

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: P196136

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196136
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10054.6 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

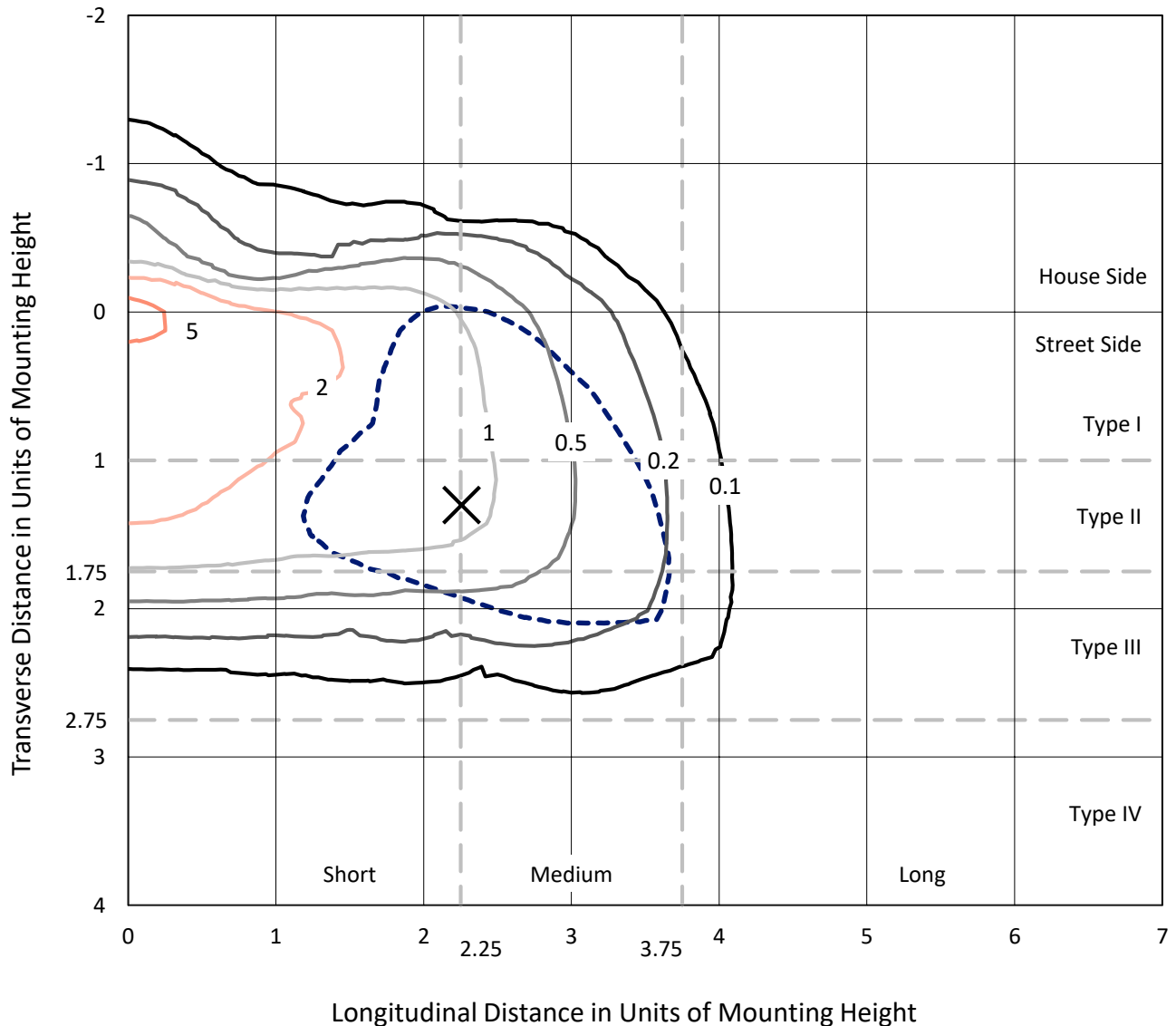
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

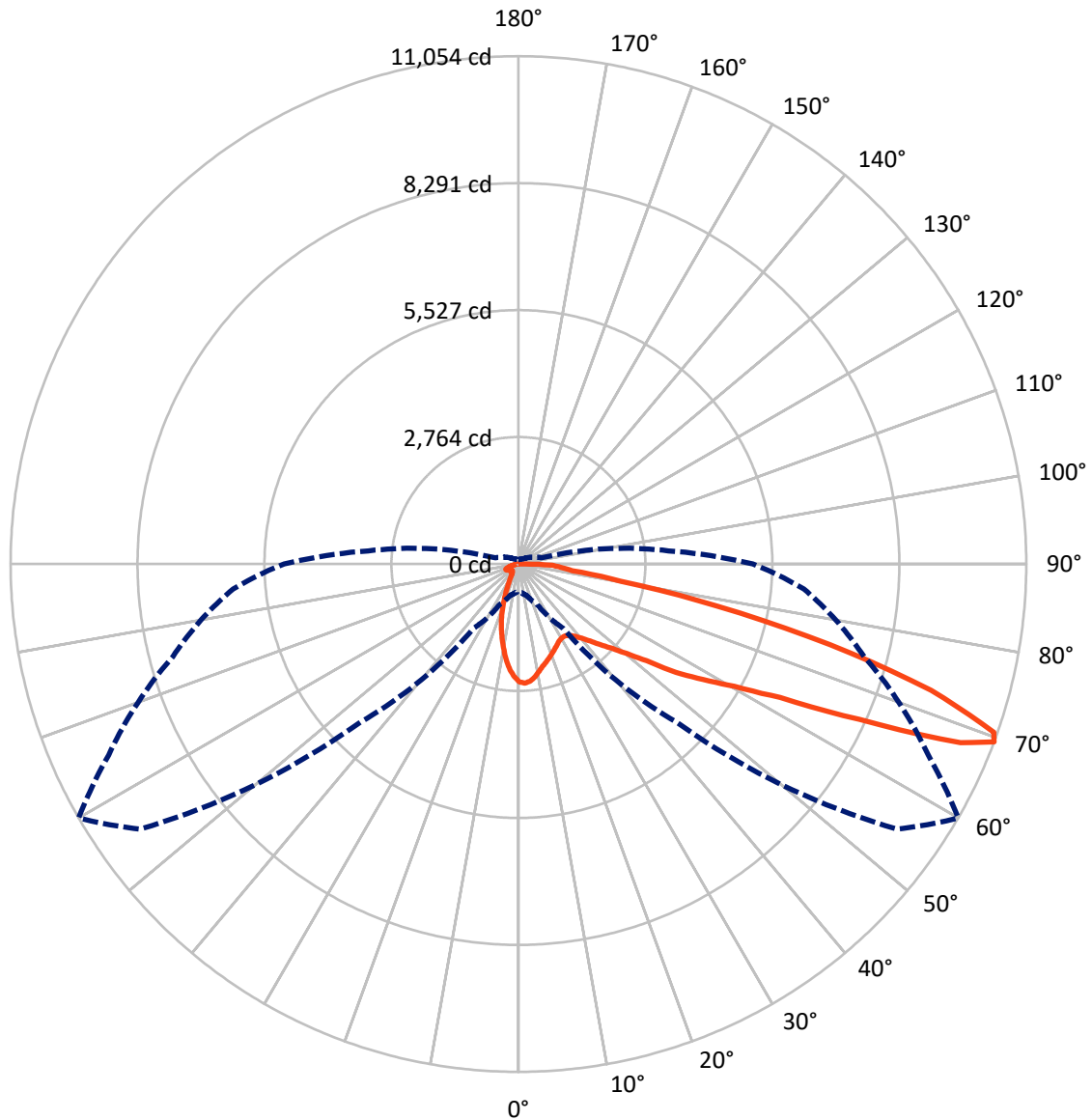
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1434.1	0.0	1434.1
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	8620.5	0.0	8620.5
	% Fixture	85.7	0.0	85.7
Total	Lumens	10054.6	0.0	10054.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.6	2.2
10°-20°	466.0	4.6
20°-30°	594.5	5.9
30°-40°	818.0	8.1
40°-50°	1325.1	13.2
50°-60°	2079.6	20.7
60°-70°	2772.5	27.6
70°-80°	1542.1	15.3
80°-90°	239.2	2.4
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°	10054.6	100.0
0°-180°	10054.6	100.0

Coefficient of Utilization



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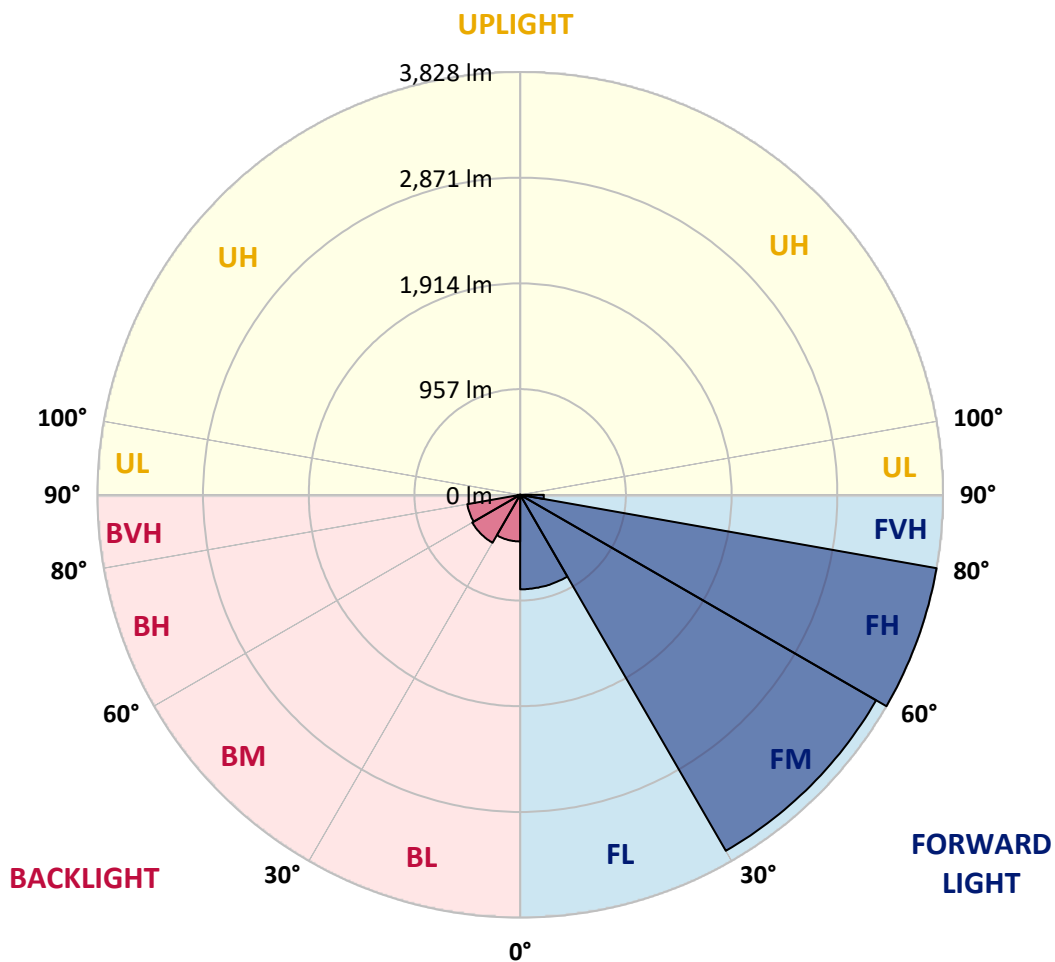
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	855.4	8.5			
FM	(30°-60°)	3721.7	37.0			
FH	(60°-80°)	3828.4	38.1			G2/5000
FVH	(80°-90°)	214.9	2.1			G2/225
BL	(0°-30°)	422.6	4.2	B1/500		
BM	(30°-60°)	501.0	5.0	B1/1000		
BH	(60°-80°)	486.2	4.8	B1/500		G1/500
BVH	(80°-90°)	24.2	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5
2.5°	2633.8	2640.8	2640.8	2635.1	2631.8	2613.1	2602.2	2594.5	2580.9	2555.7	2533.2
