

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: P197108

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197108  
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-SL3-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 1200mA 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: 10890 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B2 - U0 - G3

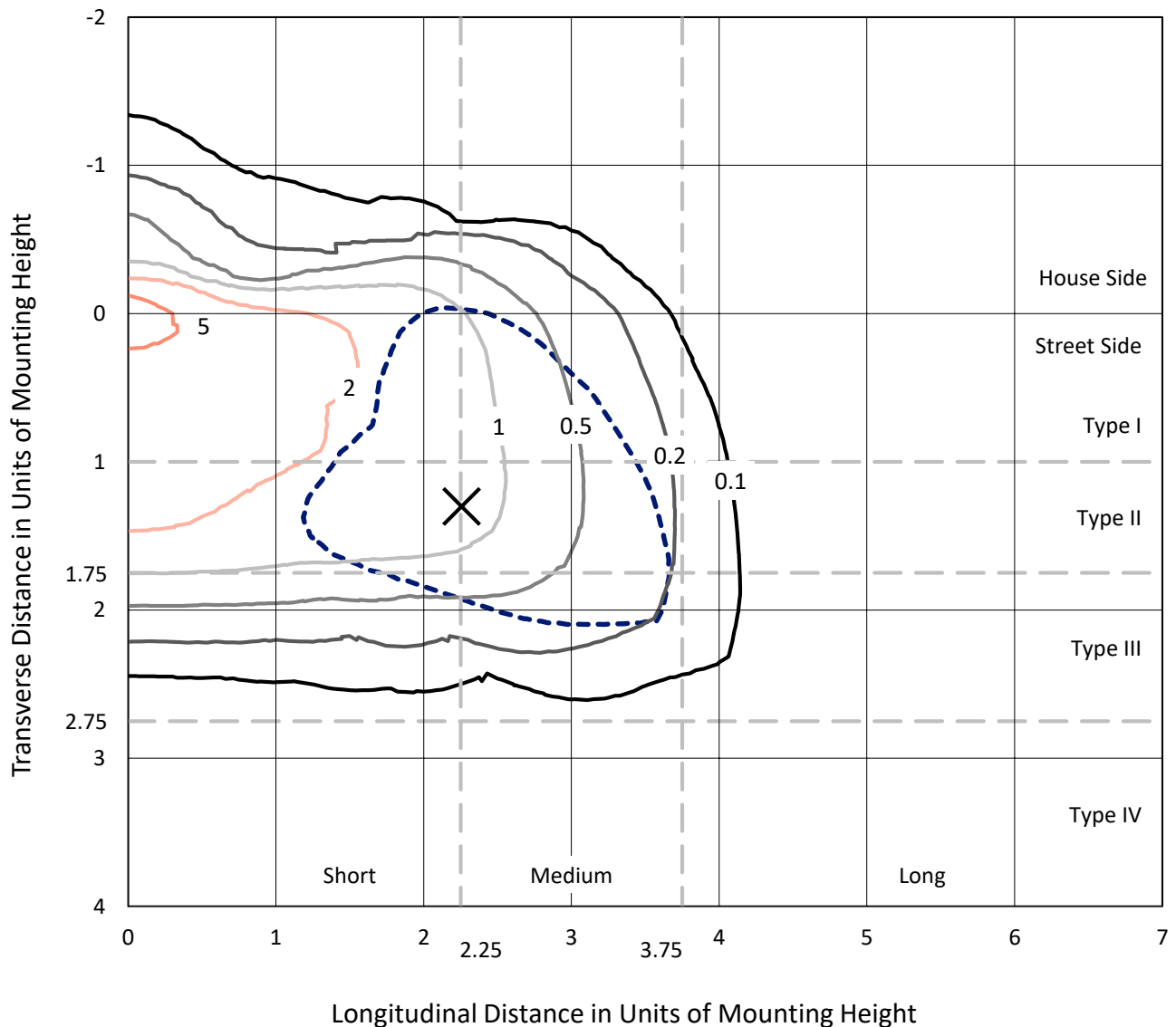
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

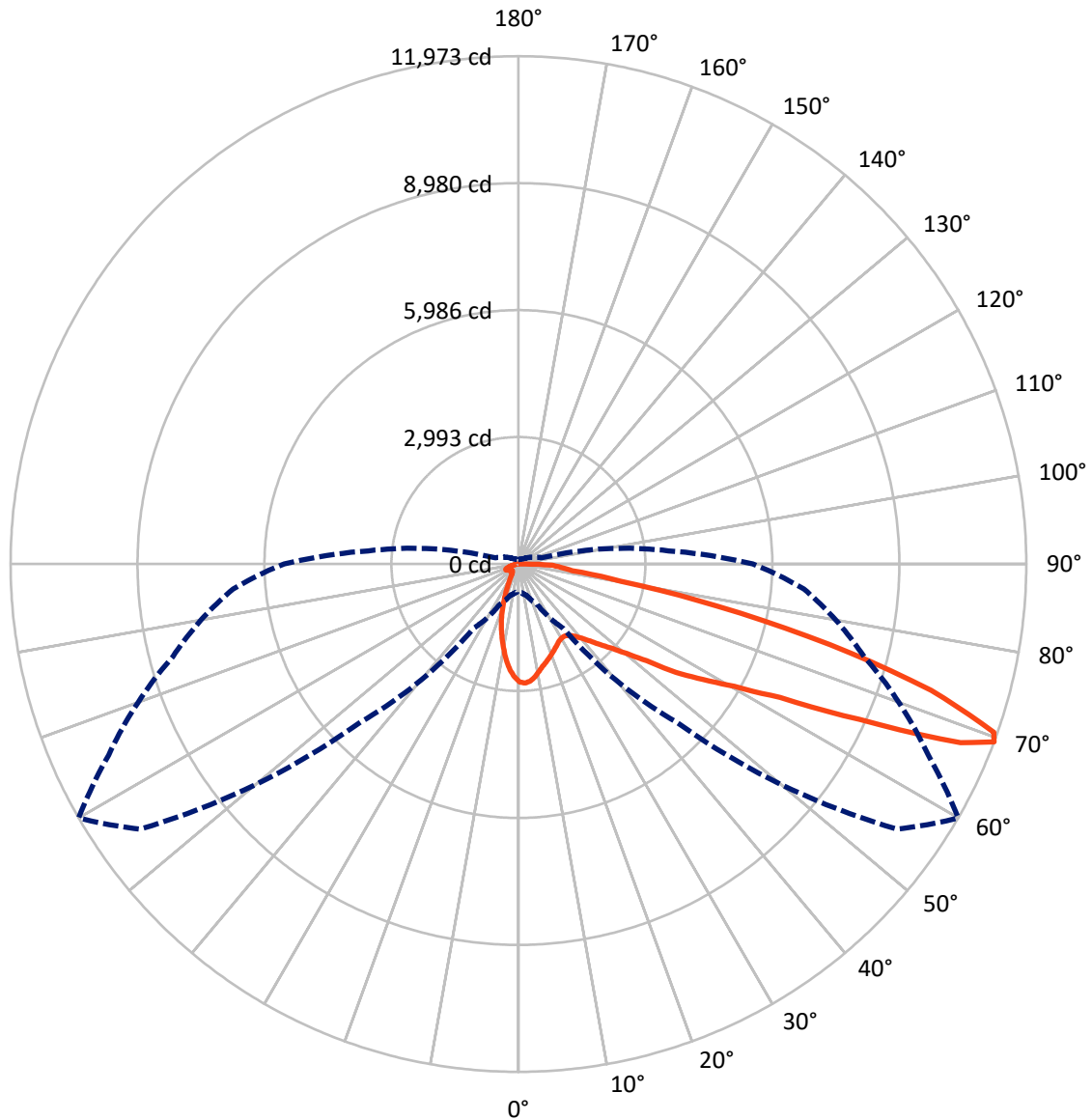
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.9 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
<b>House Side</b>	Lumens	1553.3	0.0	1553.3
	% Fixture	14.3	0.0	14.3
<b>Street Side</b>	Lumens	9336.7	0.0	9336.7
	% Fixture	85.7	0.0	85.7
<b>Total</b>	Lumens	10890.0	0.0	10890.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.7	2.2
10°-20°	504.7	4.6
20°-30°	643.9	5.9
30°-40°	886.0	8.1
40°-50°	1435.1	13.2
50°-60°	2252.4	20.7
60°-70°	3002.9	27.6
70°-80°	1670.3	15.3
80°-90°	259.1	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°	10890.0	100.0
0°-180°	10890.0	100.0

**Coefficient of Utilization**



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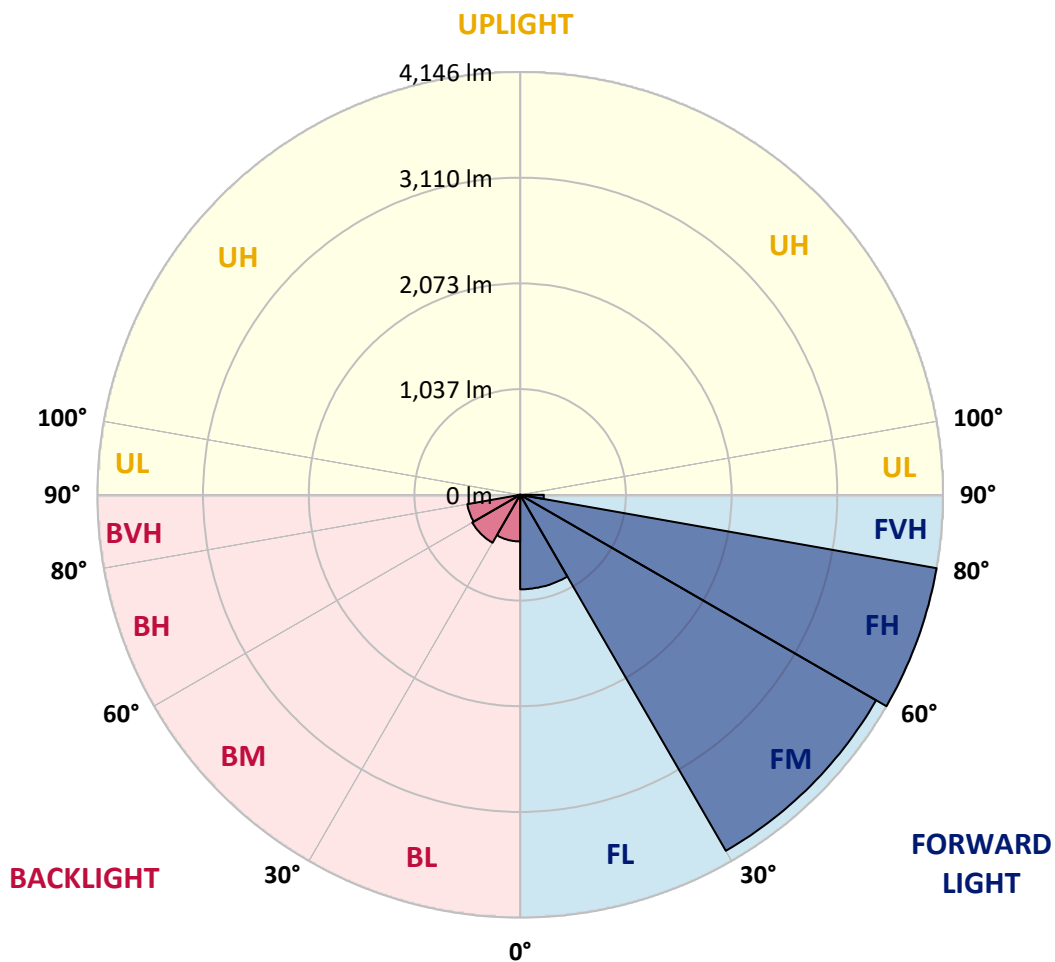
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	926.5	8.5			
FM	(30°-60°)	4030.9	37.0			
FH	(60°-80°)	4146.5	38.1			G2/5000
FVH	(80°-90°)	232.8	2.1			G3/500
BL	(0°-30°)	457.8	4.2	B1/500		
BM	(30°-60°)	542.6	5.0	B1/1000		
