

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: P195692

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7050-1200-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195692  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)  
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-SL4-7050-1200-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10885 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

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

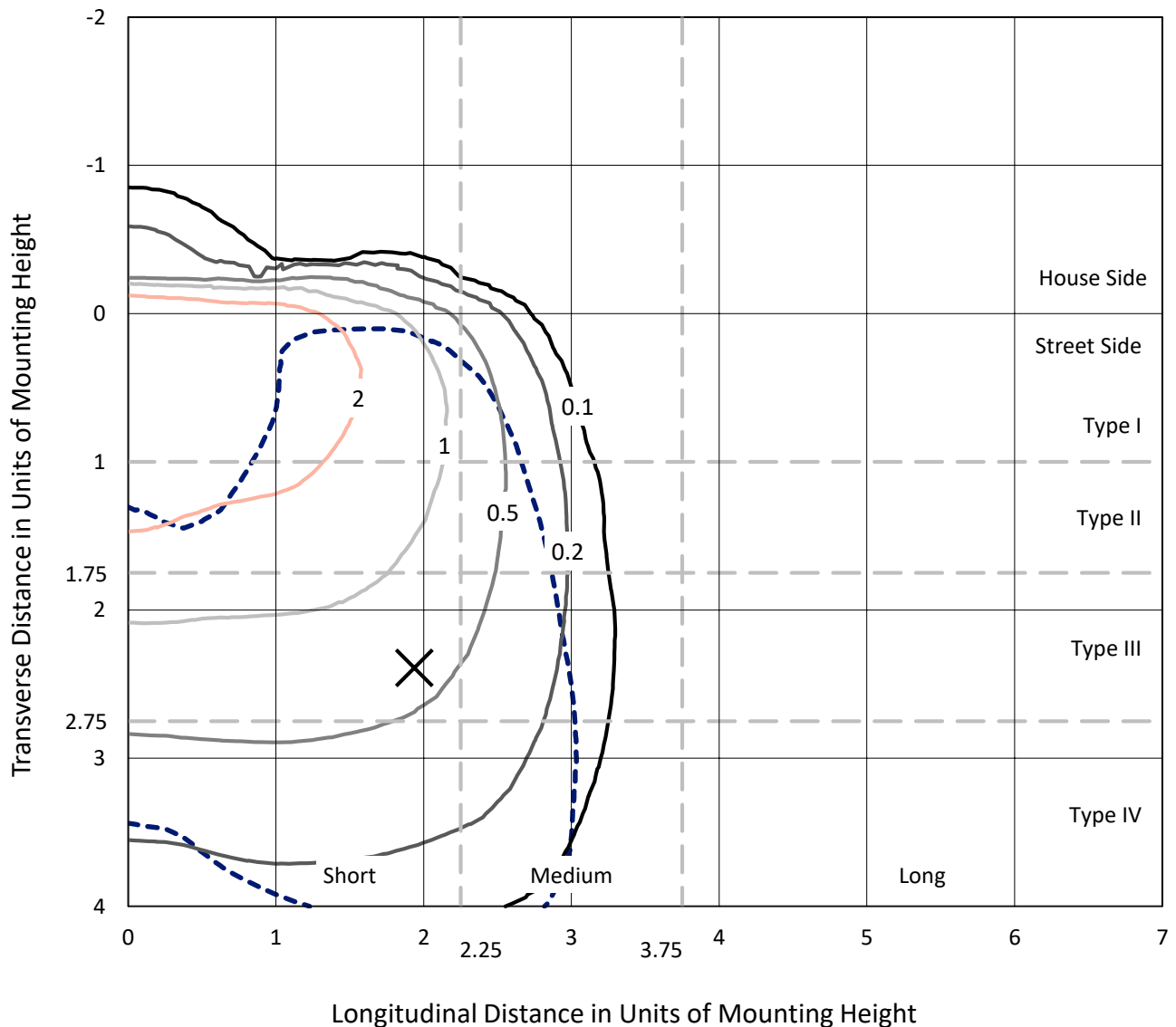


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

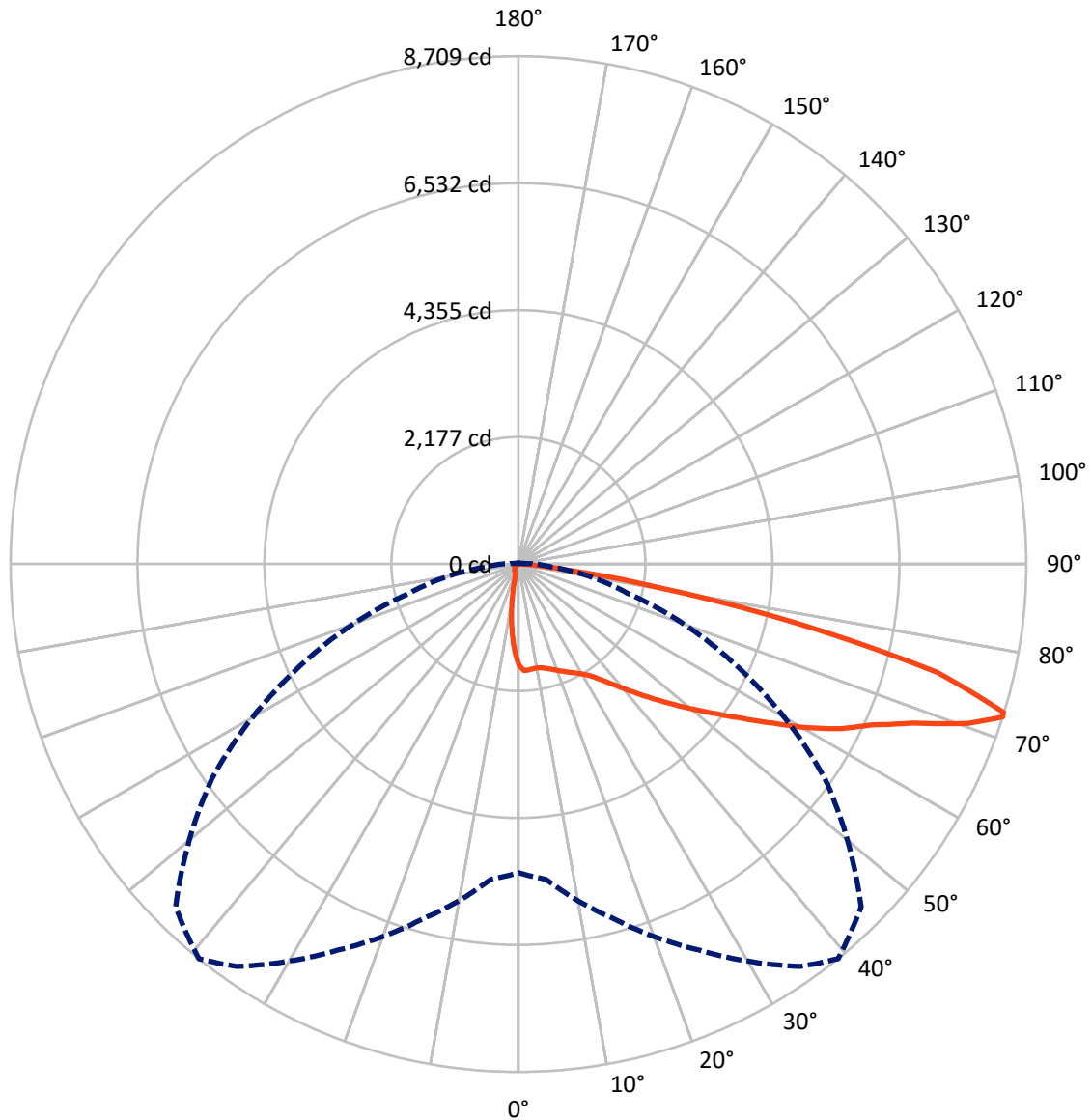


Based on 20 foot mounting height. Maximum calculated value = 4.6 fc  
 Type IV - Short - Non-Cutoff

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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	713.4	0.0	713.4
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	10171.6	0.0	10171.6
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	10885.0	0.0	10885.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.7	1.3
10°-20°	343.1	3.2
20°-30°	569.8	5.2
30°-40°	908.1	8.3
40°-50°	1499.0	13.8
50°-60°	2263.7	20.8
60°-70°	2948.9	27.1
70°-80°	1992.6	18.3
80°-90°	218.2	2.0
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°	10885.0	100.0
0°-180°	10885.0	100.0

