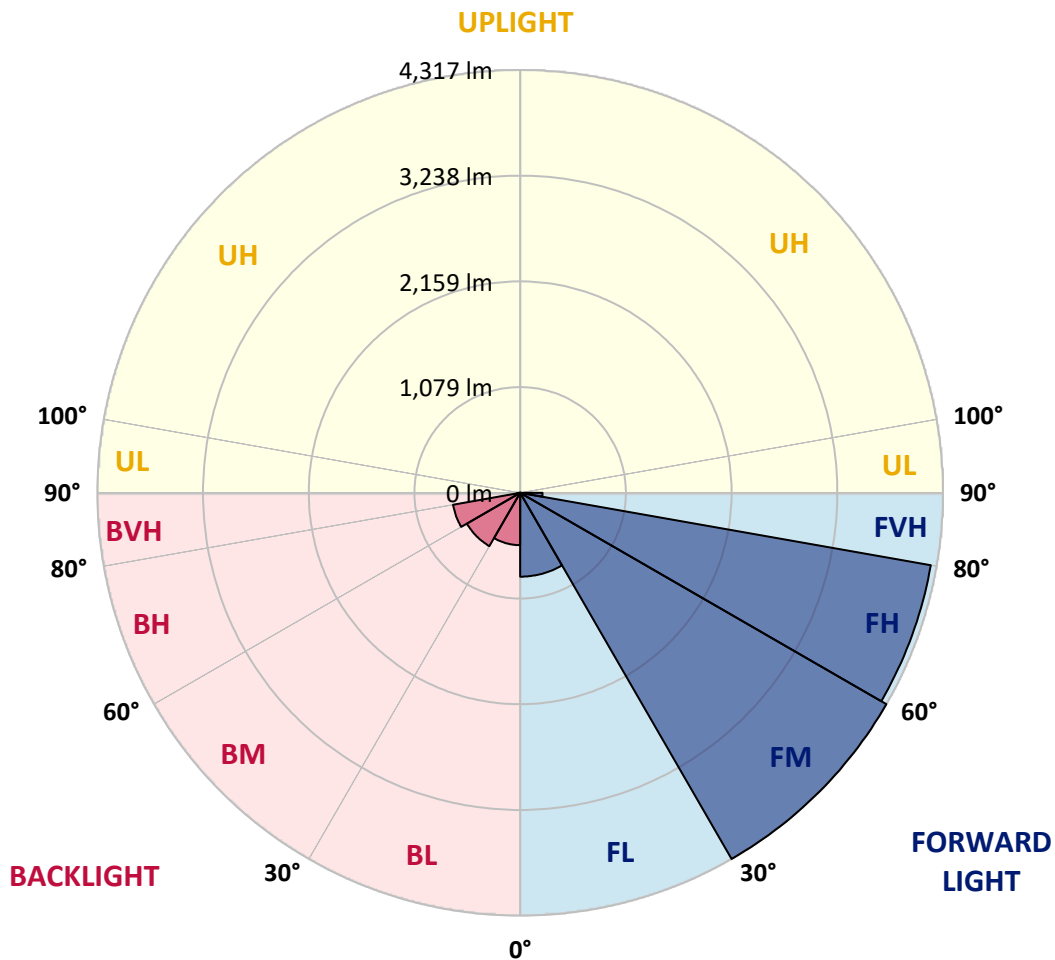
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	855.9	7.4			
FM	(30°-60°)	4317.1	37.4			
FH	(60°-80°)	4257.4	36.9			G2/5000
FVH	(80°-90°)	228.9	2.0			G3/500
BL	(0°-30°)	534.1	4.6	B2/1000		
BM	(30°-60°)	628.4	5.4	B1/1000		
BH	(60°-80°)	695.8	6.0	B2/1000		G2/1000
BVH	(80°-90°)	31.0	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-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9
2.5°	2445.8	2465.3	2465.3	2479.7	2492.5	2503.1	2512.1	2512.1	2512.1	2506.1	2500.8
5°	2188.5	2214.9	2218.7	2254.9	2302.4	2360.5	2425.3	2482.7	2494.1	2515.1	2523.5
7.5°	2009.8	2018.0	2032.3	2057.3	2105.5	2177.2	2279.0	2407.3	2438.2	2504.5	2539.3
10°	1883.0	1889.7	1901.8	1926.7	1970.5	2035.4	2135.7	2302.4	2353.7	2471.5	2540.1
12.5°	1790.2	1795.4	1806.8	1829.4	1873.9	1932.0	2034.6	2208.1	2271.5	2438.2	2550.6
15°	1717.8	1726.9	1735.9	1757.8	1803.0	1858.8	1963.0	2139.6	2208.1	2411.8	2570.3
17.5°	1689.1	1693.6	1695.1	1706.4	1747.2	1803.8	1907.8	2091.2	2162.1	2390.7	2585.3
20°	1707.1	1707.9	1692.9	1685.4	1708.7	1760.7	1861.9	2054.9	2127.4	2371.8	2591.3
22.5°	1786.4	1786.4	1747.2	1714.0	1698.1	1730.5	1830.9	2030.0	2108.4	2357.5	2591.3
25°	1937.2	1930.5	1869.4	1803.8	1733.6	1720.1	1811.3	2014.2	2094.2	2349.9	2581.6
27.5°	2135.7	2129.7	2052.0	1954.6	1827.9	1742.6	1804.5	2001.4	2079.9	2338.5	2560.4
30°	2377.2	2371.8	2283.5	2156.0	1969.0	1814.4	1820.4	1992.4	2068.6	2319.8	2525.0
32.5°	2617.8	2614.8	2544.5	2414.1	2163.7	1935.7	1861.9	1990.8	2062.5	2297.1	2482.0
35°	2860.0	2860.0	2816.9	2706.8	2425.3	2118.3	1948.6	2018.8	2073.8	2285.0	2445.0
37.5°	3217.4	3203.2	3123.1	3009.3	2755.1	2355.2	2088.9	2077.6	2117.6	2305.5	2432.8
40°	3771.2	3729.8	3529.8	3338.2	3114.9	2658.5	2294.1	2191.5	2215.7	2374.9	2461.6
42.5°	4350.6	4284.9	4020.2	3713.9	3486.8	3032.7	2563.4	2376.4	2375.7	2509.1	2552.9
45°	4847.8	4813.9	4527.1	4138.6	3911.6	3453.5	2903.7	2650.9	2623.8	2717.4	2728.6
47.5°	5136.8	5114.1	4941.2	4588.3	4415.5	3950.9	3335.1	3032.0	2980.6	3036.5	3019.1
50°	5056.7	5078.6	5028.7	4848.5	4957.1	4649.3	3885.2	3553.9	3456.6	3512.4	3470.2