BH	(60°-80°)	526.6	4.8	B2/1000		G2/1000
BVH	(80°-90°)	26.3	0.2			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 III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6
2.5°	2852.6	2860.3	2860.3	2854.0	2850.5	2830.3	2818.4	2810.0	2795.4	2768.1	2743.7
5°	2750.7	2765.3	2771.6	2774.4	2792.6	2786.3	2787.0	2781.4	2768.8	2739.5	2699.7
7.5°	2563.5	2566.3	2577.5	2596.4	2640.4	2671.1	2696.2	2701.1	2698.3	2676.7	2620.8
10°	2379.2	2384.1	2397.3	2429.5	2471.4	2515.4	2569.8	2592.2	2608.9	2601.9	2531.4
12.5°	2226.2	2226.9	2241.6	2278.6	2325.4	2380.6	2454.6	2489.5	2529.3	2545.4	2466.5
15°	2078.9	2088.7	2102.6	2147.3	2205.3	2275.1	2360.3	2408.5	2460.9	2507.0	2416.2
17.5°	1967.2	1974.9	1983.2	2020.2	2087.3	2174.6	2280.0	2331.7	2400.8	2471.4	2364.5
20°	1905.7	1908.5	1902.2	1920.4	1976.9	2071.2	2193.4	2255.6	2338.0	2437.1	2311.4
22.5°	1893.1	1893.1	1870.1	1866.6	1891.8	1971.4	2104.0	2180.2	2280.7	2413.4	2264.0
25°	1951.8	1947.6	1904.3	1864.5	1855.4	1895.9	2018.8	2112.4	2231.8	2412.7	2228.3
27.5°	2062.8	2057.3	2003.5	1936.4	1878.5	1861.0	1953.2	2048.9	2193.4	2436.4	2210.2
30°	2201.1	2199.0	2144.5	2060.7	1965.1	1875.0	1927.4	2016.1	2167.6	2480.4	2209.5
32.5°	2352.6	2342.9	2309.3	2225.5	2101.2	1952.5	1942.7	2017.4	2160.6	2544.7	2225.5
35°	2514.0	2507.0	2498.6	2414.1	2274.4	2089.4	2010.5	2065.6	2194.8	2634.1	2270.9
37.5°	2719.3	2711.6	2725.5	2633.4	2480.4	2268.8	2125.0	2162.0	2264.7	2764.0	2355.4
40°	3084.5	3062.1	3023.0	2881.3	2720.7	2488.8	2290.5	2296.1	2384.1	2937.8	2490.9
