

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: P196083

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196083
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-SL2-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 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: 11968.5 lumens
Efficiency: N/A
Efficacy: 124.7 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

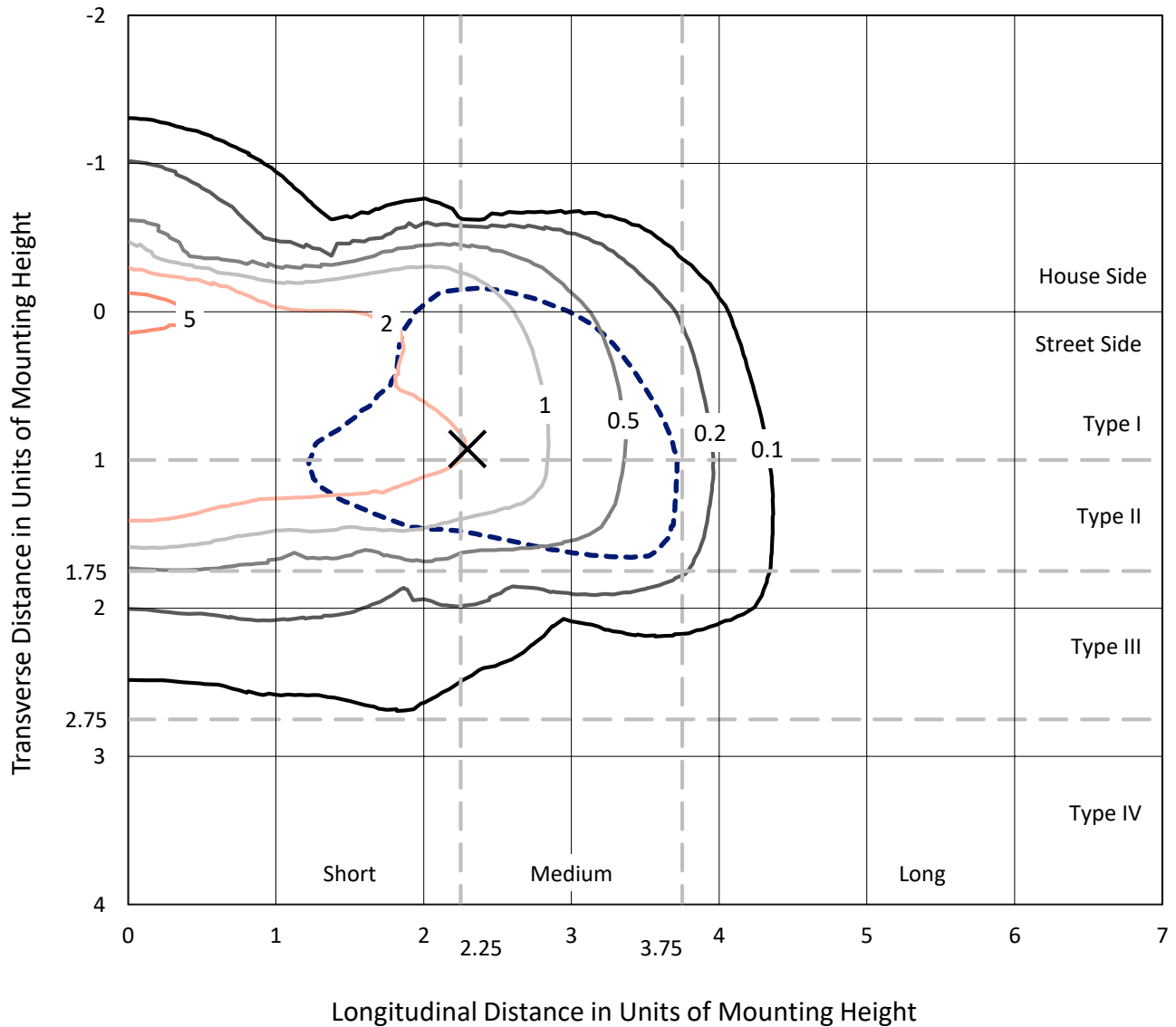
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

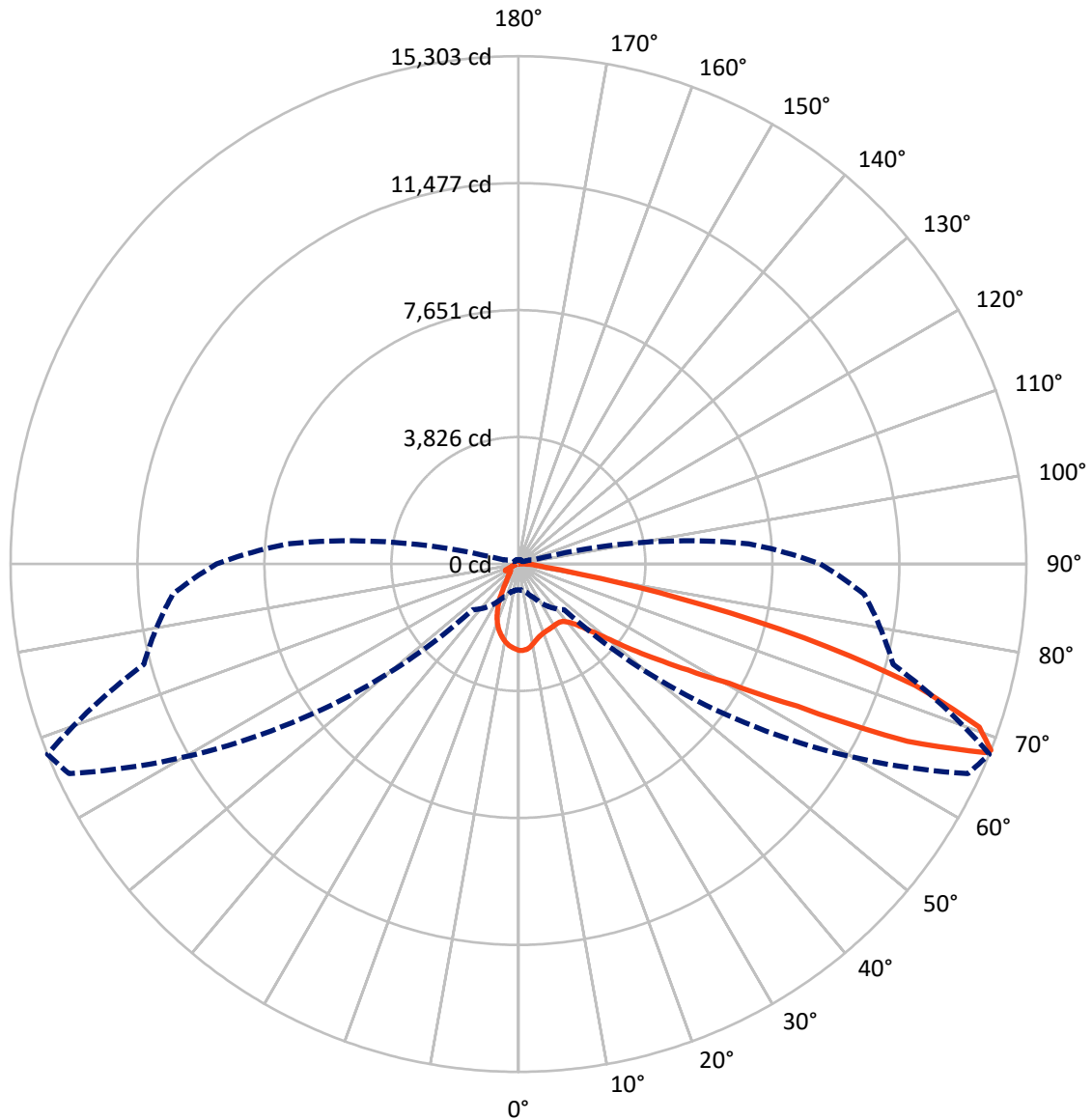
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.5 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	1958.1	0.0	1958.1
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	10010.4	0.0	10010.4
	% Fixture	83.6	0.0	83.6
Total	Lumens	11968.5	0.0	11968.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.1	1.9
10°-20°	517.5	4.3
20°-30°	700.0	5.8
30°-40°	986.9	8.2
40°-50°	1622.8	13.6
50°-60°	2515.6	21.0
60°-70°	3261.6	27.3
70°-80°	1871.7	15.6
80°-90°	269.3	2.2
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°	11968.5	100.0
0°-180°	11968.5	100.0



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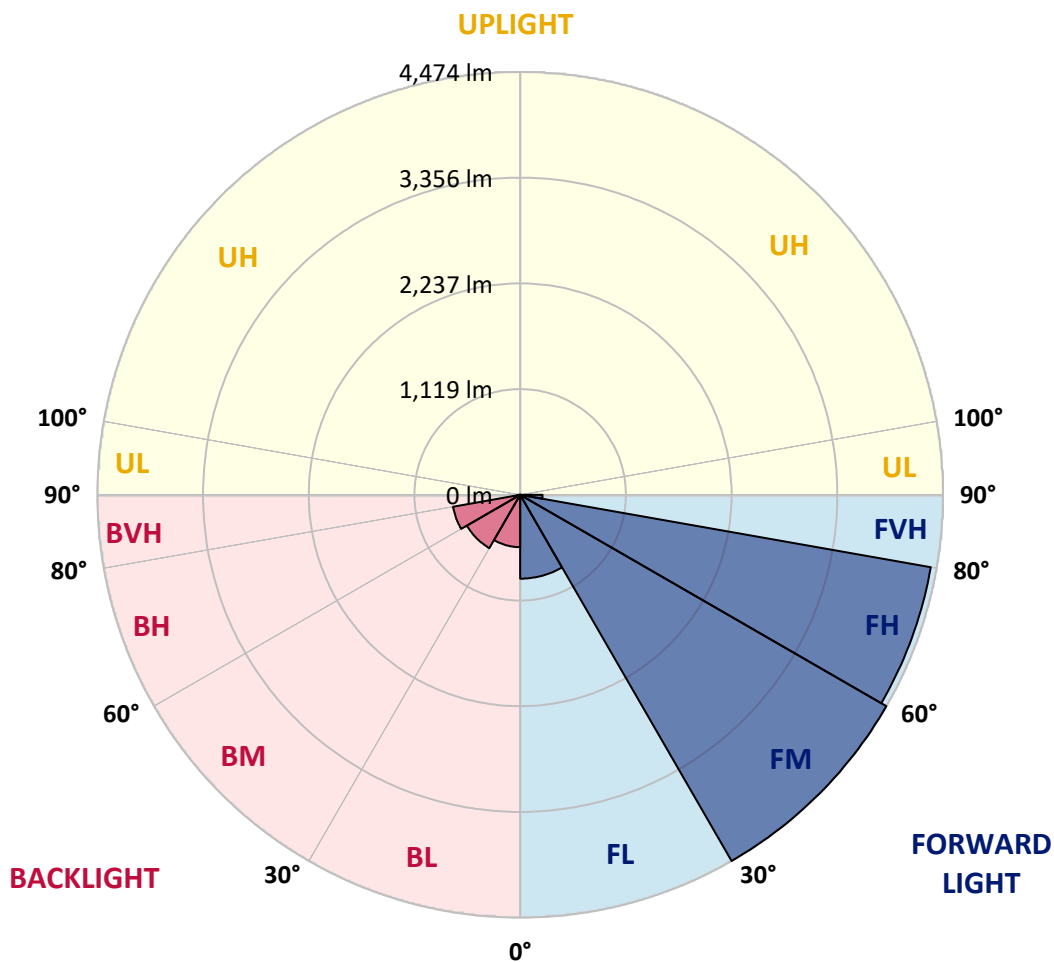
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	887.1	7.4			
FM (30°-60°)	4474.0	37.4			
FH (60°-80°)	4412.1	36.9			G2/5000
FVH (80°-90°)	237.2	2.0			G3/500
BL (0°-30°)	553.6	4.6	B2/1000		
BM (30°-60°)	651.3	5.4	B1/1000		
BH (60°-80°)	721.1	6.0	B2/1000		G2/1000