52.5°	4635.8	4694.7	4739.1	4773.9	5268.7	5584.0	4576.3	4205.7	4125.1	4115.2	4074.5
55°	3877.6	3971.1	4111.4	4366.4	5185.0	6334.7	5783.2	4994.1	4876.5	4814.5	4830.4
57.5°	2638.8	2780.7	3083.2	3568.3	4749.7	6654.6	7568.1	6012.5	5813.3	5593.1	5644.5
60°	1453.7	1572.1	1932.0	2420.8	3756.2	6607.0	9150.0	7667.7	7040.7	6456.9	6562.5
62.5°	940.7	966.4	1234.2	1653.6	2305.5	5833.1	10028.9	10434.0	9105.5	7596.0	7744.7
65°	755.8	774.0	905.3	1333.7	1606.1	3752.4	10068.1	13303.7	12427.9	9144.0	9148.6
67.5°	738.6	746.9	823.0	1121.8	1506.5	2042.9	8702.7	14435.4	14638.3	10971.2	10087.8
68°	749.1	759.0	835.9	1087.1	1505.8	1883.0	8043.3	14418.1	14765.9	11276.7	10087.8
70°	660.8	672.9	852.4	1124.9	1441.6	1618.9	5507.9	13652.3	14212.1	11979.0	9571.7
72.5°	345.5	335.8	421.7	888.0	1622.7	1686.9	2909.7	11405.7	12059.1	11094.1	8269.8
75°	269.4	245.2	236.1	350.8	1427.4	1749.5	1689.8	8106.7	8600.2	7997.3	5527.4
77.5°	253.5	224.1	206.7	207.5	628.5	1820.4	1367.0	4770.8	4770.8	3815.0	1763.8
80°	203.7	176.6	165.2	188.6	303.3	1677.7	1426.6	2174.2	1854.3	985.9	485.8
82.5°	134.3	119.9	120.7	153.2	230.1	1120.2	1652.1	1073.5	806.5	436.8	285.9
85°	85.2	73.2	81.5	107.1	172.0	499.5	1635.5	746.1	534.1	245.2	142.6
87.5°	43.0	33.3	40.8	55.8	104.9	143.3	1346.6	666.2	396.1	101.8	77.7
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°	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9	2512.9
2.5°	2500.8	2484.2	2476.0	2462.3	2445.8	2429.2	2417.8	2412.6	2409.5	2411.1	2410.3
5°	2519.0	2497.0	2461.6	2411.1	2359.0	2304.0	2261.6	2229.2	2208.9	2202.8	2201.3
7.5°	2532.5	2500.8	2434.4	2342.4	2253.4	2156.8	2074.7	2009.0	1964.5	1944.0	1943.2
10°	2530.2	2489.5	2384.7	2248.9	2118.3	1976.5	1847.5	1737.3	1657.5	1618.9	1617.5
12.5°	2532.5	2476.7	2323.5	2139.6	1952.4	1749.5	1557.8	1386.6	1267.4	1210.8	1208.5
15°	2541.6	2463.1	2260.9	2017.3	1758.5	1471.8	1198.0	983.0	874.3	837.4	837.4
17.5°	2540.9	2440.6	2188.5	1875.4	1528.4	1144.4	817.8	684.9	674.4	708.3	713.7
20°	2525.7	2404.2	2094.9	1707.1	1258.3	792.1	554.5	535.6	620.1	713.7	724.2
