

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: P196946

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-8030-600-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196946  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)  
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-AFL-8030-600-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5497 lumens  
Efficiency: N/A  
Efficacy: 83.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B1 - U0 - G1

Input Watts (W): 66  
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

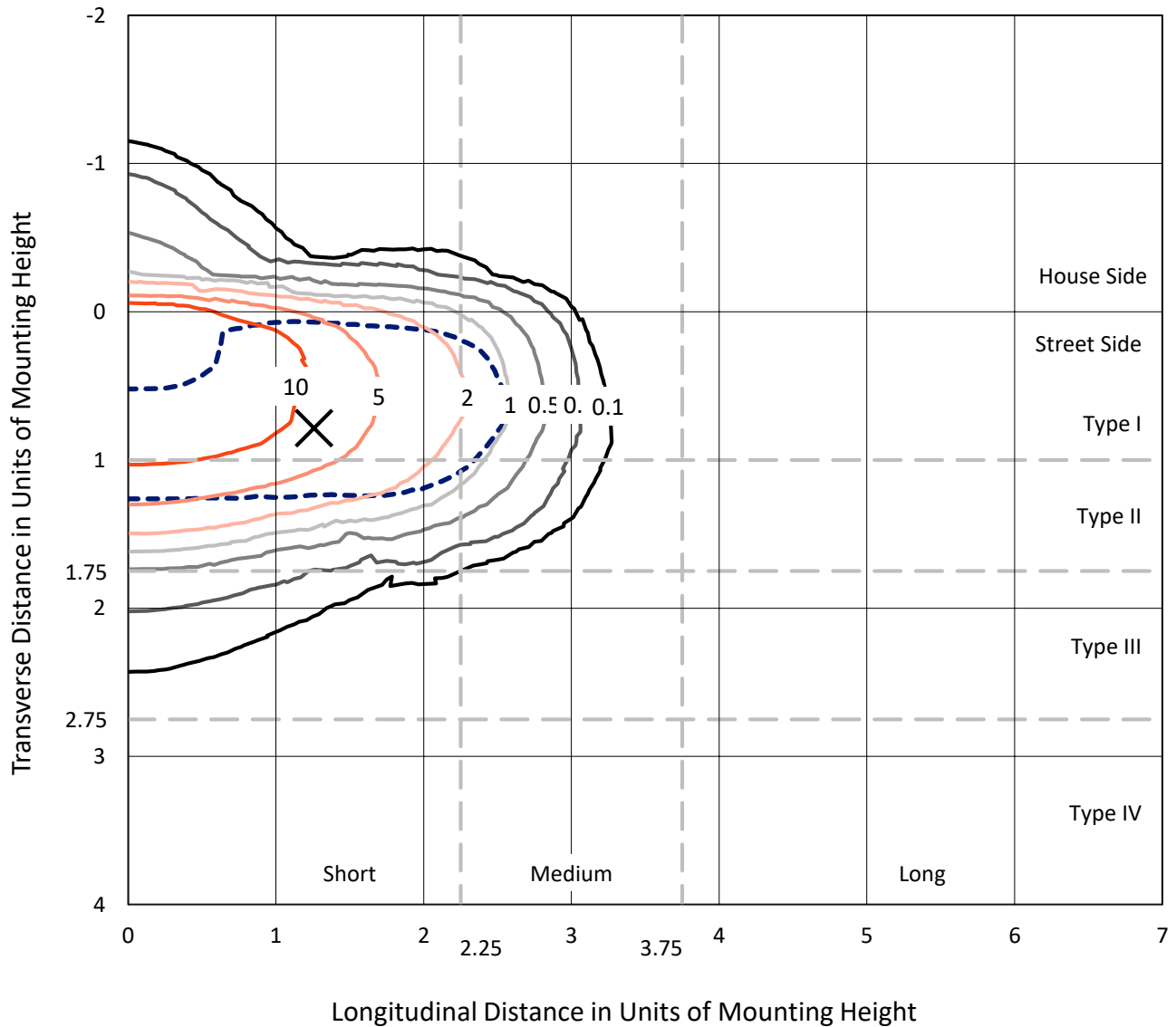


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

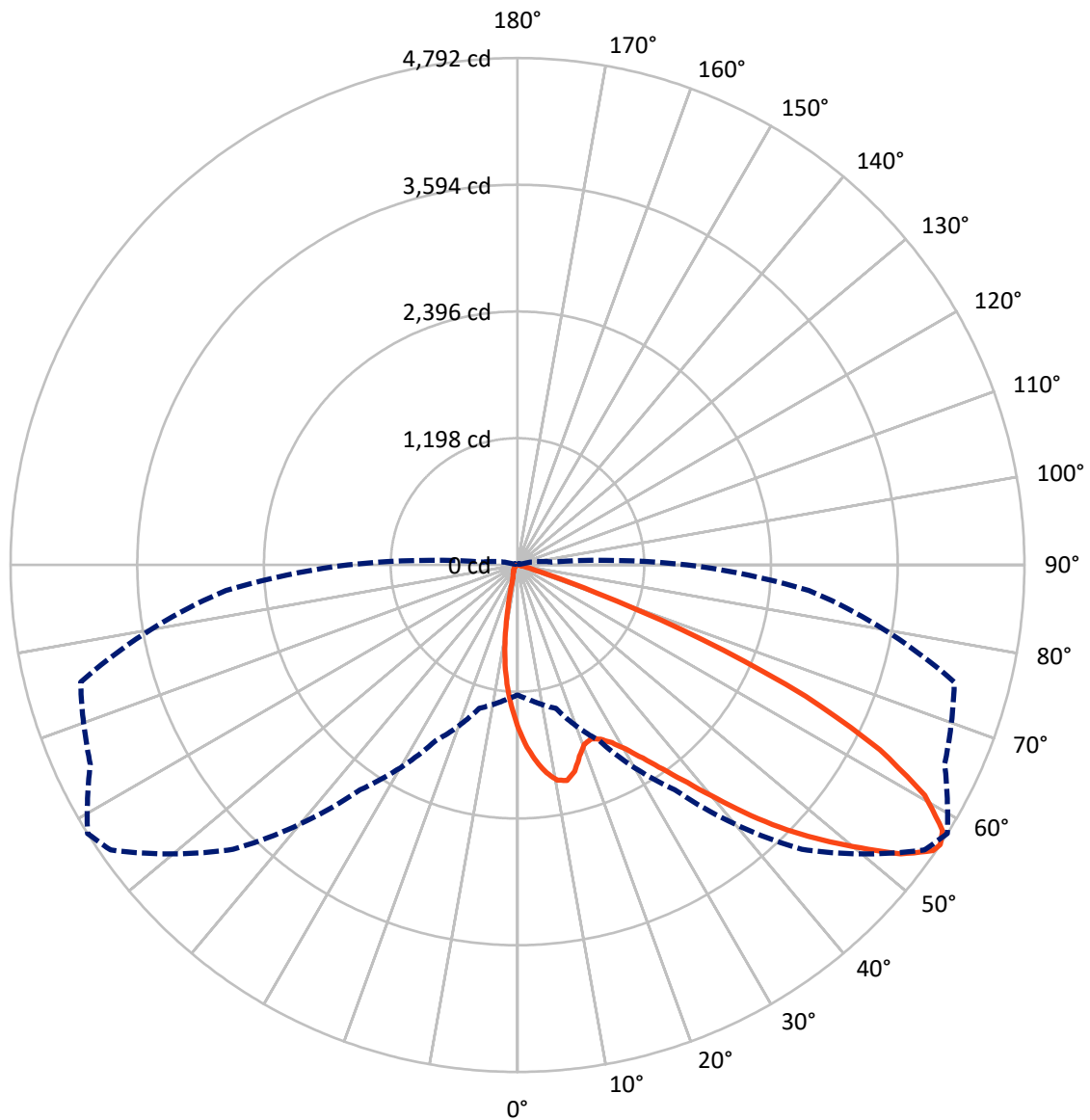


Based on 10 foot mounting height. Maximum calculated value = 19.3 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 56-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	343.1	0.0	343.1
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	5153.9	0.0	5153.9
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	5497.0	0.0	5497.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.8	2.4
10°-20°	308.9	5.6
20°-30°	519.8	9.5
30°-40°	890.1	16.2
40°-50°	1343.2	24.4
50°-60°	1396.3	25.4
60°-70°	783.8	14.3
70°-80°	107.4	2.0
80°-90°	14.6	0.3
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°	5497.0	100.0
0°-180°	5497.0	100.0



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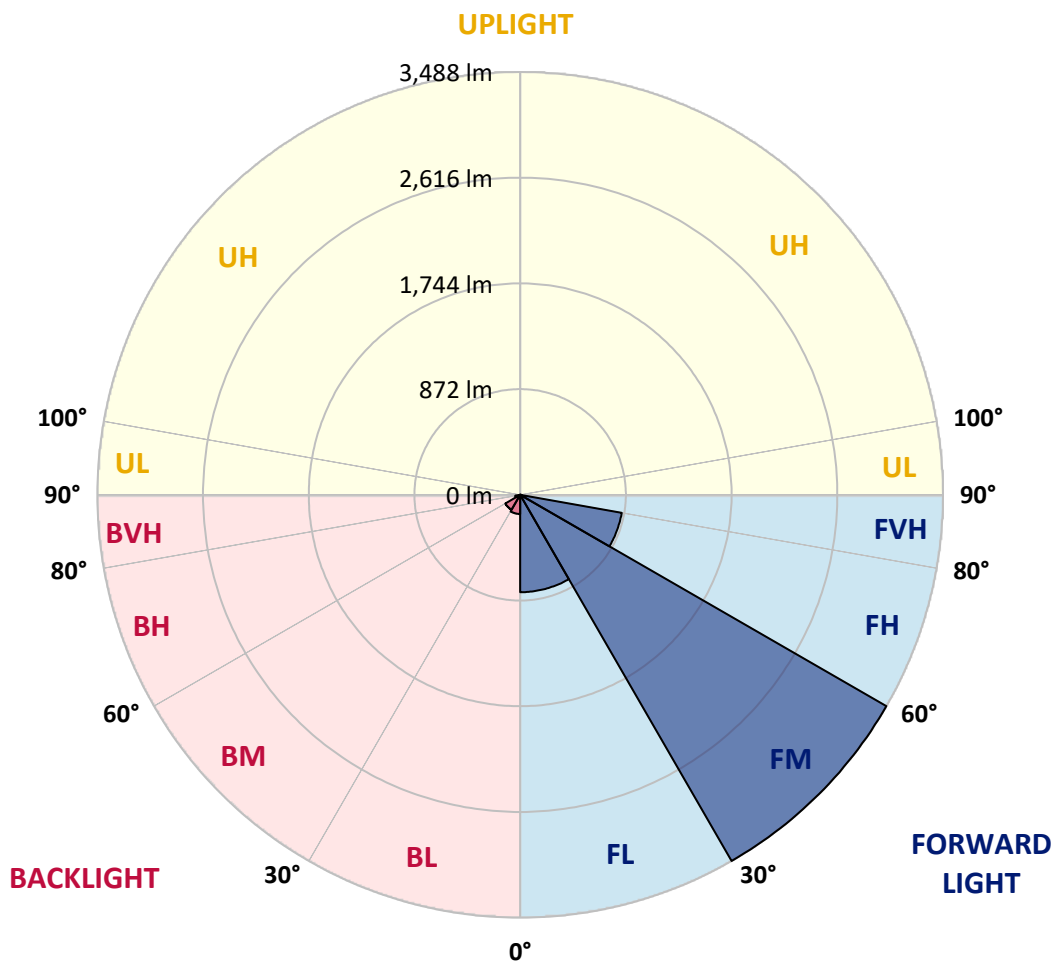
