

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: P195099

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7060-600-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195099  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)  
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-SL2-7060-600-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9735 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type II - Medium - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 96  
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

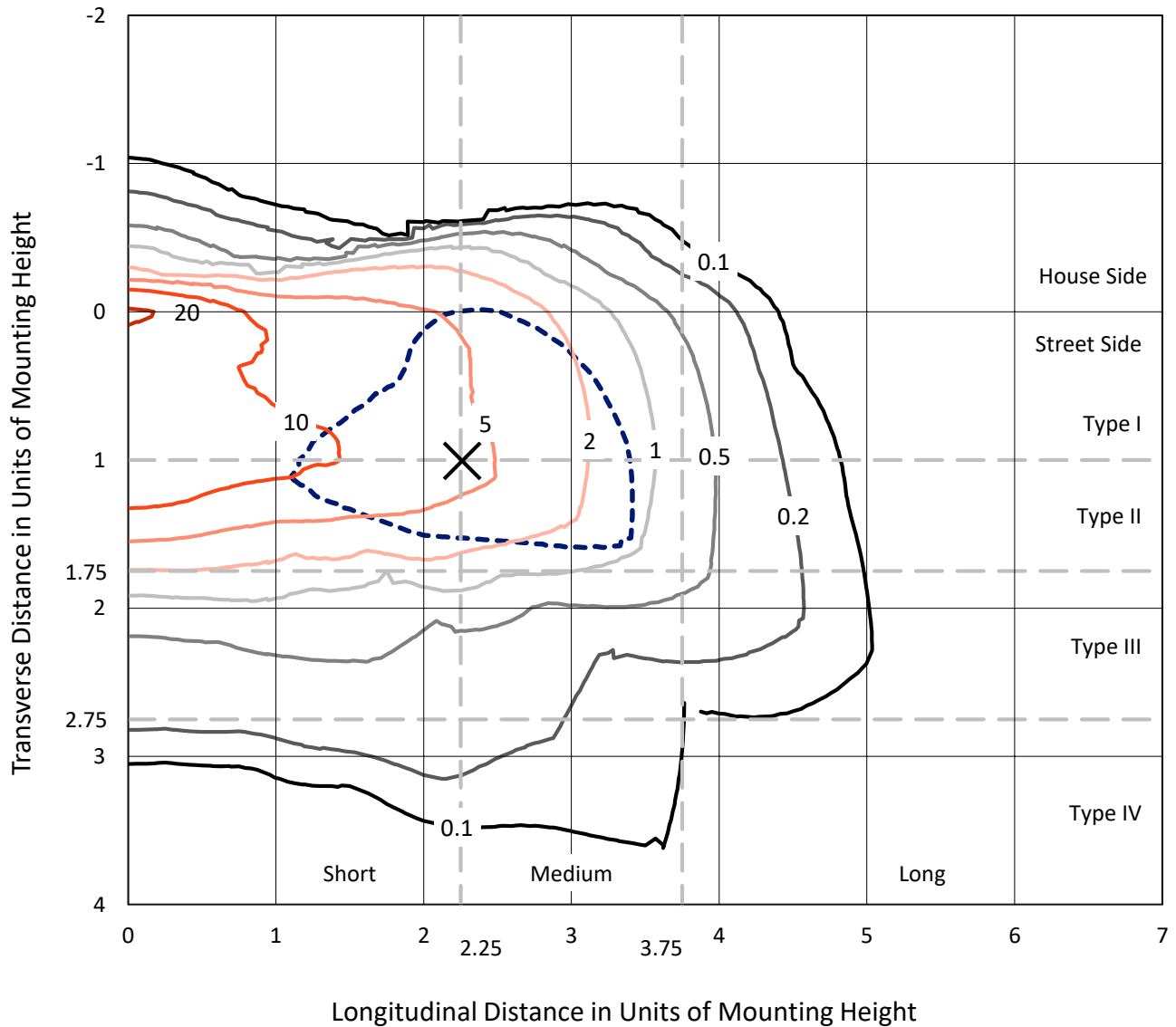


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

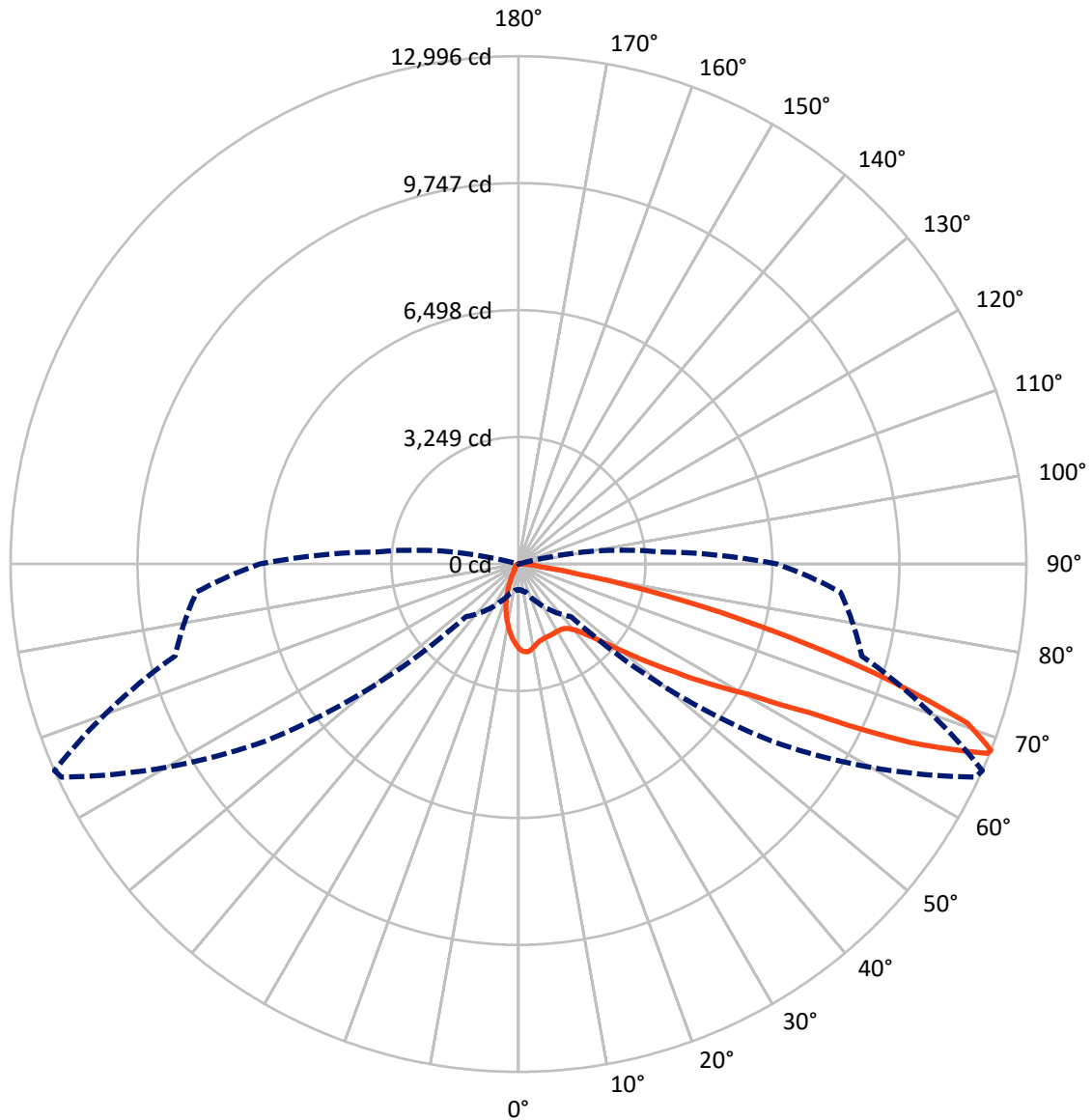


Based on 10 foot mounting height. Maximum calculated value = 21.7 fc  
 Type II - Medium - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral      - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	986.0	0.0	986.0
	% Fixture	10.1	0.0	10.1
<b>Street Side</b>	Lumens	8749.0	0.0	8749.0
	% Fixture	89.9	0.0	89.9
<b>Total</b>	Lumens	9735.0	0.0	9735.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	177.8	1.8
10°-20°	382.6	3.9
20°-30°	554.4	5.7
30°-40°	848.6	8.7
40°-50°	1451.5	14.9
50°-60°	2270.6	23.3
60°-70°	2614.5	26.9
70°-80°	1308.3	13.4
80°-90°	126.7	1.3
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°	9735.0	100.0
0°-180°	9735.0	100.0



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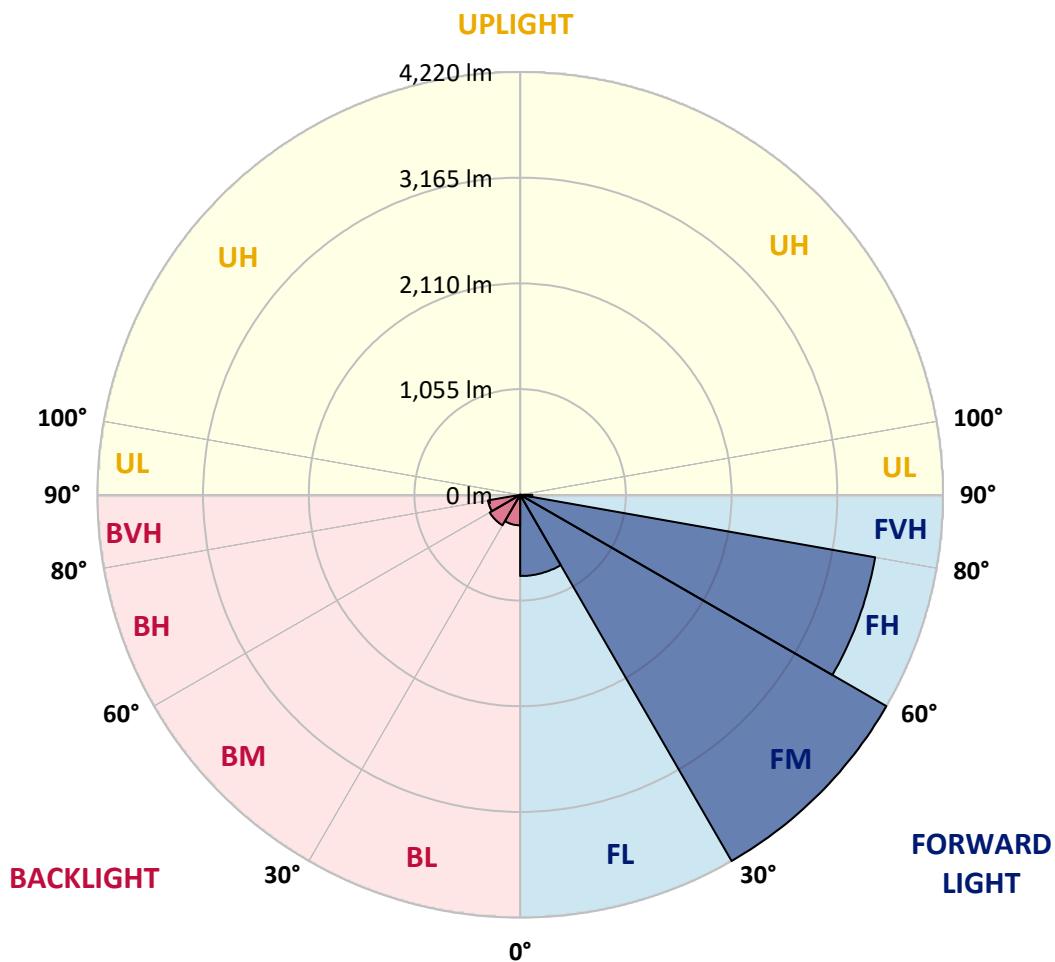