22.5°	2502.4	2357.5	1987.1	1511.8	943.8	516.0	427.7	456.3	571.1	687.2	703.8
25°	2470.0	2300.9	1863.3	1284.8	627.7	371.2	356.8	392.2	473.0	550.6	562.8
27.5°	2422.4	2229.2	1728.4	1038.8	400.6	305.5	310.9	335.8	370.4	403.6	410.4
30°	2362.7	2145.6	1581.2	766.5	304.1	273.0	282.1	297.1	312.4	333.5	337.9
32.5°	2302.4	2060.3	1428.0	526.5	265.5	255.7	264.9	273.0	285.9	300.3	303.3
35°	2248.1	1981.1	1270.3	367.4	249.0	244.4	249.0	254.2	267.0	281.4	282.9
37.5°	2208.9	1916.2	1105.9	290.4	239.2	234.6	236.9	239.2	254.2	275.4	277.6
40°	2203.5	1873.1	939.2	261.0	231.6	225.5	224.1	225.5	245.2	269.4	271.6
42.5°	2254.9	1875.4	776.3	249.0	225.5	218.7	212.7	215.8	233.2	252.0	253.5
45°	2376.4	1928.2	635.3	243.6	220.2	215.0	206.0	207.5	215.8	225.5	227.0
47.5°	2590.6	2043.7	527.2	240.7	215.8	211.2	200.0	195.3	196.1	201.5	201.5
50°	2933.1	2236.7	461.7	237.6	212.0	203.7	190.8	181.8	179.5	182.6	183.3
52.5°	3443.9	2567.9	430.1	231.6	205.2	193.8	179.5	170.5	166.7	169.8	169.8
55°	4134.1	3096.9	414.9	223.3	196.8	181.8	169.1	161.4	158.4	160.7	160.7
57.5°	4920.9	3784.0	440.6	212.0	186.3	169.1	159.9	154.6	152.4	154.6	155.3
60°	5855.6	4683.3	617.1	197.6	175.1	157.7	152.4	149.3	147.8	150.1	150.1
62.5°	7098.1	5879.8	955.0	186.3	162.9	147.1	145.7	144.1	142.6	144.9	144.9
65°	8439.4	6968.3	983.0	179.5	152.4	138.1	138.8	138.8	137.3	139.6	139.6
67.5°	8866.4	6874.0	549.2	171.2	139.6	129.0	131.9	131.9	131.2	133.6	132.8
68°	8775.9	6724.7	478.3	169.1	137.3	126.7	129.8	130.6	129.8	131.9	131.2
70°	8101.5	5904.0	314.5	156.1	127.5	119.2	123.7	124.4	123.7	126.7	125.9
72.5°	6687.8	4428.3	232.4	136.6	115.4	109.4	113.9	114.7	115.4	118.4	117.7
75°	4247.2	2445.8	183.3	116.2	103.4	98.2	102.6	104.9	106.4	110.9	108.6
77.5°	1163.3	742.3	148.6	98.9	89.0	86.8	89.8	92.8	94.3	99.5	95.8
80°	407.4	328.3	123.7	83.7	74.0	73.2	76.2	79.2	80.8	85.2	80.8
82.5°	247.5	214.2	98.9	65.7	58.1	57.4	61.0	64.1	65.7	65.7	62.6
85°	129.0	113.2	72.4	46.0	40.0	37.7	44.5	48.3	49.0	48.3	46.0
87.5°	72.4	64.1	38.5	21.9	18.1	18.9	23.4	28.6	30.9	30.1	28.6
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)