

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: P197044

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-8030-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197044  
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-04-D-UNV-SL2-8030-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 80 CRI, 3000K, 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: 12859 lumens  
Efficiency: N/A  
Efficacy: 99.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Semi-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

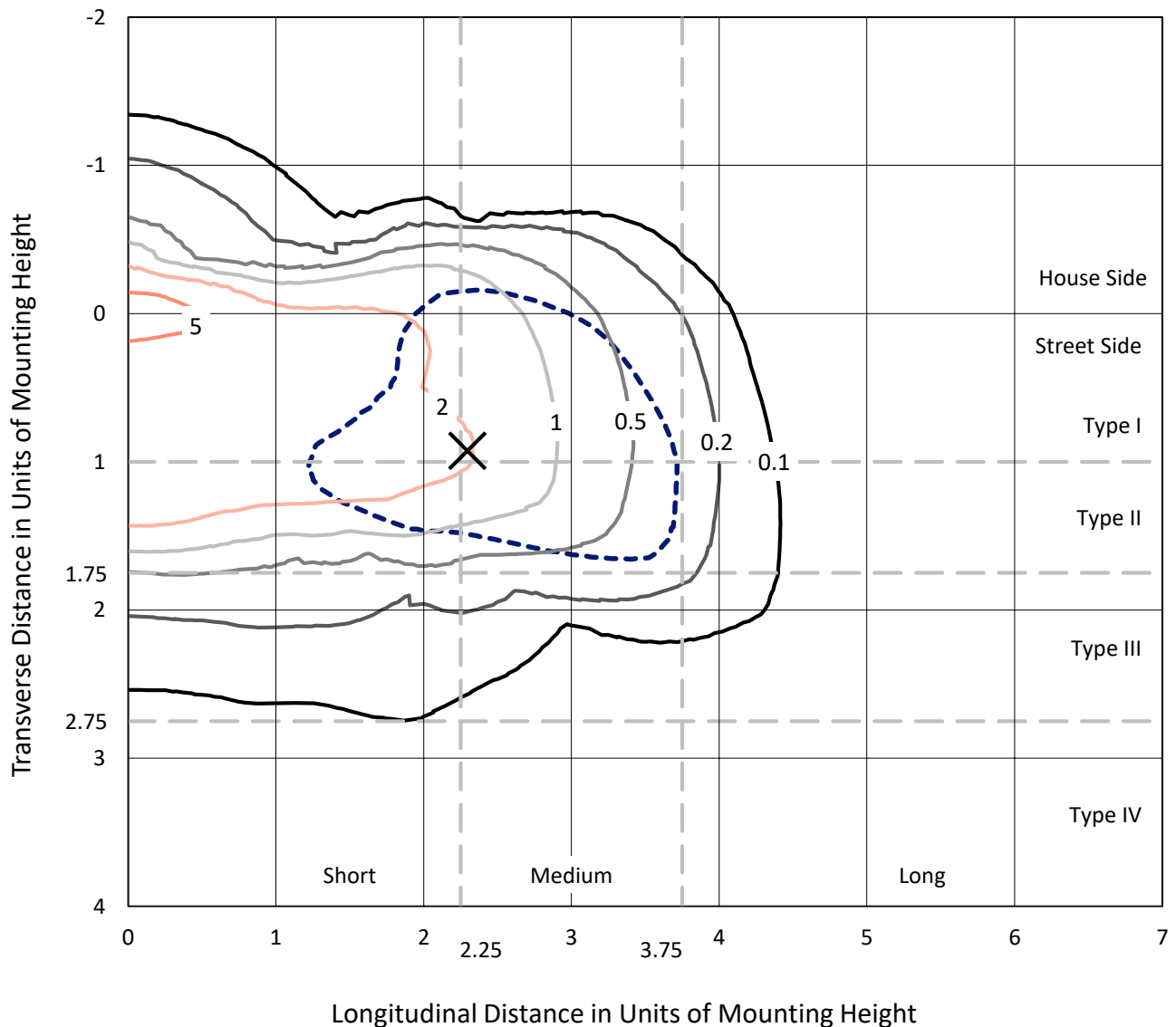


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### Iso-Footcandle Lines of Horizontal Illumination

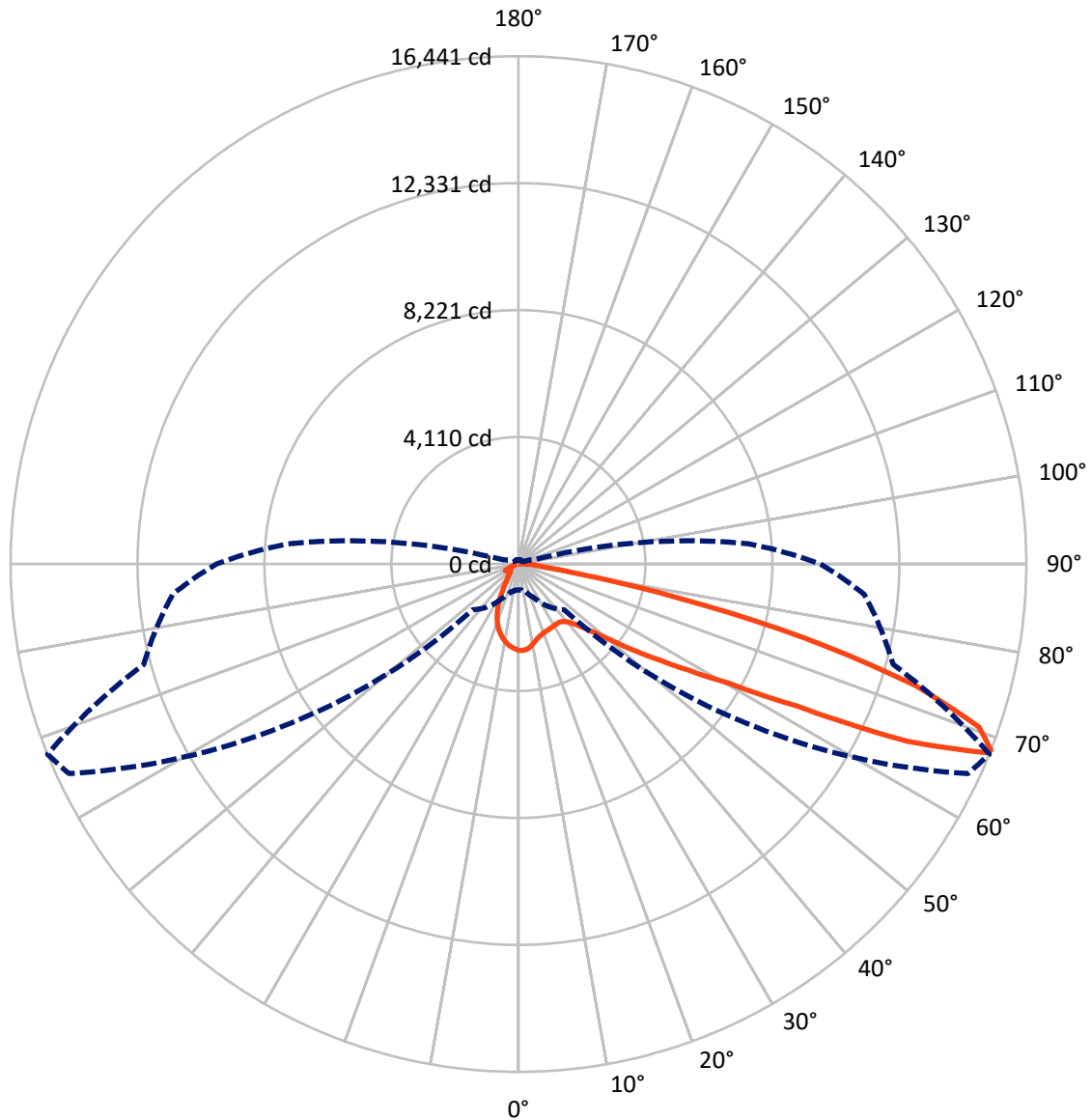
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7 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
<b>House Side</b>	Lumens	2103.8	0.0	2103.8
	% Fixture	16.4	0.0	16.4
<b>Street Side</b>	Lumens	10755.2	0.0	10755.2
	% Fixture	83.6	0.0	83.6
<b>Total</b>	Lumens	12859.0	0.0	12859.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	239.7	1.9
10°-20°	556.0	4.3
20°-30°	752.0	5.8
30°-40°	1060.3	8.2
40°-50°	1743.6	13.6
50°-60°	2702.7	21.0
60°-70°	3504.3	27.3
70°-80°	2010.9	15.6
80°-90°	289.3	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°	12859.0	100.0
0°-180°	12859.0	100.0



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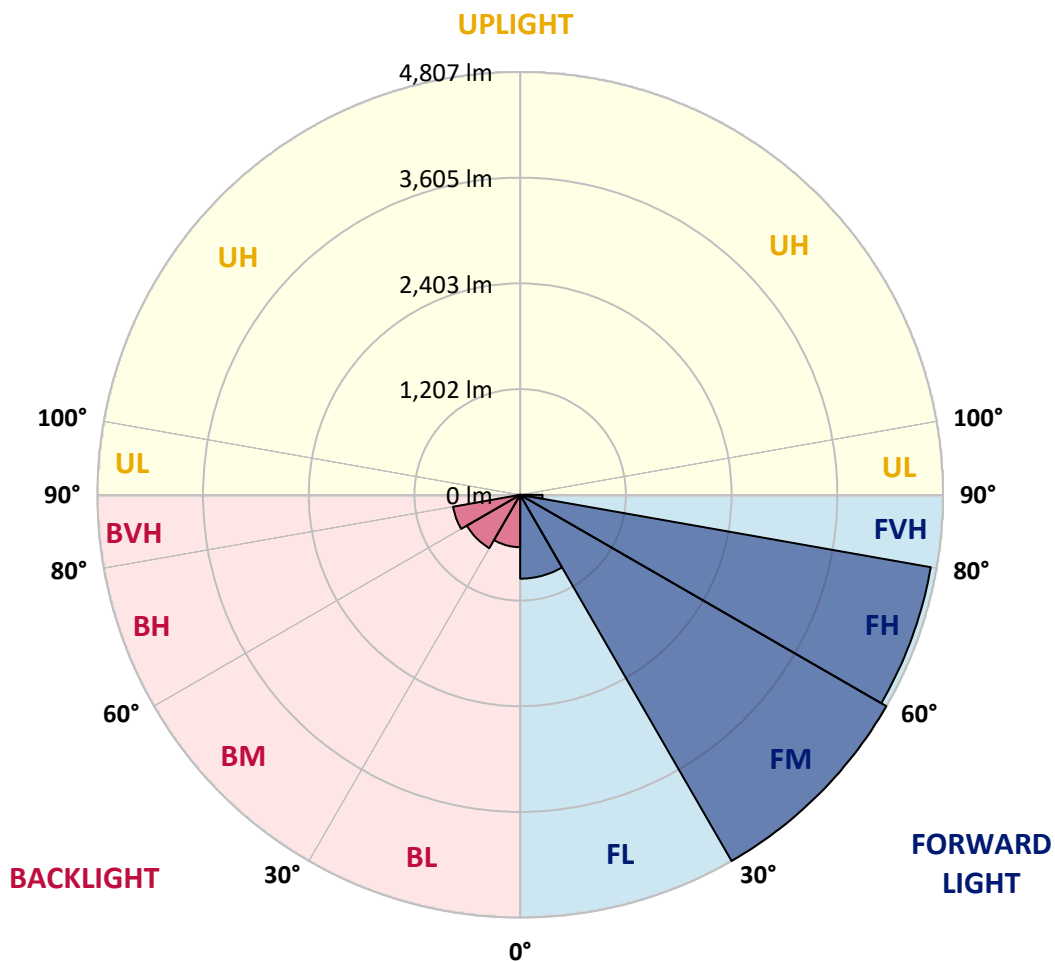
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	953.1	7.4			
FM (30°-60°)	4806.9	37.4			