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	810.4	8.3			
FM	(30°-60°)	4219.6	43.3			
FH	(60°-80°)	3597.1	36.9			G2/5000
FVH	(80°-90°)	121.9	1.3			G2/225
BL	(0°-30°)	304.3	3.1	B1/500		
BM	(30°-60°)	351.1	3.6	B1/1000		
BH	(60°-80°)	325.8	3.3	B1/500		G1/500
BVH	(80°-90°)	4.8	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-G2**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9
2.5°	2281.2	2282.7	2282.0	2284.3	2282.7	2271.3	2259.0	2233.1	2235.4	2201.7	2164.3
5°	2120.7	2133.7	2146.7	2159.7	2191.0	2218.5	2251.4	2259.0	2259.0	2230.0	2175.0
7.5°	1957.2	1957.9	1972.5	1990.0	2032.1	2082.5	2158.9	2227.7	2229.2	2236.9	2176.5
10°	1834.1	1838.0	1847.9	1867.0	1909.0	1958.7	2044.3	2152.1	2160.5	2217.0	2161.2
12.5°	1738.6	1743.2	1753.9	1776.1	1814.3	1865.5	1955.6	2078.7	2090.2	2197.9	2156.6
15°	1665.2	1671.4	1679.8	1701.9	1743.2	1797.5	1896.0	2029.8	2043.5	2190.3	2171.2
17.5°	1634.7	1634.7	1633.9	1649.2	1690.5	1745.5	1848.7	2003.8	2021.4	2196.4	2195.6
20°	1647.7	1645.4	1629.3	1625.5	1650.7	1705.7	1811.2	1987.0	2006.9	2207.8	2225.4
22.5°	1716.4	1711.9	1675.9	1646.1	1638.5	1675.2	1786.0	1975.5	1999.2	2231.5	2265.2
25°	1862.4	1848.7	1799.0	1731.7	1671.4	1667.5	1768.4	1969.4	1994.6	2259.0	2308.7
27.5°	2051.9	2048.1	1968.6	1878.5	1762.3	1692.8	1763.1	1964.8	1990.0	2278.9	2343.9
30°	2287.3	2288.8	2197.1	2079.5	1903.7	1763.8	1779.9	1962.5	1988.5	2280.4	2359.2
32.5°	2530.3	2531.9	2455.4	2329.4	2097.0	1886.1	1827.3	1973.2	1996.9	2274.3	2358.4
