

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: P196185

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196185  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)  
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-SL4-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14282.4 lumens  
Efficiency: N/A  
Efficacy: 115.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G3

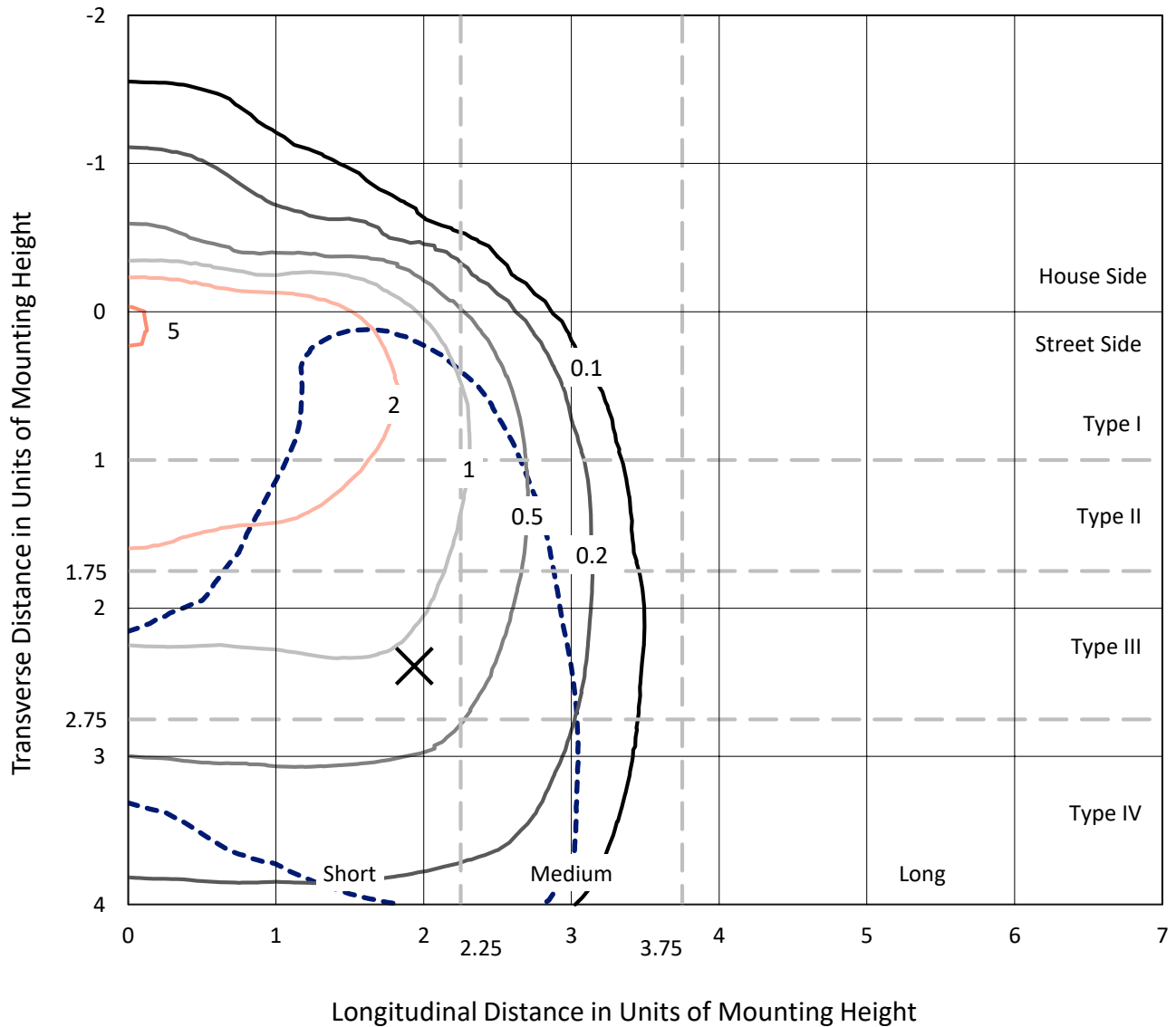
Input Watts (W): 124  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

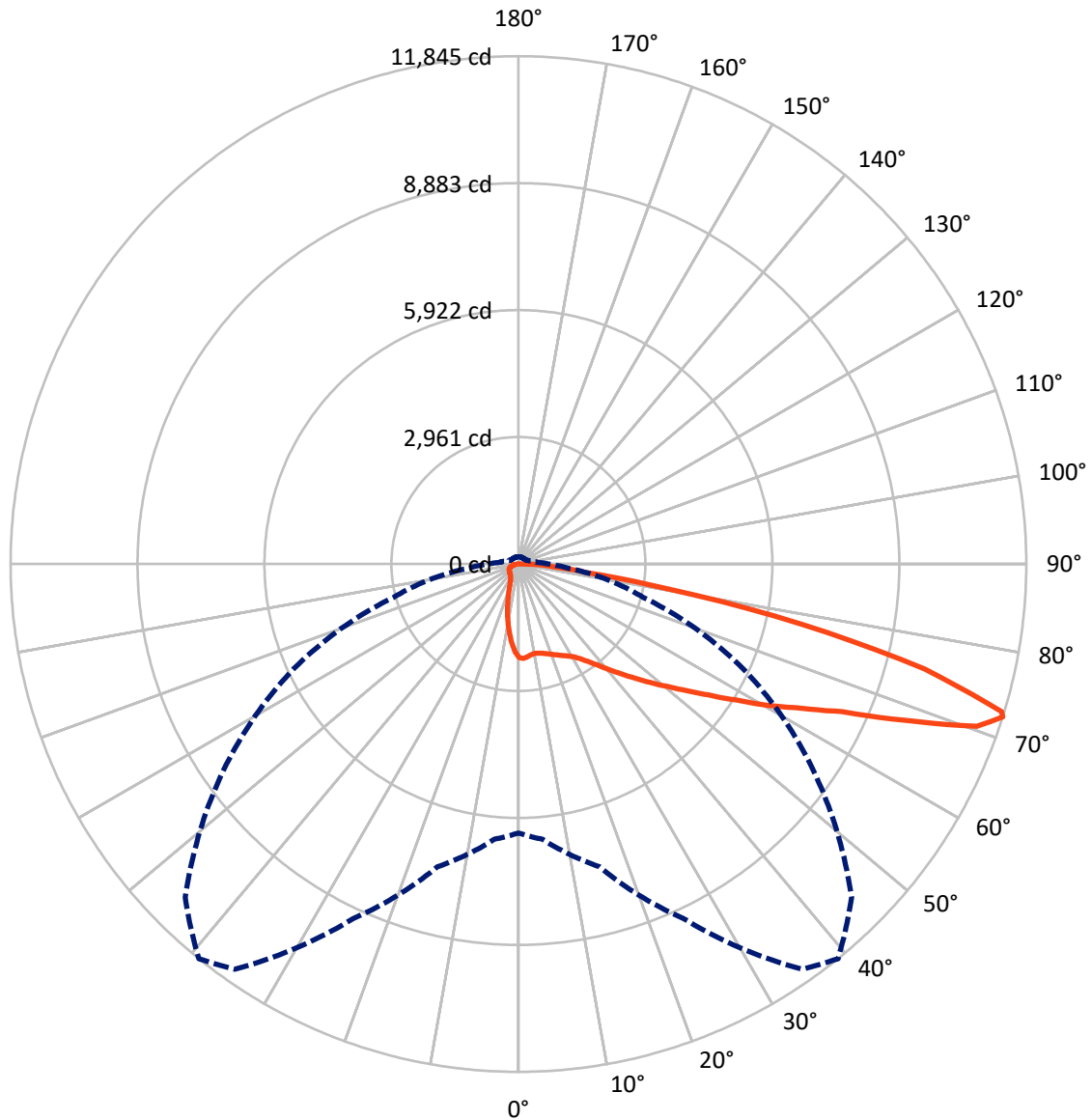
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.5 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral      - - - Horizontal Cone Through 72-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1637.7	0.0	1637.7
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	12644.8	0.0	12644.8
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	14282.4	0.0	14282.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.4	1.3
10°-20°	471.0	3.3
20°-30°	734.0	5.1
30°-40°	1130.1	7.9
40°-50°	1842.4	12.9
50°-60°	2862.9	20.0
60°-70°	3831.8	26.8
70°-80°	2755.6	19.3
80°-90°	467.1	3.3
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°	14282.4	100.0
0°-180°	14282.4	100.0



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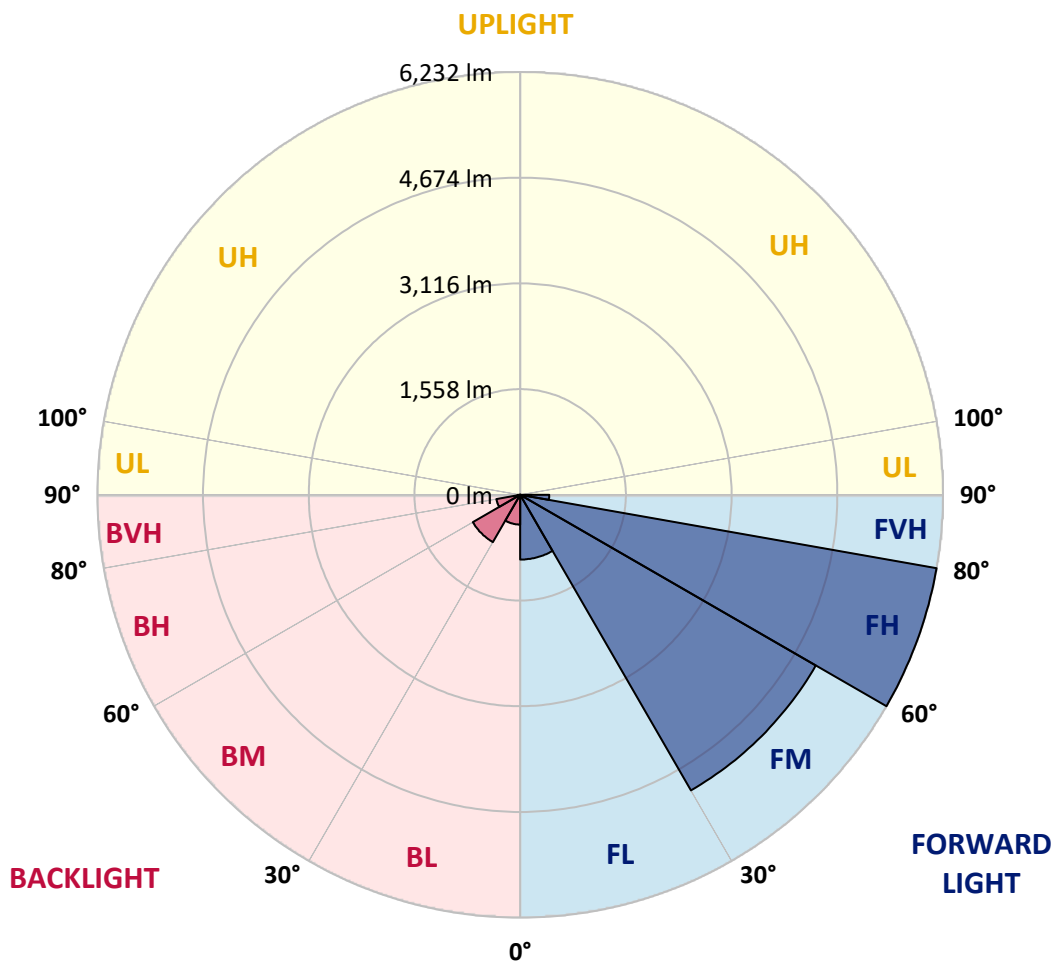
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	954.0	6.7			
FM	(30°-60°)	5030.6	35.2			
FH	(60°-80°)	6231.7	43.6			G3/7500
FVH	(80°-90°)	428.5	3.0			G3/500