FH (60°-80°)	4740.4	36.9			G2/5000
FVH (80°-90°)	254.8	2.0			G3/500
BL (0°-30°)	594.8	4.6	B2/1000		
BM (30°-60°)	699.7	5.4	B1/1000		
BH (60°-80°)	774.8	6.0	B2/1000		G2/1000
BVH (80°-90°)	34.5	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°	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0
2.5°	2723.2	2745.1	2745.1	2761.0	2775.3	2787.1	2797.2	2797.2	2797.2	2790.4	2784.6
5°	2436.8	2466.2	2470.4	2510.7	2563.6	2628.3	2700.6	2764.4	2777.0	2800.5	2809.8
7.5°	2237.7	2247.0	2262.9	2290.7	2344.4	2424.2	2537.6	2680.4	2714.8	2788.8	2827.4
10°	2096.6	2104.2	2117.6	2145.3	2194.1	2266.3	2378.0	2563.6	2620.8	2751.8	2828.2
12.5°	1993.3	1999.2	2011.8	2037.0	2086.5	2151.2	2265.5	2458.6	2529.2	2714.8	2840.0
15°	1912.7	1922.7	1932.8	1957.2	2007.6	2069.7	2185.7	2382.2	2458.6	2685.4	2861.8
17.5°	1880.7	1885.8	1887.5	1900.1	1945.4	2008.4	2124.3	2328.4	2407.4	2661.9	2878.6
20°	1900.9	1901.7	1884.9	1876.5	1902.6	1960.5	2073.1	2288.1	2368.8	2640.9	2885.4
22.5°	1989.1	1989.1	1945.4	1908.5	1890.8	1926.9	2038.7	2260.4	2347.8	2625.0	2885.4
25°	2157.1	2149.5	2081.5	2008.4	1930.3	1915.2	2016.8	2242.8	2331.8	2616.6	2874.4
27.5°	2378.0	2371.3	2284.8	2176.4	2035.3	1940.4	2009.3	2228.5	2315.8	2604.0	2850.9
30°	2646.8	2640.9	2542.6	2400.7	2192.4	2020.2	2026.9	2218.4	2303.3	2583.0	2811.4
32.5°	2914.8	2911.4	2833.3	2688.0	2409.1	2155.4	2073.1	2216.7	2296.5	2557.8	2763.6
35°	3184.4	3184.4	3136.5	3013.9	2700.6	2358.7	2169.7	2247.8	2309.1	2544.3	2722.4
37.5°	3582.6	3566.6	3477.6	3350.7	3067.6	2622.4	2325.9	2313.3	2357.8	2567.0	2709.0
