

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: P195123

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195123
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-SL2-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 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: 11700 lumens
Efficiency: N/A
Efficacy: 121.9 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 - G3

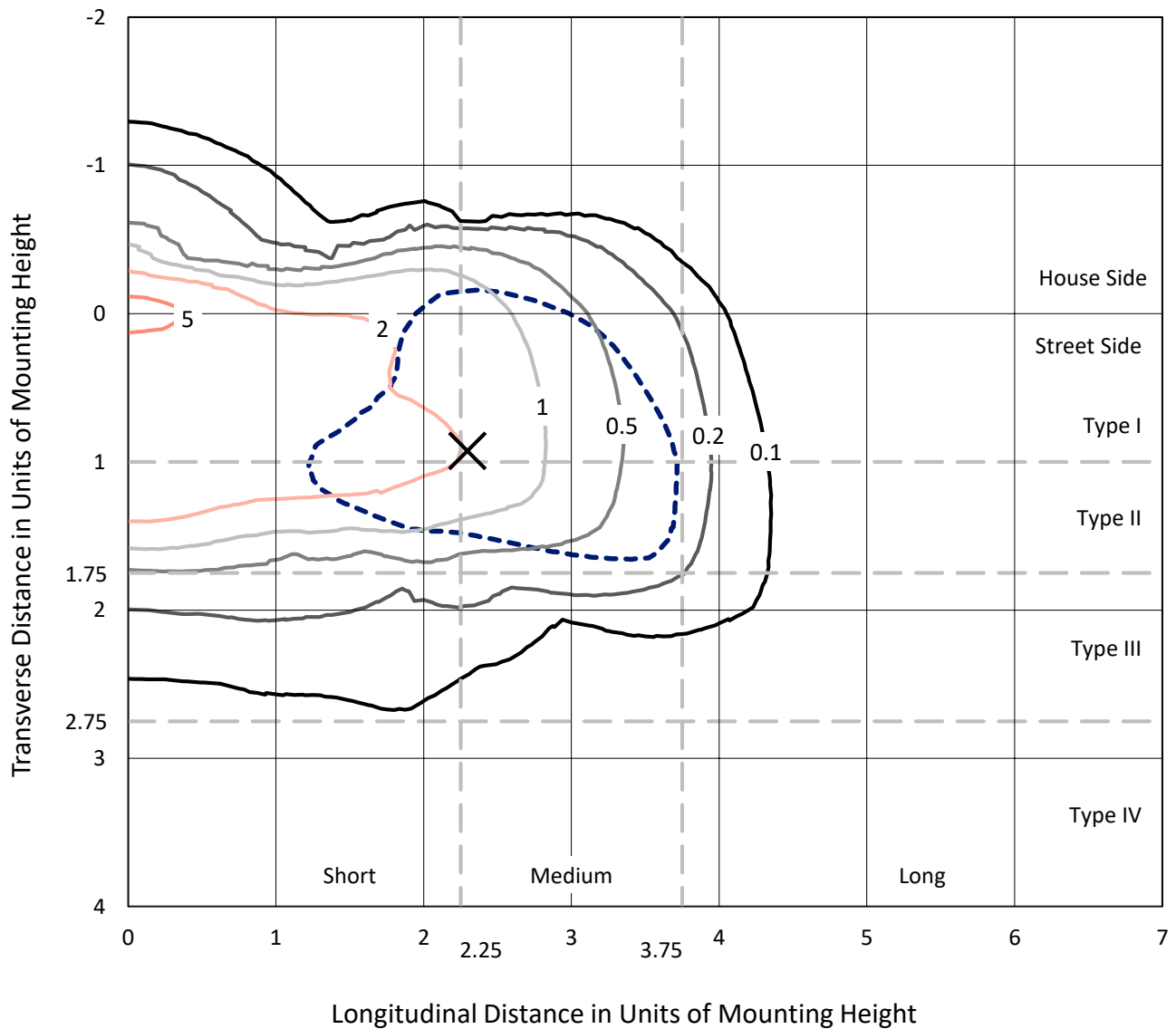
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

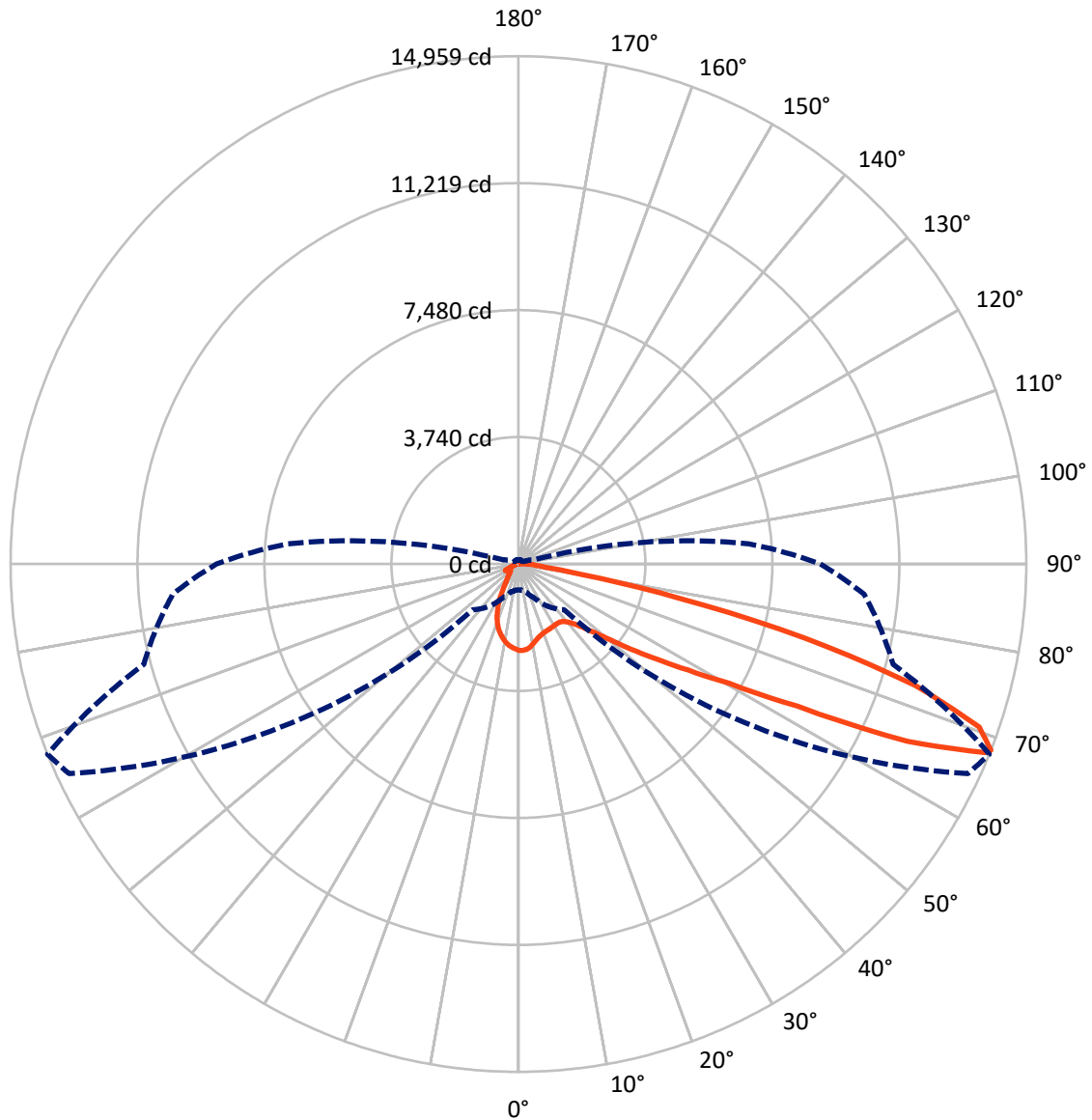
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.4 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	1914.1	0.0	1914.1
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	9785.8	0.0	9785.8
	% Fixture	83.6	0.0	83.6
Total	Lumens	11700.0	0.0	11700.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.1	1.9
10°-20°	505.9	4.3
20°-30°	684.3	5.8
30°-40°	964.8	8.2
40°-50°	1586.4	13.6
50°-60°	2459.1	21.0
60°-70°	3188.4	27.3
70°-80°	1829.7	15.6
80°-90°	263.3	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°	11700.0	100.0
0°-180°	11700.0	100.0



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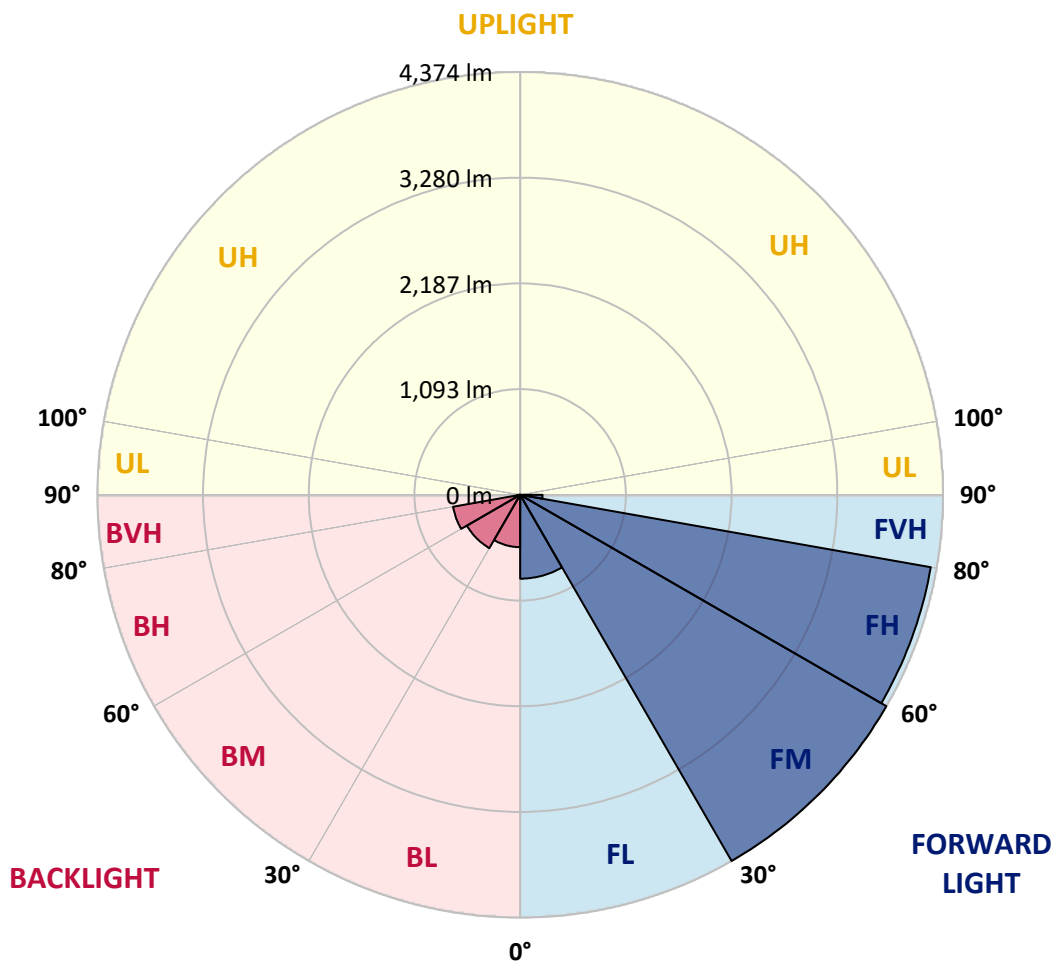
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	867.2	7.4			
FM (30°-60°)	4373.7	37.4			
FH (60°-80°)	4313.2	36.9			G2/5000
FVH (80°-90°)	231.9	2.0			G3/500
BL (0°-30°)	541.1	4.6	B2/1000		
BM (30°-60°)	636.7	5.4	B1/1000		
BH (60°-80°)	705.0	6.0	B2/1000		G2/1000