BVH (80°-90°)	32.1	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°	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2
2.5°	2534.7	2555.0	2555.0	2569.9	2583.2	2594.1	2603.5	2603.5	2603.5	2597.2	2591.7
5°	2268.1	2295.4	2299.3	2336.8	2386.1	2446.3	2513.6	2572.9	2584.7	2606.6	2615.2
7.5°	2082.7	2091.3	2106.3	2132.0	2182.1	2256.3	2361.9	2494.8	2526.9	2595.6	2631.6
10°	1951.4	1958.4	1970.9	1996.8	2042.1	2109.3	2213.4	2386.1	2439.3	2561.3	2632.4
12.5°	1855.2	1860.7	1872.4	1895.9	1942.1	2002.2	2108.6	2288.3	2354.0	2526.9	2643.3
15°	1780.2	1789.6	1799.0	1821.7	1868.5	1926.4	2034.3	2217.2	2288.3	2499.5	2663.7
17.5°	1750.5	1755.2	1756.7	1768.5	1810.7	1869.3	1977.3	2167.2	2240.7	2477.6	2679.3
20°	1769.3	1770.0	1754.4	1746.6	1770.8	1824.7	1929.5	2129.7	2204.8	2458.0	2685.6
22.5°	1851.3	1851.3	1810.7	1776.3	1759.9	1793.5	1897.5	2103.9	2185.2	2443.2	2685.6
25°	2007.7	2000.7	1937.4	1869.3	1796.6	1782.6	1877.1	2087.4	2170.3	2435.3	2675.4
27.5°	2213.4	2207.1	2126.5	2025.6	1894.3	1806.0	1870.2	2074.1	2155.5	2423.7	2653.5
30°	2463.5	2458.0	2366.6	2234.4	2040.6	1880.3	1886.5	2064.8	2143.8	2404.1	2616.7
32.5°	2713.0	2709.8	2637.1	2501.8	2242.3	2006.1	1929.5	2063.2	2137.5	2380.6	2572.2
35°	2963.9	2963.9	2919.3	2805.1	2513.6	2195.4	2019.4	2092.1	2149.2	2368.1	2533.8
37.5°	3334.5	3319.6	3236.7	3118.7	2855.2	2440.9	2164.9	2153.1	2194.5	2389.2	2521.4
40°	3908.3	3865.3	3658.2	3459.5	3228.1	2755.1	2377.5	2271.2	2296.2	2461.2	2551.0