35°	2764.2	2766.5	2720.6	2619.0	2355.3	2055.8	1916.7	2009.9	2026.7	2278.1	2356.9
37.5°	3060.0	3069.1	3012.6	2917.8	2679.4	2304.9	2062.6	2084.0	2097.8	2309.5	2368.3
40°	3564.3	3552.1	3390.1	3229.6	3030.9	2608.3	2273.6	2211.7	2216.2	2390.5	2411.9
42.5°	4152.0	4136.7	3859.3	3582.7	3392.4	2974.4	2543.3	2407.3	2406.5	2526.5	2506.7
45°	4657.9	4648.8	4356.8	3987.7	3792.8	3378.6	2875.8	2689.3	2680.1	2761.9	2679.4
47.5°	5017.1	5009.5	4788.6	4418.7	4256.0	3823.4	3290.7	3073.7	3054.6	3069.9	2959.8
50°	5052.3	5043.9	4966.7	4729.0	4797.0	4476.1	3803.5	3577.3	3552.9	3529.2	3384.0
52.5°	4723.7	4722.9	4763.4	4748.1	5176.1	5315.9	4432.5	4200.2	4171.1	4110.8	3966.3
55°	4051.9	4048.1	4201.7	4424.9	5167.7	6182.6	5391.6	4941.5	4903.3	4782.5	4593.0
57.5°	2960.6	2940.7	3261.7	3734.8	4804.7	6561.6	6914.7	5862.4	5798.9	5416.1	5124.1
60°	1634.7	1642.3	2055.0	2615.2	3944.9	6486.7	8316.3	6936.1	6769.5	5962.5	5668.2
62.5°	916.3	935.4	1242.6	1699.6	2515.1	5879.2	9068.3	8784.0	8382.8	6599.8	6356.0
65°	693.2	704.6	859.0	1311.4	1585.8	4108.5	9188.3	11367.8	11021.6	7565.8	7451.2
67.5°	652.6	661.8	737.5	1087.5	1444.4	2130.7	8284.9	12896.3	12939.8	8883.3	8299.5
68°	657.2	668.7	744.4	1046.2	1442.1	1906.0	7899.8	12903.9	12996.4	9095.8	8270.4
70°	603.7	606.8	787.2	1026.4	1397.8	1501.7	5714.9	12019.7	12185.5	9348.7	7507.7
72.5°	230.8	231.6	353.1	888.8	1464.3	1510.1	2878.8	9500.1	9508.5	8135.9	5853.2
75°	120.0	100.9	110.8	278.2	1398.5	1471.9	1444.4	6486.7	6446.2	5502.4	3586.5