BL	(0°-30°)	438.4	3.1	B1/500		
BM	(30°-60°)	804.8	5.6	B1/1000		
BH	(60°-80°)	355.8	2.5	B1/500		G1/500
BVH	(80°-90°)	38.6	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1
2.5°	2228.2	2229.1	2226.2	2217.7	2210.0	2206.1	2199.4	2187.9	2172.5	2162.0	2153.4
5°	2207.1	2210.0	2208.0	2193.6	2180.2	2172.5	2162.0	2145.7	2125.6	2117.0	2096.8
7.5°	2190.8	2192.7	2187.0	2170.6	2144.7	2135.2	2116.0	2094.9	2076.7	2064.2	2040.3
10°	2179.3	2181.1	2176.4	2160.1	2131.3	2119.9	2096.8	2073.8	2049.8	2034.4	2007.6
12.5°	2162.9	2166.8	2166.8	2159.1	2139.9	2132.2	2109.3	2084.4	2062.3	2046.0	2012.5
15°	2160.1	2164.9	2173.6	2172.5	2166.8	2161.1	2142.9	2117.9	2098.7	2079.6	2038.3
17.5°	2184.1	2194.6	2211.8	2217.7	2213.8	2201.3	2180.2	2157.2	2136.1	2117.9	2067.1
20°	2244.5	2250.2	2276.1	2287.6	2268.4	2250.2	2222.4	2192.7	2173.6	2159.1	2094.0
22.5°	2335.5	2343.2	2364.3	2365.3	2325.0	2303.0	2267.5	2231.1	2212.8	2207.1	2130.4
25°	2481.3	2479.3	2485.2	2461.1	2388.3	2362.4	2319.2	2277.1	2264.6	2276.1	2184.1
27.5°	2655.8	2651.0	2632.8	2570.5	2460.2	2426.6	2374.9	2337.4	2337.4	2364.3	2256.9
30°	2857.1	2852.3	2792.9	2688.4	2545.5	2507.2	2452.5	2413.2	2433.3	2485.2	2355.7
32.5°	3070.0	3052.7	2969.3	2829.3	2667.2	2625.1	2572.3	2532.1	2570.5	2658.6	2497.5
35°	3270.4	3260.8	3158.2	2992.3	2824.5	2789.1	2752.7	2702.7	2764.1	2901.2	2697.9
37.5°	3477.4	3469.7	3344.1	3167.8	3016.3	2992.3	2961.6	2927.1	3025.9	3206.1	2969.3
40°	3708.5	3693.2	3534.9	3358.6	3239.7	3228.1	3211.9	3202.2	3361.4	3629.8	3312.5