40°	4199.1	4152.9	3930.3	3717.0	3468.3	2960.1	2554.4	2440.2	2467.0	2644.3	2740.9
42.5°	4844.2	4771.1	4476.3	4135.3	3882.4	3376.8	2854.3	2646.0	2645.1	2793.8	2842.5
45°	5397.8	5360.0	5040.8	4608.2	4355.3	3845.5	3233.1	2951.7	2921.5	3025.6	3038.2
47.5°	5719.5	5694.3	5501.9	5108.8	4916.5	4399.0	3713.6	3375.9	3318.8	3381.0	3361.6
50°	5630.4	5654.8	5599.4	5398.6	5519.6	5176.9	4325.9	3957.2	3848.8	3911.0	3863.9
52.5°	5161.7	5227.3	5276.8	5315.5	5866.5	6217.6	5095.4	4682.9	4593.1	4582.1	4536.8
55°	4317.5	4421.7	4577.9	4861.9	5773.2	7053.4	6439.4	5560.7	5429.7	5360.8	5378.5
57.5°	2938.3	3096.2	3433.0	3973.1	5288.6	7409.5	8426.8	6694.7	6473.0	6227.7	6284.8
60°	1618.7	1750.5	2151.2	2695.5	4182.3	7356.6	10188.2	8537.6	7839.6	7189.5	7307.1
62.5°	1047.5	1076.0	1374.2	1841.3	2567.0	6494.8	11166.8	11617.9	10138.7	8457.9	8623.3
65°	841.7	861.8	1008.0	1485.1	1788.3	4178.1	11210.5	14813.2	13838.0	10181.5	10186.5
67.5°	822.3	831.6	916.4	1249.1	1677.5	2274.7	9690.1	16073.2	16299.1	12216.0	11232.3
68°	834.1	845.0	930.7	1210.4	1676.6	2096.6	8956.0	16053.9	16441.1	12556.2	11232.3
70°	735.8	749.3	949.2	1252.4	1605.2	1802.6	6132.8	15201.3	15824.6	13338.2	10657.8
72.5°	384.7	373.8	469.6	988.7	1806.8	1878.2	3239.8	12699.8	13427.2	12352.9	9208.0
75°	299.9	273.0	262.9	390.6	1589.3	1947.9	1881.6	9026.5	9575.9	8904.7	6154.6
77.5°	282.2	249.5	230.2	231.0	699.7	2026.9	1522.1	5312.1	5312.1	4247.8	1963.9
80°	226.8	196.6	184.0	210.0	337.7	1868.1	1588.4	2420.8	2064.7	1097.9	541.0
