

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: P196649

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196649
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-05-D-UNV-SL4-7030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1050mA 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: 23691.8 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 279
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

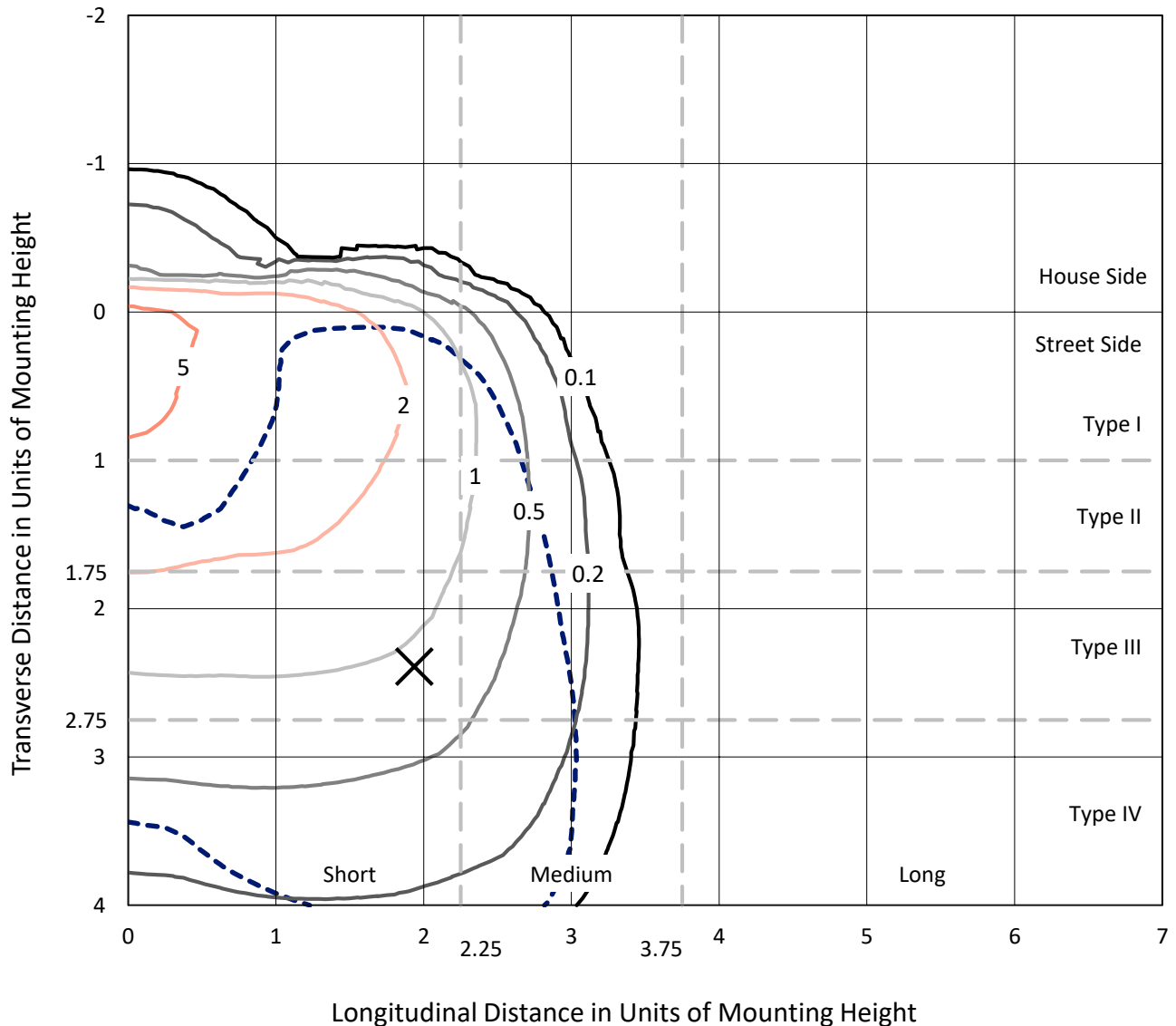


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Iso-Footcandle Lines of Horizontal Illumination