42.5°	4508.8	4440.7	4166.3	3848.9	3613.6	3142.9	2656.6	2462.8	2461.9	2600.3	2645.7
45°	5024.0	4988.8	4691.7	4289.0	4053.7	3579.2	3009.2	2747.3	2719.2	2816.1	2827.8
47.5°	5323.4	5300.0	5120.9	4755.0	4576.0	4094.4	3456.4	3142.1	3089.0	3146.8	3128.8
50°	5240.6	5263.2	5211.6	5024.7	5137.4	4818.4	4026.3	3683.1	3582.3	3640.2	3596.4
52.5°	4804.3	4865.3	4911.4	4947.4	5460.2	5787.0	4742.5	4358.7	4275.0	4264.8	4222.6
55°	4018.6	4115.5	4260.9	4525.2	5373.5	6565.0	5993.5	5175.6	5053.7	4989.5	5006.0
57.5°	2734.9	2881.8	3195.3	3698.0	4922.3	6896.4	7843.3	6231.1	6024.7	5796.4	5849.5
60°	1506.6	1629.4	2002.2	2508.9	3892.6	6847.2	9482.7	7946.4	7296.7	6691.6	6801.1
62.5°	975.0	1001.5	1279.1	1713.7	2389.2	6045.0	10393.5	10813.4	9436.6	7872.1	8026.2
65°	783.4	802.2	938.1	1382.2	1664.5	3888.7	10434.2	13787.4	12879.7	9476.4	9481.1
67.5°	765.4	774.0	852.9	1162.6	1561.3	2117.2	9019.1	14960.1	15170.5	11370.0	10454.5
68°	776.3	786.5	866.2	1126.6	1560.5	1951.4	8335.7	14942.1	15302.5	11686.7	10454.5
70°	684.9	697.3	883.4	1165.7	1494.0	1677.7	5708.1	14148.6	14728.8	12414.5	9919.8
72.5°	358.0	347.9	437.0	920.2	1681.7	1748.1	3015.5	11820.3	12497.4	11497.5	8570.3
75°	279.1	254.1	244.7	363.6	1479.2	1813.1	1751.3	8401.4	8912.8	8288.0	5728.4
77.5°	262.7	232.2	214.2	215.0	651.2	1886.5	1416.7	4944.2	4944.2	3953.7	1827.9
80°	211.1	182.9	171.2	195.5	314.3	1738.8	1478.5	2253.3	1921.7	1021.8	503.5
82.5°	139.1	124.3	125.1	158.7	238.4	1161.0	1712.2	1112.6	835.8	452.7	296.3