42.5°	3684.3	3612.4	3419.0	3158.5	2974.1	2744.4	2506.3	2479.7	2548.9	3167.6	2687.8
45°	4285.6	4204.6	3877.8	3460.9	3236.7	3018.8	2773.0	2709.5	2754.2	3435.0	2941.3
47.5°	4673.9	4634.1	4265.3	3763.3	3511.9	3317.7	3078.2	2973.4	3005.6	3738.1	3254.2
50°	4787.7	4753.5	4463.7	4000.0	3771.6	3678.8	3456.0	3317.0	3322.6	4092.2	3629.2
52.5°	4702.5	4688.5	4496.5	4146.6	4010.5	4059.3	3979.0	3785.6	3739.5	4480.4	4035.6
55°	4588.7	4593.6	4519.5	4294.0	4253.5	4414.1	4663.4	4507.7	4312.1	4884.8	4458.8
57.5°	4230.4	4233.9	4428.1	4574.7	4717.2	4911.3	5196.2	5130.6	4902.9	5321.2	4932.9
60°	3406.4	3433.6	3865.9	4516.7	5247.2	5891.0	5960.9	5847.7	5531.4	5824.0	5549.6
62.5°	2433.6	2458.1	2958.8	3921.1	5185.0	7000.0	7372.9	6923.2	6384.0	6576.1	6416.9
65°	1278.6	1274.4	1662.0	2709.5	4367.3	7256.9	9597.7	8832.4	7820.5	7610.3	7254.9
67.5°	714.4	737.4	887.6	1366.6	2846.4	6386.8	11018.8	11244.4	9817.7	8430.8	7218.5
69°	660.6	668.3	768.9	1056.6	1855.4	5269.5	10896.6	11972.7	10659.9	8434.3	6753.5
70°	641.8	650.1	741.6	973.5	1558.7	4317.7	10451.8	11887.5	10864.5	8247.2	6330.3
72.5°	575.4	586.6	675.3	875.0	1313.5	2225.5	8419.0	10174.5	9841.4	7208.1	4908.5
75°	490.9	509.8	643.9	868.7	1244.4	1414.8	5614.5	7580.3	7324.7	5155.0	2784.9
77.5°	203.2	205.3	281.4	636.2	1305.9	1354.0	3017.4	4801.7	4250.7	2260.5	838.7
80°	141.8	139.0	140.4	185.8	1053.8	1363.1	1548.2	2442.0	1898.0	596.4	392.5
82.5°	119.4	118.0	123.6	116.6	356.8	1546.8	1294.7	1273.0	893.9	321.2	187.1