**Coefficient of Utilization**



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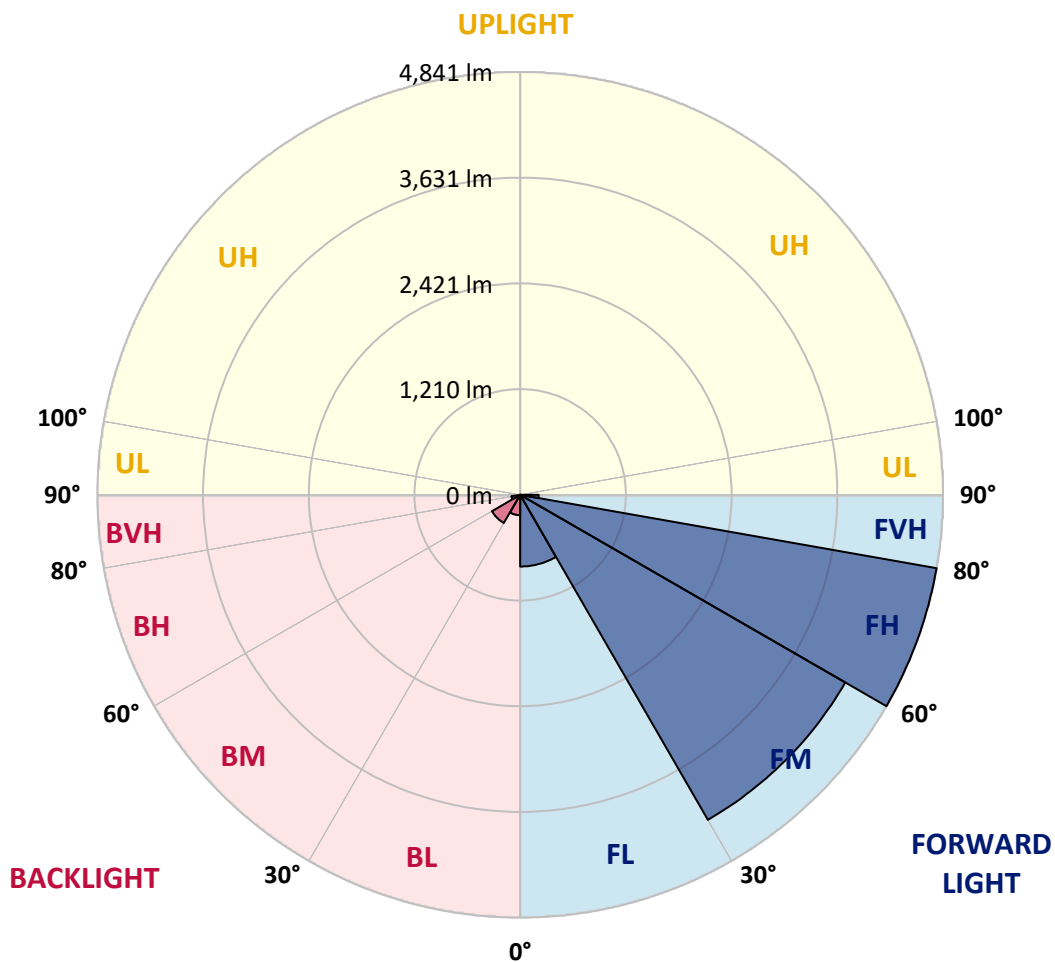
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	821.0	7.5			
FM	(30°-60°)	4297.5	39.5			
FH	(60°-80°)	4841.2	44.5			G2/5000
FVH	(80°-90°)	211.9	1.9			G2/225
BL	(0°-30°)	233.6	2.1	B1/500		
BM	(30°-60°)	373.2	3.4	B1/1000		
BH	(60°-80°)	100.3	0.9	B0/110		G0/110
BVH	(80°-90°)	6.3	0.1			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2
2.5°	1855.2	1858.6	1854.3	1846.6	1835.5	1828.6	1819.2	1798.7	1773.0	1750.8	1725.1
5°	1869.7	1871.4	1866.3	1851.7	1834.6	1825.2	1813.2	1791.0	1764.5	1733.7	1687.4
7.5°	1874.0	1873.1	1867.1	1849.2	1822.7	1810.7	1790.1	1762.8	1735.4	1707.1	1654.9
10°	1872.3	1872.3	1868.0	1850.9	1820.9	1809.8	1786.7	1757.6	1723.4	1695.2	1639.5
12.5°	1866.3	1869.7	1867.1	1857.7	1835.5	1826.9	1806.4	1777.3	1744.8	1715.7	1656.6
15°	1874.0	1879.1	1884.3	1880.8	1868.0	1860.3	1841.5	1811.5	1785.0	1754.2	1690.9
17.5°	1904.8	1915.9	1927.9	1928.8	1915.1	1901.4	1880.0	1849.2	1823.5	1795.3	1726.8
20°	1963.0	1971.5	1993.8	1998.1	1970.7	1951.0	1921.1	1885.1	1859.4	1835.5	1760.2
22.5°	2049.4	2058.8	2076.8	2070.8	2024.6	2001.5	1963.8	1922.8	1896.2	1882.6	1798.7
25°	2180.3	2182.9	2187.2	2160.7	2084.5	2058.8	2012.6	1966.4	1945.0	1943.3	1853.5
27.5°	2334.4	2337.8	2319.0	2259.9	2151.2	2117.9	2065.7	2023.7	2013.5	2026.3	1922.8
30°	2510.6	2511.5	2459.3	2363.5	2228.3	2191.5	2137.6	2091.3	2100.8	2132.4	2011.8
32.5°	2691.2	2682.6	2610.8	2485.8	2333.5	2289.0	2242.8	2196.6	2224.0	2288.2	2141.8
35°	2856.3	2852.9	2768.2	2622.7	2470.4	2431.1	2397.7	2348.9	2393.4	2497.8	2319.0
37.5°	3021.5	3018.9	2922.2	2770.8	2639.0	2610.8	2585.9	2548.3	2621.0	2774.2	2556.0
40°	3203.8	3199.5	3080.5	2935.1	2834.9	2819.5	2805.0	2788.7	2912.8	3125.9	2851.2
42.5°	3428.8	3410.0	3248.3	3113.9	3050.6	3054.9	3055.7	3072.0	3266.2	3544.3	3199.5
45°	3687.2	3645.3	3416.8	3305.6	3287.6	3313.3	3339.0	3406.6	3677.8	4026.1	3584.5
47.5°	3938.0	3870.4	3611.1	3511.8	3548.6	3601.7	3663.3	3795.1	4139.9	4530.1	3933.7