85°	88.4	75.8	84.4	111.0	178.3	517.6	1695.0	773.2	553.5	254.1	147.7
87.5°	44.6	34.4	42.2	57.9	108.6	148.5	1395.5	690.4	410.4	105.6	80.5
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°	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2	2604.2
2.5°	2591.7	2574.6	2566.0	2551.9	2534.7	2517.5	2505.7	2500.3	2497.1	2498.7	2497.9
5°	2610.5	2587.9	2551.0	2498.7	2444.8	2387.7	2343.9	2310.2	2289.2	2282.9	2281.4
7.5°	2624.6	2591.7	2522.9	2427.6	2335.3	2235.2	2150.0	2082.0	2035.9	2014.7	2014.0
10°	2622.2	2580.0	2471.3	2330.6	2195.4	2048.4	1914.7	1800.5	1717.6	1677.7	1676.2
12.5°	2624.6	2566.7	2408.0	2217.2	2023.4	1813.1	1614.4	1436.9	1313.5	1254.9	1252.5
15°	2634.0	2552.7	2343.1	2090.6	1822.4	1525.3	1241.6	1018.8	906.1	867.9	867.9
17.5°	2633.2	2529.1	2268.1	1943.6	1583.9	1186.0	847.5	709.9	699.0	734.2	739.6
20°	2617.5	2491.7	2171.1	1769.3	1304.1	820.9	574.6	555.1	642.6	739.6	750.5
22.5°	2593.3	2443.2	2059.3	1566.8	978.0	534.8	443.2	473.0	591.9	712.3	729.5
25°	2559.7	2384.6	1931.1	1331.5	650.5	384.6	369.8	406.5	490.2	570.7	583.3
27.5°	2510.4	2310.2	1791.2	1076.6	415.1	316.6	322.1	347.9	383.9	418.3	425.3
30°	2448.6	2223.5	1638.7	794.3	315.1	283.1	292.4	308.0	323.7	345.6	350.3
32.5°	2386.1	2135.1	1480.0	545.7	275.2	265.0	274.5	283.1	296.3	311.2	314.3
35°	2329.9	2053.1	1316.5	380.7	258.0	253.3	258.0	263.5	276.8	291.6	293.2
37.5°	2289.2	1985.9	1146.1	301.0	247.9	243.2	245.5	247.9	263.5	285.4	287.8
40°	2283.7	1941.3	973.3	270.5	240.0	233.7	232.2	233.7	254.1	279.1	281.4