82.5°	149.5	133.6	134.4	170.5	256.2	1247.4	1839.6	1195.3	897.9	486.4	318.4
85°	94.9	81.5	90.7	119.3	191.5	556.1	1821.1	830.7	594.7	273.0	158.8
87.5°	47.9	37.0	45.4	62.2	116.8	159.6	1499.4	741.7	441.0	113.4	86.5
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°	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0	2798.0
2.5°	2784.6	2766.1	2756.8	2741.7	2723.2	2704.8	2692.2	2686.3	2682.9	2684.6	2683.8
5°	2804.7	2780.4	2740.9	2684.6	2626.6	2565.3	2518.3	2482.2	2459.5	2452.8	2451.1
7.5°	2819.8	2784.6	2710.6	2608.2	2509.0	2401.5	2310.0	2236.9	2187.3	2164.7	2163.8
10°	2817.3	2772.0	2655.2	2504.0	2358.7	2200.8	2057.1	1934.5	1845.5	1802.6	1800.9
12.5°	2819.8	2757.7	2587.2	2382.2	2173.9	1947.9	1734.6	1543.9	1411.2	1348.2	1345.7
15°	2829.9	2742.6	2517.4	2246.1	1958.0	1638.8	1333.9	1094.5	973.5	932.4	932.4
17.5°	2829.1	2717.4	2436.8	2088.2	1701.8	1274.3	910.5	762.7	751.0	788.7	794.6
20°	2812.3	2677.0	2332.6	1900.9	1401.1	882.0	617.4	596.4	690.5	794.6	806.4
22.5°	2786.2	2625.0	2212.5	1683.3	1050.8	574.6	476.3	508.2	635.9	765.2	783.7
25°	2750.1	2562.0	2074.8	1430.5	698.9	413.3	397.3	436.8	526.7	613.2	626.6
27.5°	2697.2	2482.2	1924.4	1156.7	446.0	340.2	346.1	373.8	412.4	449.4	457.0
30°	2630.8	2388.9	1760.6	853.4	338.5	304.1	314.2	331.0	347.8	371.3	376.3
32.5°	2563.6	2294.0	1590.1	586.3	295.7	284.8	294.8	304.1	318.4	334.3	337.7
35°	2503.2	2205.8	1414.5	409.1	277.2	272.2	277.2	283.1	297.4	313.3	315.0
37.5°	2459.5	2133.6	1231.4	323.4	266.3	261.2	263.8	266.3	283.1	306.6	309.1