77.5°	82.5	70.3	74.1	96.3	581.6	1471.1	1043.2	3730.2	3721.8	2340.8	1023.3
80°	46.6	40.5	44.3	81.0	204.0	1381.0	972.1	1603.3	1510.9	411.2	165.8
82.5°	23.7	19.9	23.7	68.0	126.9	868.9	945.3	629.0	560.2	97.8	107.8
85°	6.1	6.1	11.5	47.4	78.7	285.1	847.5	453.9	408.1	42.8	76.4
87.5°	1.5	0.8	4.6	17.6	28.3	61.9	470.0	253.0	217.8	22.2	44.3
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°	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9	2168.9
2.5°	2149.0	2127.6	2085.6	2038.2	2004.6	1967.9	1946.5	1920.5	1900.6	1883.0	1896.0
5°	2141.4	2100.1	2006.9	1902.2	1814.3	1730.2	1667.5	1607.9	1562.8	1534.6	1546.0
7.5°	2121.5	2060.3	1909.0	1745.5	1601.8	1466.5	1356.5	1257.9	1181.5	1140.2	1153.2
10°	2087.9	2001.5	1798.2	1571.2	1370.3	1179.2	1015.7	868.9	758.1	706.1	718.4
12.5°	2063.4	1949.5	1683.6	1403.1	1138.7	867.4	650.4	482.2	395.9	343.9	348.5
15°	2052.7	1909.0	1576.6	1225.8	885.7	557.1	351.5	254.5	224.7	214.0	214.7
17.5°	2054.2	1876.9	1475.0	1041.6	630.5	320.2	215.5	194.1	189.5	187.2	187.2
20°	2058.1	1844.8	1369.5	849.8	403.5	206.3	179.6	172.7	170.4	167.4	168.1
22.5°	2069.5	1820.4	1263.3	657.2	248.4	168.1	159.0	152.8	149.0	144.4	145.2
25°	2087.1	1802.0	1158.6	473.1	175.0	146.7	138.3	129.9	123.0	117.7	118.5
27.5°	2097.8	1776.1	1047.0	322.5	145.2	128.4	116.9	105.5	97.8	93.2	92.5
30°	2090.2	1734.0	920.1	211.7	128.4	110.8	97.1	84.1	76.4	72.6	72.6
32.5°	2069.5	1679.8	780.3	154.4	113.9	95.5	78.7	67.3	61.9	59.6	60.4