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	803.2	14.6			
FM	(30°-60°)	3487.5	63.4			
FH	(60°-80°)	850.6	15.5			G1/1800
FVH	(80°-90°)	12.5	0.2			G1/100
BL	(0°-30°)	158.3	2.9	B1/500		
BM	(30°-60°)	142.1	2.6	B0/220		
BH	(60°-80°)	40.7	0.7	B0/110		G0/110
BVH	(80°-90°)	2.0	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4
2.5°	1872.6	1861.3	1849.5	1827.7	1807.6	1776.5	1733.8	1723.3	1689.7	1634.4	1582.8
5°	2034.1	2032.0	2024.0	2006.4	1984.6	1946.8	1898.6	1866.3	1814.3	1727.1	1627.7
7.5°	1938.4	1956.0	1985.0	2026.1	2053.8	2050.0	2013.1	1985.0	1933.4	1814.3	1671.7
10°	1634.0	1637.3	1677.2	1763.5	1900.3	2027.8	2076.0	2068.4	2021.1	1890.6	1710.3
12.5°	1526.6	1528.7	1537.9	1565.6	1654.5	1832.3	2050.8	2090.3	2086.5	1963.6	1751.4
15°	1535.0	1536.2	1538.8	1547.6	1572.7	1662.1	1923.3	2023.6	2128.4	2032.8	1791.6
17.5°	1601.2	1600.4	1592.4	1584.0	1592.0	1621.4	1793.3	1899.0	2119.6	2091.1	1824.8
20°	1730.4	1734.6	1707.8	1670.4	1651.1	1652.4	1729.2	1808.4	2070.1	2136.4	1849.5
22.5°	1912.0	1914.9	1870.9	1806.3	1749.7	1721.2	1742.6	1784.5	2013.1	2178.3	1869.7
25°	2128.8	2128.8	2067.2	1975.3	1887.7	1825.2	1806.7	1822.7	1991.3	2225.7	1889.8
27.5°	2362.9	2371.2	2290.7	2170.4	2054.6	1963.2	1905.3	1902.4	2008.1	2285.3	1912.4
30°	2617.4	2625.0	2529.4	2382.2	2245.0	2128.0	2039.1	2019.8	2072.2	2365.4	1945.6