BVH (80°-90°)	31.4	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°	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8
2.5°	2477.8	2497.7	2497.7	2512.2	2525.2	2535.9	2545.1	2545.1	2545.1	2538.9	2533.6
5°	2217.2	2243.9	2247.7	2284.4	2332.6	2391.4	2457.2	2515.2	2526.7	2548.1	2556.5
7.5°	2036.0	2044.4	2059.0	2084.2	2133.1	2205.7	2308.9	2438.8	2470.2	2537.4	2572.6
10°	1907.6	1914.5	1926.7	1952.0	1996.3	2062.0	2163.7	2332.6	2384.6	2503.8	2573.3
12.5°	1813.6	1819.0	1830.4	1853.4	1898.5	1957.3	2061.3	2237.0	2301.2	2470.2	2584.0
15°	1740.3	1749.4	1758.6	1780.8	1826.6	1883.2	1988.7	2167.5	2237.0	2443.4	2603.9
17.5°	1711.2	1715.8	1717.3	1728.8	1770.1	1827.4	1932.9	2118.6	2190.4	2422.0	2619.2
20°	1729.6	1730.3	1715.0	1707.4	1731.1	1783.8	1886.2	2081.9	2155.3	2402.9	2625.3
22.5°	1809.8	1809.8	1770.1	1736.4	1720.4	1753.3	1854.9	2056.7	2136.2	2388.4	2625.3
25°	1962.7	1955.8	1893.9	1827.4	1756.3	1742.6	1835.0	2040.6	2121.6	2380.7	2615.4
27.5°	2163.7	2157.6	2078.8	1980.2	1851.8	1765.5	1828.2	2027.6	2107.1	2369.3	2594.0
30°	2408.2	2402.9	2313.5	2184.3	1994.8	1838.1	1844.2	2018.5	2095.7	2350.2	2558.0
32.5°	2652.1	2649.0	2577.9	2445.7	2192.0	1961.1	1886.2	2016.9	2089.5	2327.2	2514.5
35°	2897.4	2897.4	2853.8	2742.2	2457.2	2146.1	1974.1	2045.2	2101.0	2315.0	2477.0
37.5°	3259.7	3245.1	3164.1	3048.7	2791.1	2386.1	2116.3	2104.8	2145.3	2335.6	2464.8
40°	3820.6	3778.6	3576.1	3381.9	3155.7	2693.3	2324.2	2220.2	2244.7	2406.0	2493.8