85°	78.9	76.8	101.3	106.1	169.7	1228.3	1392.5	1000.7	666.2	171.8	79.6
87.5°	38.4	39.1	58.0	71.9	90.1	389.0	1333.8	791.2	514.7	74.7	32.1
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°	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6	2778.6
2.5°	2733.9	2713.0	2694.1	2670.4	2652.2	2636.9	2615.9	2615.2	2611.7	2616.6	2618.0
5°	2673.2	2638.3	2585.2	2525.8	2483.9	2428.8	2375.0	2356.8	2336.6	2334.5	2340.8
7.5°	2581.7	2527.2	2436.4	2345.7	2254.9	2162.0	2074.0	2029.3	1986.0	1972.8	1979.0
10°	2479.7	2410.6	2271.6	2123.6	1995.8	1857.5	1723.5	1636.9	1558.0	1524.4	1532.8
12.5°	2400.1	2312.1	2116.6	1924.6	1733.2	1534.9	1358.2	1187.1	1058.0	1000.0	1003.5
15°	2331.7	2219.3	1971.4	1715.8	1476.2	1204.6	959.5	761.2	648.0	606.1	604.7
17.5°	2257.7	2121.5	1819.8	1521.6	1210.9	875.0	642.5	525.1	480.4	466.5	466.5
20°	2178.8	2020.9	1661.3	1310.0	931.6	611.0	483.2	437.8	421.1	416.9	416.2
22.5°	2105.4	1922.5	1502.1	1084.5	673.9	463.7	411.3	393.9	391.1	394.6	394.6
25°	2047.5	1835.9	1340.8	847.1	490.2	388.3	365.9	363.8	374.3	386.9	389.0
27.5°	2004.2	1758.4	1181.6	618.7	385.5	338.0	330.3	339.4	363.8	389.0	393.9
30°	1974.2	1692.0	990.9	444.8	321.2	296.1	299.6	315.6	352.7	391.1	401.5
32.5°	1960.9	1638.3	798.9	341.5	274.4	260.5	269.6	290.5	328.9	367.3	379.9
35°	1973.5	1599.2	621.5	283.5	240.2	229.7	240.2	261.9	287.0	305.9	313.5
37.5°	2018.8	1585.2	467.9	251.4	217.9	207.4	215.8	230.4	241.6	248.6	252.1
40°	2114.5	1599.9	366.6	234.6	205.3	193.4	195.5	202.5	210.2	215.8	216.5