32.5°	2870.7	2877.0	2771.3	2621.2	2461.4	2323.9	2206.8	2176.2	2187.6	2482.4	1994.2
35°	3192.8	3194.1	3060.3	2881.6	2711.0	2549.5	2401.4	2371.2	2358.7	2630.0	2064.3
37.5°	3449.1	3439.0	3354.3	3185.3	2989.4	2820.8	2646.8	2607.4	2577.2	2837.6	2172.9
40°	3509.5	3509.5	3496.9	3446.2	3290.6	3128.3	2959.7	2900.9	2834.3	3082.1	2318.8
42.5°	3352.2	3362.3	3445.3	3555.6	3556.9	3452.9	3288.0	3238.6	3121.1	3360.6	2478.2
45°	3000.3	3003.3	3202.5	3500.3	3702.4	3762.0	3640.3	3572.0	3409.2	3650.0	2624.1
47.5°	2873.7	2882.9	2967.6	3331.7	3713.3	4012.3	3978.4	3884.4	3676.0	3914.2	2760.4
50°	2679.1	2690.4	2794.0	3083.4	3615.2	4173.0	4301.7	4201.1	3918.8	4134.4	2828.0
52.5°	2213.6	2231.2	2377.5	2755.0	3369.8	4179.7	4597.8	4537.4	4167.5	4252.2	2820.0
55°	1523.2	1536.2	1706.9	2150.6	2874.9	3974.6	4725.3	4766.8	4389.4	4278.6	2781.4
56°	1228.8	1277.5	1402.4	1832.3	2593.1	3800.1	4695.9	4792.0	4455.2	4274.5	2764.6
57.5°	812.4	821.6	957.9	1327.8	2082.3	3421.4	4563.4	4738.3	4539.9	4253.1	2752.5
60°	382.1	386.3	435.3	612.7	1126.9	2493.3	4132.7	4422.9	4571.0	4208.2	2752.1
62.5°	249.1	250.0	255.8	292.3	460.9	1358.0	3426.0	3843.7	4313.9	4203.2	2744.1
65°	205.1	207.2	200.1	204.7	241.2	512.1	2416.5	2996.6	3710.4	4084.9	2654.3
67.5°	180.8	181.2	171.5	166.1	176.6	224.8	1217.5	1890.2	2775.1	3470.9	2186.3
70°	164.8	164.4	153.5	140.9	141.3	149.3	396.7	785.1	1535.4	2060.9	1255.2
72.5°	146.4	147.2	140.9	123.3	117.4	105.7	149.3	211.8	522.6	661.8	330.9