5°	2539.7	2553.2	2559.0	2561.6	2578.3	2572.5	2573.2	2568.0	2556.5	2529.3	2492.6
7.5°	2366.9	2369.5	2379.8	2397.2	2437.8	2466.1	2489.4	2493.9	2491.3	2471.3	2419.8
10°	2196.7	2201.2	2213.5	2243.1	2281.8	2322.4	2372.6	2393.3	2408.7	2402.3	2337.2
12.5°	2055.4	2056.1	2069.6	2103.8	2147.0	2197.9	2266.2	2298.6	2335.3	2350.1	2277.3
15°	1919.5	1928.5	1941.4	1982.6	2036.1	2100.6	2179.3	2223.7	2272.1	2314.6	2230.9
17.5°	1816.2	1823.3	1831.1	1865.2	1927.1	2007.7	2105.1	2152.8	2216.6	2281.8	2183.1
20°	1759.5	1762.1	1756.3	1773.1	1825.3	1912.3	2025.1	2082.5	2158.6	2250.2	2134.1
22.5°	1747.9	1747.9	1726.6	1723.4	1746.6	1820.1	1942.6	2012.9	2105.7	2228.3	2090.3
25°	1802.0	1798.2	1758.2	1721.5	1713.1	1750.5	1864.0	1950.4	2060.6	2227.6	2057.4
27.5°	1904.6	1899.4	1849.8	1787.9	1734.4	1718.3	1803.4	1891.7	2025.1	2249.6	2040.6
30°	2032.3	2030.4	1980.0	1902.7	1814.3	1731.1	1779.5	1861.4	2001.3	2290.2	2040.0
32.5°	2172.1	2163.1	2132.1	2054.8	1940.0	1802.7	1793.7	1862.7	1994.9	2349.5	2054.8
35°	2321.1	2314.6	2307.0	2228.9	2099.9	1929.1	1856.2	1907.2	2026.5	2432.0	2096.7
37.5°	2510.6	2503.6	2516.5	2431.3	2290.2	2094.8	1962.0	1996.2	2090.9	2552.0	2174.7
40°	2847.9	2827.2	2791.1	2660.3	2512.0	2297.9	2114.7	2120.0	2201.2	2712.5	2299.8
42.5°	3401.7	3335.3	3156.7	2916.2	2746.0	2533.8	2314.0	2289.5	2353.3	2924.6	2481.7
45°	3956.9	3882.0	3580.3	3195.4	2988.4	2787.2	2560.3	2501.6	2542.9	3171.6	2715.7