40°	2453.6	2085.7	1045.8	290.6	257.9	251.2	249.5	251.2	273.0	299.9	302.4
42.5°	2510.7	2088.2	864.3	277.2	251.2	243.6	236.9	240.2	259.6	280.6	282.2
45°	2646.0	2147.0	707.3	271.3	245.3	239.4	229.3	231.0	240.2	251.2	252.8
47.5°	2884.5	2275.5	587.2	268.0	240.2	235.2	222.6	217.6	218.4	224.3	224.3
50°	3265.9	2490.6	514.1	264.6	236.0	226.8	212.5	202.4	199.9	203.3	204.1
52.5°	3834.6	2859.3	478.8	257.9	228.5	215.9	199.9	189.8	185.6	189.0	189.0
55°	4603.1	3448.2	462.0	248.6	219.2	202.4	188.2	179.8	176.4	178.9	178.9
57.5°	5479.2	4213.4	490.6	236.0	207.5	188.2	178.1	172.2	169.7	172.2	173.0
60°	6520.0	5214.7	687.1	220.1	194.9	175.6	169.7	166.3	164.6	167.2	167.2
62.5°	7903.5	6546.9	1063.4	207.5	181.4	163.8	162.1	160.4	158.8	161.3	161.3
65°	9397.0	7759.0	1094.5	199.9	169.7	153.7	154.6	154.6	152.9	155.4	155.4
67.5°	9872.4	7654.0	611.5	190.7	155.4	143.6	147.0	147.0	146.2	148.7	147.8
68°	9771.6	7487.7	532.6	188.2	152.9	141.1	144.5	145.3	144.5	147.0	146.2
70°	9020.6	6573.8	350.3	173.9	142.0	132.7	137.8	138.6	137.8	141.1	140.3
72.5°	7446.5	4930.7	258.7	152.0	128.5	121.8	126.8	127.7	128.5	131.9	131.0
75°	4729.1	2723.2	204.1	129.4	115.1	109.2	114.2	116.8	118.4	123.5	121.0
77.5°	1295.3	826.5	165.5	110.0	99.1	96.6	100.0	103.3	105.0	110.9	106.7
80°	453.6	365.4	137.8	93.2	82.3	81.5	84.8	88.2	89.9	94.9	89.9
82.5°	275.5	238.6	110.0	73.1	64.7	63.8	68.0	71.4	73.1	73.1	69.7
85°	143.6	126.0	80.6	51.2	44.5	42.0	49.6	53.8	54.6	53.8	51.2
87.5°	80.6	71.4	42.8	24.4	20.2	21.0	26.0	31.9	34.4	33.6	31.9
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)