42.5°	4407.6	4341.1	4072.8	3762.5	3532.5	3072.4	2597.0	2407.5	2406.7	2542.0	2586.3
45°	4911.3	4876.9	4586.4	4192.8	3962.8	3498.9	2941.7	2685.7	2658.2	2752.9	2764.4
47.5°	5204.0	5181.1	5006.0	4648.3	4473.3	4002.5	3378.9	3071.6	3019.7	3076.2	3058.6
50°	5123.0	5145.1	5094.7	4912.0	5022.1	4710.3	3936.0	3600.5	3501.9	3558.5	3515.7
52.5°	4696.5	4756.1	4801.2	4836.4	5337.7	5657.2	4636.1	4260.9	4179.1	4169.1	4127.9
55°	3928.4	4023.2	4165.3	4423.7	5252.9	6417.7	5859.0	5059.5	4940.3	4877.6	4893.7
57.5°	2673.5	2817.1	3123.6	3615.0	4811.9	6741.7	7667.3	6091.3	5889.5	5666.4	5718.3
60°	1472.8	1592.8	1957.3	2452.6	3805.3	6693.6	9269.9	7768.1	7133.0	6541.5	6648.5
62.5°	953.1	979.0	1250.4	1675.3	2335.6	5909.4	10160.3	10570.8	9224.9	7695.5	7846.1
65°	765.8	784.2	917.1	1351.2	1627.2	3801.5	10200.1	13478.1	12590.7	9263.8	9268.4
67.5°	748.2	756.6	833.8	1136.5	1526.3	2069.7	8816.7	14624.5	14830.1	11114.9	10219.9
68°	758.9	768.9	846.8	1101.3	1525.5	1907.6	8148.7	14606.9	14959.2	11424.5	10219.9
70°	669.5	681.7	863.6	1139.5	1460.5	1640.1	5580.0	13831.2	14398.3	12136.0	9697.2
72.5°	350.0	340.1	427.2	899.6	1644.0	1708.9	2947.8	11555.1	12217.0	11239.5	8378.0
75°	272.8	248.4	239.2	355.4	1446.0	1772.4	1712.0	8212.9	8712.8	8102.1	5599.9
77.5°	256.8	227.0	209.4	210.2	636.6	1844.2	1384.9	4833.3	4833.3	3865.0	1786.9
80°	206.4	178.8	167.4	191.1	307.2	1699.8	1445.3	2202.7	1878.6	998.9	492.2
82.5°	136.0	121.5	122.3	155.1	233.1	1135.0	1673.8	1087.6	817.0	442.5	289.7