35°	2045.8	1623.2	631.2	130.7	102.4	81.0	64.2	55.0	52.7	52.0	52.0
37.5°	2032.8	1574.3	488.3	118.5	91.7	67.3	52.7	47.4	45.1	45.1	45.1
40°	2047.4	1536.9	361.5	109.3	81.0	55.8	44.3	40.5	39.7	39.7	39.7
42.5°	2109.3	1523.9	264.4	101.6	70.3	46.6	38.2	35.2	34.4	35.2	35.2
45°	2230.0	1552.1	200.2	94.0	60.4	38.2	32.9	30.6	30.6	31.3	31.3
47.5°	2434.8	1624.7	164.3	86.4	50.4	32.1	28.3	26.7	26.7	27.5	27.5
50°	2752.7	1759.2	147.5	78.0	42.0	27.5	23.7	22.9	22.9	23.7	24.5
52.5°	3235.7	2015.3	139.1	69.5	34.4	22.9	19.9	19.1	19.9	20.6	20.6
55°	3773.0	2343.1	129.2	61.1	29.0	19.1	16.0	16.0	16.8	18.3	18.3
57.5°	4273.5	2659.5	120.0	50.4	25.2	15.3	13.0	13.0	14.5	16.0	16.0
60°	4802.4	2969.8	107.8	40.5	21.4	12.2	10.7	10.7	13.0	14.5	15.3
62.5°	5455.8	3330.5	91.7	32.1	16.8	9.2	7.6	9.9	12.2	14.5	14.5
65°	6400.4	3779.1	71.8	25.2	13.0	6.9	6.1	9.2	11.5	13.8	14.5
67.5°	6743.5	3721.8	54.3	20.6	9.9	5.3	5.3	8.4	11.5	13.8	13.8
68°	6618.2	3596.4	52.0	19.9	9.2	5.3	5.3	8.4	11.5	13.8	13.8
70°	5766.8	2940.0	42.8	15.3	7.6	4.6	4.6	7.6	11.5	13.0	13.8
72.5°	4317.9	1953.4	36.7	9.9	6.9	4.6	3.8	7.6	10.7	13.0	13.0
75°	2476.8	810.8	31.3	7.6	6.1	3.8	3.8	6.9	10.7	13.0	13.0
77.5°	700.0	189.5	25.2	6.1	5.3	3.8	3.1	6.9	9.9	12.2	12.2
80°	128.4	56.6	19.9	5.3	4.6	3.8	3.1	6.9	9.9	12.2	12.2
82.5°	84.8	26.7	14.5	5.3	4.6	3.8	3.1	6.1	9.2	11.5	11.5
85°	63.4	19.1	9.2	5.3	4.6	3.8	3.1	6.1	9.2	11.5	11.5
87.5°	35.2	8.4	6.9	6.1	5.3	3.8	3.1	5.3	8.4	10.7	10.7
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)