42.5°	3970.3	3940.5	3736.3	3568.6	3483.1	3492.8	3484.2	3522.5	3766.0	4118.8	3721.0
45°	4269.4	4210.0	3936.7	3791.9	3752.6	3791.0	3809.2	3907.0	4244.4	4683.6	4177.3
47.5°	4549.4	4472.6	4156.2	4034.5	4056.5	4122.7	4174.5	4347.0	4768.9	5241.6	4643.3
50°	4807.3	4720.9	4391.1	4285.7	4393.1	4487.0	4594.4	4837.9	5326.9	5815.9	5070.9
52.5°	4998.0	4935.7	4626.0	4559.9	4779.4	4904.0	5075.7	5383.5	5890.7	6363.3	5452.5
55°	5145.6	5112.1	4855.1	4874.4	5216.6	5394.9	5603.0	5956.7	6486.9	6854.2	5759.3
57.5°	5316.4	5291.4	5116.9	5254.0	5759.3	5983.6	6229.1	6622.2	7054.6	7286.6	5999.9
60°	5496.6	5496.6	5408.3	5711.3	6438.0	6695.0	6939.5	7245.4	7620.3	7675.8	6097.7
62.5°	5632.8	5668.2	5699.9	6198.4	7082.4	7401.7	7670.1	7963.5	8206.0	7867.6	5867.6
65°	5830.2	5906.0	6084.3	6761.2	7880.1	8298.1	8660.5	8906.9	8680.7	7715.2	5116.9
67.5°	6169.6	6281.8	6661.5	7599.2	9101.5	9727.6	10079.4	9653.8	8587.7	6755.5	3919.4
70°	6475.5	6633.6	7282.8	8662.4	10689.2	11339.3	11177.3	9480.2	7479.3	4952.0	2411.3
72°	6272.2	6444.8	7311.5	9125.5	11537.8	11844.5	10990.3	8401.6	5779.5	3022.0	1188.9
72.5°	6138.9	6318.3	7218.6	9114.0	11560.8	11780.3	10730.4	7973.1	5246.3	2644.2	961.7
75°	5128.5	5281.8	6207.1	8077.5	10187.8	9785.1	8373.9	5160.1	2411.3	854.3	494.7
77.5°	3348.9	3466.0	4279.9	5596.3	7136.1	6748.7	5096.8	2416.1	904.1	518.7	372.0
80°	1682.7	1766.0	2290.5	2942.4	3851.3	3543.6	2352.8	1168.7	605.0	374.9	292.5
82.5°	1170.7	1247.4	1577.2	1502.4	1609.7	1558.0	1106.4	975.1	452.6	236.8	153.4