85°	86.4	74.1	82.5	108.5	174.3	506.0	1657.0	755.9	541.1	248.4	144.4
87.5°	43.6	33.6	41.3	56.6	106.2	145.2	1364.2	674.9	401.2	103.2	78.7
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°	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8	2545.8
2.5°	2533.6	2516.8	2508.4	2494.6	2477.8	2461.0	2449.5	2444.2	2441.1	2442.6	2441.9
5°	2551.9	2529.8	2493.8	2442.6	2389.9	2334.1	2291.3	2258.4	2237.8	2231.7	2230.2
7.5°	2565.7	2533.6	2466.3	2373.1	2282.9	2185.1	2101.8	2035.3	1990.2	1969.5	1968.8
10°	2563.4	2522.1	2415.9	2278.3	2146.1	2002.4	1871.7	1760.1	1679.1	1640.1	1638.6
12.5°	2565.7	2509.1	2354.0	2167.5	1978.0	1772.4	1578.2	1404.7	1284.0	1226.7	1224.4
15°	2574.9	2495.4	2290.5	2043.7	1781.5	1491.1	1213.7	995.9	885.8	848.4	848.4
17.5°	2574.1	2472.4	2217.2	1900.0	1548.4	1159.4	828.5	694.0	683.3	717.7	723.0
20°	2558.8	2435.8	2122.4	1729.6	1274.8	802.5	561.7	542.6	628.2	723.0	733.7
22.5°	2535.1	2388.4	2013.1	1531.6	956.1	522.8	433.3	462.4	578.6	696.3	713.1
25°	2502.3	2331.1	1887.8	1301.6	635.9	376.0	361.5	397.4	479.2	557.9	570.2
27.5°	2454.1	2258.4	1751.0	1052.4	405.8	309.5	314.9	340.1	375.3	408.9	415.8
30°	2393.7	2173.6	1601.9	776.5	308.0	276.7	285.8	301.1	316.4	337.8	342.4
32.5°	2332.6	2087.2	1446.8	533.5	269.0	259.1	268.3	276.7	289.7	304.2	307.2
35°	2277.6	2007.0	1287.0	372.2	252.2	247.6	252.2	257.6	270.6	285.1	286.6
37.5°	2237.8	1941.3	1120.4	294.2	242.3	237.7	240.0	242.3	257.6	279.0	281.3
40°	2232.5	1897.7	951.5	264.4	234.6	228.5	227.0	228.5	248.4	272.8	275.1