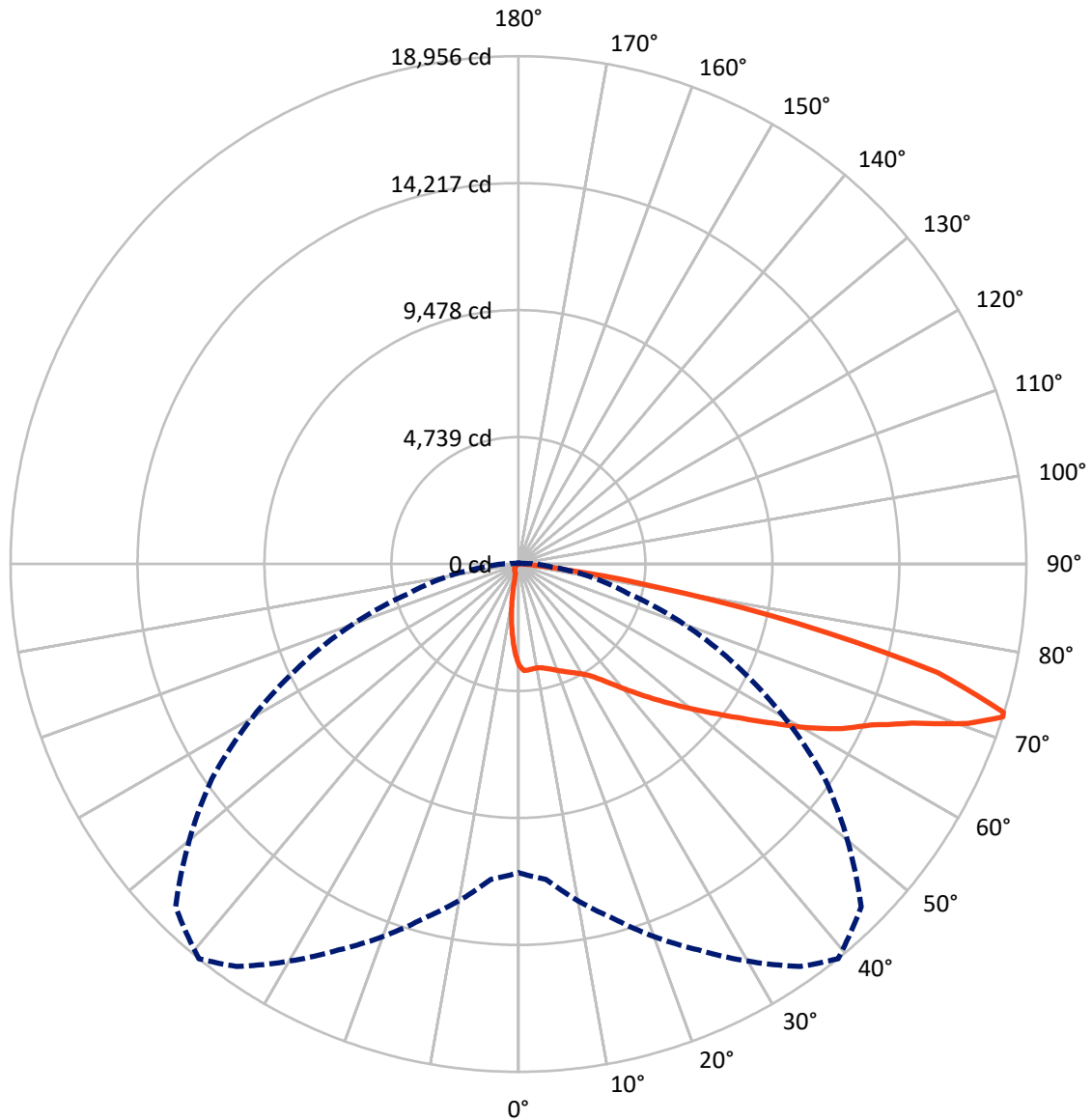
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.4 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
House Side	Lumens	1552.7	0.0	1552.7
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	22139.1	0.0	22139.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	23691.8	0.0	23691.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	308.4	1.3
10°-20°	746.7	3.2
20°-30°	1240.2	5.2
30°-40°	1976.6	8.3
40°-50°	3262.6	13.8
50°-60°	4927.1	20.8
60°-70°	6418.3	27.1
70°-80°	4336.9	18.3
80°-90°	475.0	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°	23691.8	100.0
0°-180°	23691.8	100.0