47.5°	4315.3	4278.6	3938.2	3474.6	3242.4	3063.2	2842.1	2745.3	2775.0	3451.3	3004.5
50°	4420.4	4388.8	4121.3	3693.2	3482.3	3396.5	3190.9	3062.5	3067.7	3778.3	3350.8
52.5°	4341.7	4328.8	4151.5	3828.5	3702.8	3747.9	3673.8	3495.2	3452.7	4136.7	3726.0
55°	4236.7	4241.2	4172.8	3964.5	3927.2	4075.4	4305.6	4161.9	3981.3	4510.0	4116.8
57.5°	3905.9	3909.1	4088.3	4223.8	4355.3	4534.5	4797.5	4737.0	4526.8	4913.0	4554.5
60°	3145.1	3170.2	3569.4	4170.3	4844.7	5439.1	5503.6	5399.1	5107.1	5377.2	5123.9
62.5°	2246.9	2269.5	2731.8	3620.2	4787.3	6463.0	6807.2	6392.0	5894.3	6071.6	5924.6
65°	1180.6	1176.7	1534.5	2501.6	4032.3	6700.2	8861.4	8154.8	7220.6	7026.4	6698.3
67.5°	659.6	680.9	819.5	1261.8	2628.0	5896.9	10173.6	10381.7	9064.6	7784.0	6664.7
69°	609.9	617.0	709.8	975.5	1713.1	4865.3	10060.7	11054.2	9842.1	7787.3	6235.4
70°	592.5	600.3	684.8	898.8	1439.1	3986.4	9650.0	10975.5	10031.1	7614.5	5844.6
72.5°	531.3	541.6	623.5	807.8	1212.8	2054.8	7773.1	9394.0	9086.5	6655.1	4532.0
75°	453.3	470.7	594.4	802.1	1149.0	1306.3	5183.8	6998.7	6762.8	4759.6	2571.3
77.5°	187.6	189.6	259.8	587.4	1205.6	1250.1	2786.0	4433.3	3924.6	2087.0	774.4
80°	130.8	128.3	129.6	171.5	972.9	1258.5	1429.4	2254.7	1752.4	550.7	362.3
82.5°	110.3	108.9	114.2	107.7	329.5	1428.1	1195.3	1175.4	825.3	296.6	172.8
85°	72.8	70.9	93.5	98.0	156.7	1134.1	1285.6	923.9	615.1	158.6	73.6