50°	4153.6	4084.3	3803.6	3721.5	3838.7	3917.4	4026.9	4226.3	4627.7	4956.2	4153.6
52.5°	4323.0	4268.3	4007.3	3952.5	4160.4	4268.3	4440.3	4702.1	5088.0	5236.9	4307.6
55°	4448.0	4420.6	4202.4	4210.1	4518.1	4673.9	4887.8	5183.9	5476.5	5455.1	4423.1
57.5°	4589.1	4567.8	4406.9	4513.8	4948.5	5149.6	5396.9	5634.8	5758.9	5630.5	4536.1
60°	4733.8	4740.6	4655.0	4881.8	5480.8	5703.3	5918.9	5978.0	6001.1	5808.5	4655.0
62.5°	4843.3	4872.4	4880.1	5278.8	6026.7	6216.7	6310.0	6268.0	6262.9	6047.3	4645.6
65°	4969.1	5045.2	5171.9	5714.4	6523.0	6648.0	6714.7	6775.5	6647.1	6118.3	4188.7
67.5°	5186.4	5306.2	5591.2	6248.4	7096.4	7281.2	7470.3	7406.1	6704.4	5396.9	3190.9
70°	5479.1	5625.4	6128.6	6945.8	7874.2	8184.0	8342.3	7355.6	5692.1	3729.2	1683.2
72°	5294.2	5426.9	6294.6	7301.7	8425.3	8709.4	8313.2	6416.1	4126.2	1933.0	563.9
72.5°	5114.5	5251.5	6241.5	7297.4	8480.0	8697.4	8124.1	6045.6	3651.3	1504.3	388.5
75°	3548.6	3721.5	5350.7	6559.8	7657.7	7419.0	6215.8	3660.7	1322.9	258.4	128.4
77.5°	1834.6	1968.1	3245.7	4635.4	5337.0	4887.8	3673.5	1588.2	366.2	136.9	84.7
80°	1137.2	1203.1	1518.0	2283.9	2772.5	2425.1	1620.7	641.8	234.5	81.3	67.6
82.5°	588.7	639.2	955.8	921.6	1024.3	851.4	598.1	537.4	144.6	50.5	69.3
85°	193.4	205.4	587.0	612.7	438.1	294.4	265.3	512.6	41.9	32.5	59.0
87.5°	25.7	29.9	206.2	350.8	215.6	133.5	159.2	180.6	14.5	18.0	16.3
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°	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2	1742.2
2.5°	1708.0	1696.9	1661.8	1626.7	1586.5	1549.7	1520.6	1501.8	1510.3	1482.1	1486.4
5°	1659.2	1631.0	1554.0	1471.0	1381.1	1297.2	1230.5	1180.9	1171.5	1128.7	1130.4
7.5°	1612.1	1565.9	1441.0	1304.1	1155.2	1034.5	925.0	829.2	794.9	759.9	739.3
10°	1586.5	1523.2	1346.0	1146.6	937.0	759.9	605.8	485.2	434.7	397.9	379.9
12.5°	1594.2	1510.3	1275.0	1003.7	728.2	503.2	342.3	254.1	223.3	206.2	200.2
15°	1619.8	1512.9	1210.8	864.3	529.7	304.6	201.1	172.0	169.4	168.6	167.7
17.5°	1643.8	1515.5	1143.2	718.8	354.3	194.2	161.7	159.2	159.2	159.2	159.2