42.5°	2266.7	1648.0	326.1	228.4	197.6	182.3	178.8	183.7	192.0	199.7	201.1
45°	2469.3	1728.3	321.9	230.4	194.1	173.2	166.2	171.1	182.3	194.8	196.9
47.5°	2731.1	1855.4	341.5	241.6	196.2	168.3	157.8	162.7	177.4	194.1	196.9
50°	3041.2	2031.4	377.8	258.4	206.0	168.3	154.3	158.5	173.9	192.7	195.5
52.5°	3406.4	2276.5	415.5	275.1	220.0	174.6	155.7	155.0	169.0	186.5	189.9
55°	3809.3	2581.0	451.8	289.8	227.7	183.0	159.2	150.8	162.0	176.0	178.8
57.5°	4283.5	2997.9	515.4	303.8	231.8	189.2	163.4	146.6	152.9	162.7	164.8
60°	4926.7	3610.3	639.0	327.5	239.5	192.0	164.1	142.5	141.8	148.7	149.4
62.5°	5765.3	4327.5	757.0	355.4	254.9	192.7	161.3	139.7	132.7	134.8	134.8
65°	6361.7	4591.5	722.8	379.2	268.9	192.0	158.5	137.6	125.7	122.2	122.2
67.5°	6022.3	4055.8	613.8	385.5	270.3	184.4	152.2	132.7	119.4	111.0	111.0
69°	5523.7	3555.2	563.5	374.3	259.1	175.3	145.3	127.8	115.2	105.4	105.4
70°	5117.3	3176.0	532.8	361.0	245.8	167.6	139.0	122.9	111.0	102.7	102.0
72.5°	3820.5	2119.4	455.3	311.5	201.8	141.8	121.5	109.6	99.9	94.3	94.3
75°	2016.1	1062.1	372.9	254.2	155.7	113.1	99.9	92.2	86.6	85.9	85.2
77.5°	660.6	480.4	268.2	191.3	114.5	88.0	79.6	74.7	74.0	76.8	76.8
80°	356.8	287.0	172.5	129.2	79.6	65.6	61.5	60.8	62.8	67.0	67.0
82.5°	173.2	141.8	102.7	79.6	54.5	48.2	48.2	48.9	51.7	56.6	56.6
85°	74.7	67.0	59.4	44.7	33.5	30.0	34.2	37.7	39.8	43.3	44.7
87.5°	35.6	31.4	27.2	17.5	14.7	15.4	18.2	22.3	26.5	29.3	30.0
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)