87.5°	35.5	36.1	53.5	66.4	83.2	359.2	1231.4	730.5	475.2	68.9	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



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5	2565.5
2.5°	2524.2	2504.9	2487.4	2465.5	2448.7	2434.6	2415.2	2414.6	2411.4	2415.9	2417.1
5°	2468.1	2435.9	2386.9	2332.0	2293.4	2242.4	2192.8	2176.0	2157.3	2155.4	2161.2
7.5°	2383.7	2333.4	2249.6	2165.7	2081.9	1996.2	1914.9	1873.6	1833.6	1821.5	1827.2
10°	2289.5	2225.6	2097.4	1960.7	1842.7	1715.1	1591.2	1511.3	1438.5	1407.5	1415.3
12.5°	2216.0	2134.8	1954.2	1777.0	1600.3	1417.2	1254.0	1096.1	976.8	923.3	926.5
15°	2152.8	2049.0	1820.1	1584.1	1363.0	1112.2	885.9	702.8	598.3	559.7	558.3
17.5°	2084.5	1958.7	1680.2	1404.9	1118.0	807.8	593.2	484.9	443.6	430.7	430.7
20°	2011.6	1865.9	1533.8	1209.5	860.1	564.2	446.2	404.3	388.8	384.9	384.2
22.5°	1943.9	1775.0	1386.8	1001.3	622.2	428.1	379.7	363.7	361.1	364.3	364.3
25°	1890.4	1695.0	1237.9	782.0	452.7	358.4	337.9	335.9	345.6	357.2	359.2
27.5°	1850.4	1623.5	1090.9	571.2	355.9	312.1	304.9	313.3	335.9	359.2	363.7
30°	1822.7	1562.3	914.9	410.7	296.6	273.3	276.6	291.4	325.6	361.1	370.7
32.5°	1810.4	1512.5	737.5	315.3	253.4	240.5	248.9	268.2	303.7	339.1	350.8
35°	1822.1	1476.5	573.9	261.8	221.8	212.2	221.8	241.8	264.9	282.4	289.5
37.5°	1864.0	1463.5	432.0	232.1	201.1	191.5	199.3	212.8	223.1	229.6	232.7
40°	1952.3	1477.1	338.5	216.7	189.6	178.6	180.6	187.0	194.1	199.3	199.9
42.5°	2092.9	1521.6	301.1	210.8	182.5	168.3	165.1	169.6	177.3	184.4	185.7