75°	128.3	126.7	120.4	109.0	98.1	70.9	75.1	90.2	136.3	135.0	71.3
77.5°	97.3	95.6	98.6	93.1	76.7	49.5	41.1	47.0	61.7	57.5	28.9
80°	74.2	73.4	67.1	79.7	70.0	37.3	28.1	28.9	33.6	30.6	14.3
82.5°	53.7	53.3	50.7	49.1	44.5	27.3	21.4	22.6	25.2	21.4	10.5
85°	20.6	20.6	39.8	33.6	30.6	18.5	15.1	16.4	19.3	15.5	7.1
87.5°	3.4	3.4	26.8	22.2	13.8	9.2	9.6	10.5	11.3	9.2	5.5
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°	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4	1556.4
2.5°	1552.2	1524.1	1462.4	1402.9	1350.9	1293.8	1264.9	1231.3	1218.8	1193.6	1196.1
5°	1568.1	1509.4	1385.7	1255.2	1135.7	1014.1	927.7	846.3	801.0	756.2	756.2
7.5°	1584.5	1494.7	1303.5	1095.0	893.7	685.3	537.7	419.4	353.5	309.5	308.3
10°	1595.8	1475.8	1209.9	909.2	612.3	353.1	213.1	167.8	151.4	144.3	143.9
12.5°	1610.5	1457.0	1103.4	690.3	340.1	167.8	132.9	125.8	122.9	121.2	121.2
15°	1623.1	1430.1	974.2	464.3	178.7	125.8	114.5	112.0	111.6	111.1	111.6
17.5°	1626.0	1392.0	819.5	271.8	129.6	109.9	104.8	102.8	102.8	102.3	102.3
20°	1619.3	1341.6	648.4	167.8	112.0	101.1	95.6	93.1	92.7	92.7	92.7
22.5°	1605.4	1277.5	479.4	127.1	101.9	93.1	86.0	83.5	83.5	83.9	84.3
25°	1588.2	1201.6	329.2	109.5	94.4	84.7	77.6	75.1	75.9	76.7	77.2
27.5°	1566.4	1111.0	215.6	94.8	84.3	76.3	70.0	68.4	70.0	71.7	72.6
30°	1544.6	1011.6	145.9	82.2	73.0	67.1	63.3	62.9	65.4	69.2	69.6
32.5°	1530.4	909.7	110.3	73.8	64.2	59.1	57.5	58.3	62.1	66.3	67.1