85°	981.7	1061.3	1304.9	1070.9	876.3	798.6	792.9	921.4	299.1	116.9	129.4
87.5°	856.2	977.0	1076.7	782.4	601.2	530.2	583.9	844.7	94.9	64.2	39.3
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°	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1	2181.1
2.5°	2139.0	2136.1	2121.7	2099.7	2083.3	2072.8	2052.8	2051.7	2053.7	2036.4	2043.1
5°	2078.6	2067.1	2029.7	1978.9	1937.7	1898.4	1855.2	1840.8	1828.3	1802.4	1805.3
7.5°	2015.3	1995.2	1930.0	1846.5	1767.0	1694.1	1622.2	1586.8	1559.9	1526.3	1526.3
10°	1978.0	1946.3	1846.5	1724.8	1598.3	1491.9	1384.5	1320.2	1273.3	1230.1	1227.2
12.5°	1976.0	1928.1	1789.0	1621.3	1447.8	1298.1	1151.4	1052.7	982.7	931.9	927.1
15°	1991.4	1924.3	1741.1	1524.4	1305.8	1111.2	930.0	804.4	715.2	658.7	652.9
17.5°	2004.8	1919.5	1689.3	1422.8	1167.8	931.0	729.6	599.2	514.9	468.8	464.0
20°	2017.3	1908.9	1623.2	1315.4	1015.3	762.2	570.5	465.0	409.4	383.5	380.6
22.5°	2035.5	1899.3	1554.2	1194.6	865.7	620.3	470.8	395.0	365.3	352.8	350.9
25°	2065.1	1900.2	1487.1	1070.9	728.6	516.8	407.4	360.5	344.2	335.5	335.5
27.5°	2108.3	1911.8	1420.9	945.3	612.6	445.8	370.1	342.3	331.7	325.0	323.2
30°	2171.6	1932.9	1350.9	826.4	520.6	396.9	348.0	330.8	322.1	316.4	315.5
32.5°	2263.7	1970.3	1277.1	718.1	450.6	362.4	331.7	321.2	314.5	309.6	308.7
35°	2400.8	2036.4	1205.1	626.0	400.8	337.5	318.3	309.6	305.9	303.9	303.0
37.5°	2602.1	2142.9	1137.1	554.1	368.2	321.2	304.8	300.1	298.2	298.2	298.2
40°	2855.2	2282.8	1075.7	503.4	350.0	308.7	295.3	291.4	291.4	292.5	292.5