20°	1668.6	1516.3	1068.8	566.5	232.8	159.2	152.3	150.6	152.3	152.3	152.3
22.5°	1697.7	1522.3	996.9	418.4	172.0	149.7	145.5	144.6	145.5	145.5	144.6
25°	1733.7	1535.1	919.0	299.5	155.7	143.8	139.5	138.6	139.5	138.6	138.6
27.5°	1781.6	1552.2	828.3	214.8	148.9	137.8	133.5	133.5	133.5	132.6	132.6
30°	1843.2	1572.8	706.8	169.4	142.0	131.8	128.4	128.4	127.5	126.6	126.6
32.5°	1931.3	1606.2	574.2	153.2	134.3	124.1	120.7	121.5	120.7	119.8	118.9
35°	2056.3	1658.4	443.3	144.6	126.6	116.4	113.0	113.0	113.0	111.2	111.2
37.5°	2233.4	1737.9	332.0	136.1	118.9	108.7	104.4	104.4	103.5	101.8	102.7
40°	2452.4	1838.1	240.5	128.4	111.2	100.1	96.7	95.0	93.3	91.6	91.6
42.5°	2716.0	1935.6	180.6	120.7	103.5	93.3	89.0	87.3	83.9	82.1	81.3
45°	3011.2	2039.1	149.7	111.2	95.0	85.6	82.1	78.7	74.4	71.9	71.0
47.5°	3260.2	2102.5	133.5	101.8	86.4	77.9	74.4	69.3	64.2	62.5	62.5
50°	3410.0	2075.9	119.8	92.4	77.9	70.2	65.9	59.0	55.6	53.9	53.1
52.5°	3493.8	1997.2	108.7	84.7	70.2	61.6	55.6	49.6	47.9	46.2	46.2
55°	3551.2	1883.4	96.7	77.0	63.3	53.9	47.1	42.8	41.1	40.2	39.4
57.5°	3605.9	1744.8	85.6	70.2	56.5	47.9	40.2	38.5	35.1	34.2	34.2
60°	3622.2	1554.0	75.3	62.5	50.5	41.9	35.1	32.5	29.1	28.2	28.2
62.5°	3415.1	1236.5	66.7	53.1	44.5	35.9	30.8	27.4	24.0	24.0	24.0
65°	2853.8	839.4	57.3	46.2	39.4	30.8	26.5	22.2	20.5	20.5	20.5
67.5°	1987.8	468.1	48.8	39.4	33.4	25.7	22.2	18.8	18.0	18.8	18.8
70°	895.9	185.7	41.1	32.5	27.4	21.4	18.8	16.3	18.0	18.0	18.0
72°	268.7	99.3	34.2	26.5	22.2	18.8	16.3	15.4	17.1	18.0	18.0
72.5°	199.4	89.0	32.5	25.7	22.2	18.0	15.4	15.4	17.1	18.0	18.0
75°	102.7	60.8	24.8	18.8	16.3	14.5	12.8	14.5	17.1	17.1	17.1
77.5°	80.4	49.6	20.5	14.5	13.7	12.8	12.0	13.7	15.4	15.4	15.4
80°	75.3	32.5	16.3	13.7	12.0	11.1	11.1	12.0	13.7	14.5	14.5
82.5°	76.2	26.5	14.5	12.8	11.1	10.3	10.3	11.1	12.8	13.7	13.7
85°	48.8	18.0	12.8	11.1	10.3	9.4	9.4	10.3	12.0	12.8	12.8
87.5°	16.3	13.7	11.1	10.3	8.6	8.6	8.6	8.6	10.3	11.1	12.0
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)