45°	2279.9	1595.8	297.3	212.8	179.2	159.9	153.4	157.9	168.3	179.8	181.8
47.5°	2521.6	1713.1	315.3	223.1	181.2	155.4	145.7	150.3	163.8	179.2	181.8
50°	2807.9	1875.6	348.8	238.6	190.2	155.4	142.5	146.4	160.5	178.0	180.6
52.5°	3145.1	2101.9	383.6	254.0	203.1	161.2	143.8	143.1	156.0	172.2	175.3
55°	3517.1	2383.0	417.2	267.6	210.2	168.9	147.0	139.2	149.6	162.4	165.1
57.5°	3954.9	2767.9	475.8	280.5	214.1	174.7	150.9	135.4	141.2	150.3	152.1
60°	4548.8	3333.4	589.9	302.4	221.2	177.3	151.5	131.6	130.8	137.4	138.0
62.5°	5323.0	3995.5	698.9	328.2	235.4	178.0	148.9	129.0	122.5	124.4	124.4
65°	5873.7	4239.2	667.3	350.1	248.3	177.3	146.4	127.1	116.1	112.8	112.8
67.5°	5560.4	3744.7	566.7	355.9	249.5	170.2	140.6	122.5	110.3	102.5	102.5
69°	5099.9	3282.4	520.3	345.6	239.2	161.8	134.1	117.9	106.4	97.4	97.4
70°	4724.7	2932.3	491.9	333.4	227.0	154.8	128.3	113.4	102.5	94.8	94.1
72.5°	3527.4	1956.8	420.3	287.6	186.4	130.8	112.2	101.3	92.2	87.1	87.1
75°	1861.4	980.7	344.3	234.7	143.8	104.4	92.2	85.1	80.0	79.3	78.7
77.5°	609.9	443.6	247.6	176.7	105.8	81.2	73.6	68.9	68.3	70.9	70.9
80°	329.5	264.9	159.3	119.3	73.6	60.6	56.8	56.1	58.0	61.9	61.9
82.5°	159.9	130.8	94.8	73.6	50.3	44.5	44.5	45.1	47.7	52.3	52.3
85°	68.9	61.9	54.8	41.2	31.0	27.7	31.6	34.8	36.7	40.0	41.2
87.5°	32.8	29.1	25.2	16.2	13.5	14.2	16.8	20.7	24.6	27.1	27.7
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)