42.5°	3163.0	2458.3	1023.0	468.8	339.4	300.1	288.6	286.6	285.7	285.7	286.6
45°	3520.6	2665.4	990.4	442.0	331.7	295.3	283.8	282.8	279.0	277.1	277.1
47.5°	3880.2	2886.9	988.5	426.7	322.1	289.6	279.0	279.0	271.3	267.5	268.4
50°	4215.7	3085.3	1009.6	422.8	316.4	280.9	274.3	275.2	264.6	259.8	258.9
52.5°	4486.0	3236.8	1035.4	427.6	316.4	273.2	265.6	270.4	258.9	253.1	252.2
55°	4695.0	3342.3	1045.0	438.1	320.2	266.6	257.9	265.6	257.0	249.3	249.3
57.5°	4844.6	3375.8	1003.8	442.9	326.0	265.6	250.2	264.6	259.8	250.2	250.2
60°	4790.0	3181.2	850.4	424.7	325.0	263.6	244.5	266.6	269.4	258.9	258.9
62.5°	4363.3	2661.5	682.6	383.5	308.7	257.0	237.7	264.6	276.1	272.3	270.4
65°	3552.2	1952.0	529.3	334.6	280.9	242.5	223.4	247.3	260.8	264.6	265.6
67.5°	2503.4	1235.8	411.3	284.8	246.4	221.5	207.0	218.6	223.4	225.4	229.1
70°	1369.1	669.2	326.9	239.7	210.9	200.4	189.9	190.8	188.8	187.0	188.8
72°	687.4	437.2	276.1	208.1	187.0	180.2	175.4	172.6	172.6	169.7	170.6
72.5°	591.6	406.5	266.6	200.4	181.2	175.4	171.7	168.8	167.8	165.8	166.8
75°	394.0	322.1	222.4	167.8	154.4	150.5	152.4	149.6	150.5	148.6	149.6
77.5°	318.3	277.1	188.8	141.9	132.3	126.5	130.4	131.3	133.3	131.3	130.4
80°	266.6	235.9	158.1	116.9	110.3	105.5	107.4	114.1	115.1	109.3	108.3
82.5°	172.6	189.9	124.6	91.0	84.4	82.4	87.3	94.0	95.9	88.2	86.3
85°	144.7	152.4	90.1	62.3	55.6	53.7	63.3	70.0	74.8	67.1	65.2
87.5°	40.3	74.8	44.1	29.8	25.0	25.0	30.7	36.4	43.2	44.1	44.1
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)