35°	1529.1	810.3	93.9	67.1	58.3	53.7	52.8	55.4	59.6	62.9	63.7
37.5°	1548.8	717.2	85.1	62.1	53.7	49.1	47.8	52.4	56.2	59.6	60.4
40°	1588.7	633.7	79.3	57.5	49.9	44.5	43.6	47.4	51.2	54.9	56.2
42.5°	1638.6	555.7	72.6	52.8	45.7	39.4	38.6	41.5	45.3	50.7	51.6
45°	1681.8	483.1	65.4	47.8	41.1	34.0	33.6	36.9	39.8	44.9	45.7
47.5°	1718.3	422.7	58.7	42.4	35.2	30.2	29.8	31.5	33.1	37.7	38.6
50°	1699.0	371.6	52.0	34.8	28.5	26.0	25.6	25.6	27.7	32.3	33.1
52.5°	1651.6	339.7	45.7	28.9	23.5	22.2	21.0	21.4	23.5	25.6	26.0
55°	1613.4	324.6	40.3	25.6	19.7	18.5	17.2	16.8	17.2	16.4	15.5
56°	1604.2	322.9	39.0	24.7	18.9	17.2	15.5	14.7	14.3	12.6	12.2
57.5°	1600.0	322.9	36.9	23.1	17.6	15.5	13.4	11.7	10.1	8.8	8.8
60°	1596.6	325.0	34.4	20.1	15.1	12.6	9.6	7.1	5.9	5.9	5.9
62.5°	1589.5	324.2	31.5	16.8	13.0	9.6	5.9	4.6	4.2	4.6	5.0
65°	1509.4	301.1	27.7	13.4	10.1	6.7	3.4	3.4	3.8	4.6	5.0
67.5°	1216.2	228.1	22.6	10.5	7.1	5.0	2.9	2.9	3.8	4.6	5.0
70°	668.1	120.4	19.3	7.5	5.5	4.2	2.9	2.5	3.8	4.6	5.0
72.5°	163.1	50.3	17.6	5.9	5.0	3.8	2.5	2.5	3.8	4.6	5.0
75°	40.3	37.7	14.3	4.6	4.2	3.4	2.5	2.5	3.8	4.6	5.0
77.5°	18.9	49.9	9.6	4.2	3.8	2.9	2.5	2.5	3.8	4.6	4.6
80°	11.3	37.7	5.9	3.8	3.4	2.9	2.5	2.5	3.8	4.6	5.0
82.5°	6.7	10.9	4.2	3.8	3.4	2.5	2.5	2.5	3.8	4.6	5.0
85°	5.9	5.5	4.2	3.8	3.4	2.9	2.5	2.5	4.2	5.0	5.0
87.5°	4.6	4.2	3.8	3.4	3.4	2.9	2.5	2.5	3.8	4.6	5.0
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)