42.5°	2336.8	1943.6	804.4	258.0	233.7	226.7	220.4	223.6	241.6	261.2	262.7
45°	2462.8	1998.3	658.3	252.6	228.3	222.8	213.4	215.0	223.6	233.7	235.3
47.5°	2684.7	2117.9	546.5	249.4	223.6	218.9	207.1	202.4	203.3	208.8	208.8
50°	3039.7	2318.1	478.4	246.2	219.7	211.1	197.8	188.4	186.1	189.2	190.0
52.5°	3569.0	2661.3	445.6	240.0	212.7	200.9	186.1	176.7	172.8	175.9	175.9
55°	4284.4	3209.4	430.0	231.4	204.1	188.4	175.1	167.4	164.2	166.5	166.5
57.5°	5099.8	3921.6	456.5	219.7	193.1	175.1	165.7	160.3	157.9	160.3	161.0
60°	6068.5	4853.5	639.5	204.8	181.4	163.4	157.9	154.8	153.2	155.6	155.6
62.5°	7356.1	6093.5	989.8	193.1	168.9	152.4	150.9	149.4	147.7	150.1	150.1
65°	8746.2	7221.7	1018.8	186.1	157.9	143.1	143.8	143.8	142.3	144.6	144.6
67.5°	9188.8	7123.9	569.2	177.5	144.6	133.7	136.8	136.8	136.1	138.4	137.6
68°	9095.0	6969.2	495.7	175.1	142.3	131.3	134.5	135.2	134.5	136.8	136.1
70°	8396.0	6118.6	326.0	161.8	132.2	123.6	128.2	129.0	128.2	131.3	130.5
72.5°	6930.8	4589.3	240.8	141.5	119.6	113.3	118.0	118.9	119.6	122.8	121.9
75°	4401.7	2534.7	190.0	120.4	107.1	101.7	106.3	108.6	110.3	114.9	112.6
77.5°	1205.5	769.4	154.1	102.4	92.3	89.9	93.0	96.2	97.7	103.2	99.3
80°	422.2	340.1	128.2	86.7	76.6	75.8	79.0	82.0	83.7	88.4	83.7
82.5°	256.5	222.1	102.4	68.0	60.1	59.4	63.3	66.5	68.0	68.0	64.9
85°	133.7	117.2	75.1	47.7	41.4	39.1	46.1	50.0	50.8	50.0	47.7
87.5°	75.1	66.5	39.9	22.7	18.7	19.5	24.2	29.7	32.0	31.3	29.7
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)