42.5°	2284.4	1900.0	786.4	252.2	228.5	221.6	215.5	218.6	236.2	255.3	256.8
45°	2407.5	1953.5	643.5	246.9	223.2	217.8	208.6	210.2	218.6	228.5	230.0
47.5°	2624.5	2070.4	534.2	243.8	218.6	214.0	202.5	197.9	198.7	204.1	204.1
50°	2971.5	2266.1	467.7	240.7	214.8	206.4	193.4	184.2	181.9	185.0	185.7
52.5°	3488.9	2601.6	435.6	234.6	207.9	196.4	181.9	172.7	168.9	172.0	172.0
55°	4188.3	3137.4	420.4	226.2	199.5	184.2	171.2	163.6	160.5	162.8	162.8
57.5°	4985.4	3833.6	446.3	214.8	188.8	171.2	162.0	156.7	154.4	156.7	157.4
60°	5932.3	4744.6	625.2	200.2	177.3	159.7	154.4	151.3	149.8	152.1	152.1
62.5°	7191.1	5956.8	967.6	188.8	165.1	149.0	147.5	146.0	144.4	146.7	146.7
65°	8550.0	7059.7	995.9	181.9	154.4	139.9	140.6	140.6	139.1	141.4	141.4
67.5°	8982.6	6964.1	556.4	173.5	141.4	130.7	133.7	133.7	133.0	135.3	134.5
68°	8890.9	6812.8	484.6	171.2	139.1	128.4	131.5	132.2	131.5	133.7	133.0
70°	8207.6	5981.3	318.7	158.2	129.2	120.8	125.3	126.1	125.3	128.4	127.6
72.5°	6775.3	4486.3	235.4	138.3	116.9	110.8	115.4	116.2	116.9	120.0	119.2
75°	4302.9	2477.8	185.7	117.7	104.7	99.4	103.9	106.2	107.8	112.3	110.1
77.5°	1178.5	752.1	150.6	100.1	90.2	87.9	90.9	94.0	95.5	100.9	97.1
80°	412.7	332.5	125.3	84.8	74.9	74.1	77.2	80.2	81.8	86.4	81.8
82.5°	250.7	217.1	100.1	66.5	58.8	58.1	61.9	65.0	66.5	66.5	63.4
85°	130.7	114.6	73.4	46.6	40.5	38.2	45.1	48.9	49.7	48.9	46.6
87.5°	73.4	65.0	39.0	22.2	18.3	19.1	23.7	29.0	31.3	30.6	29.0
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)