Coefficient of Utilization



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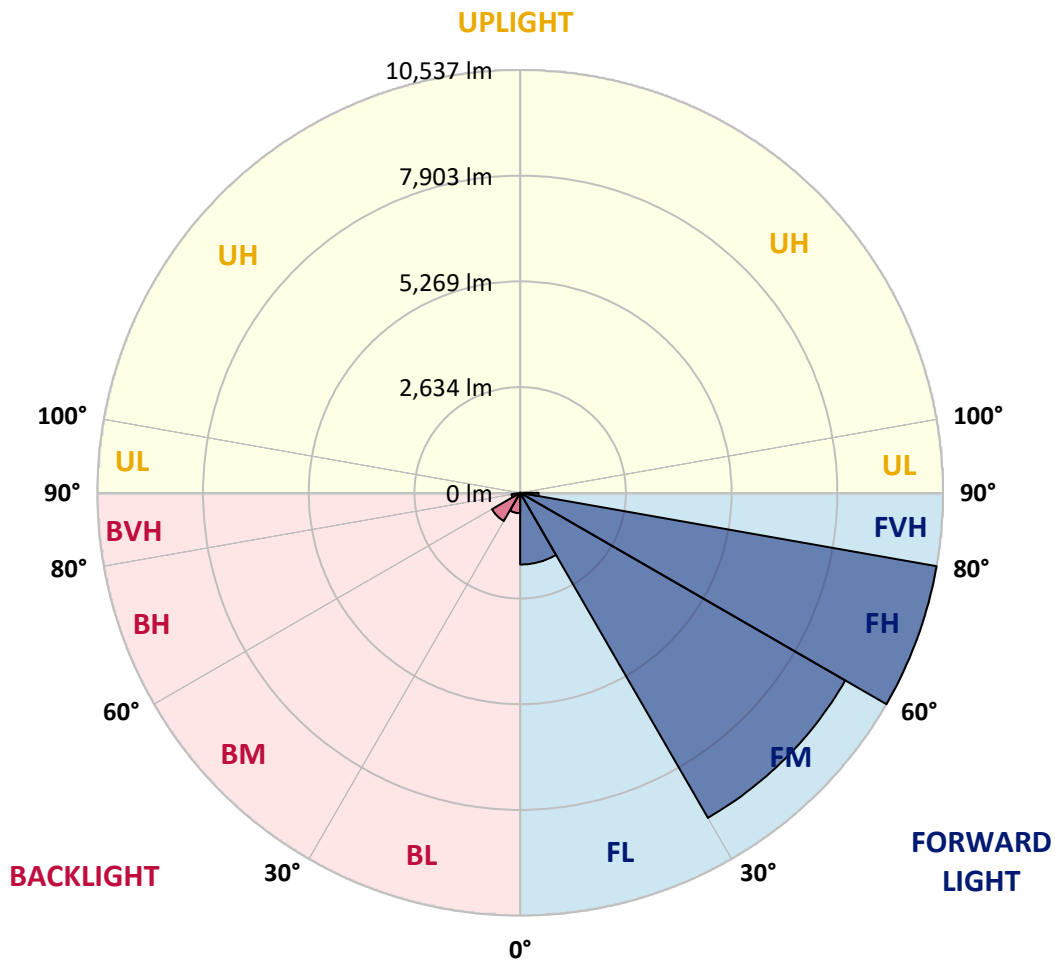
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1786.9	7.5			
FM	(30°-60°)	9353.8	39.5			
FH	(60°-80°)	10537.0	44.5			G4/12000
FVH	(80°-90°)	461.3	1.9			G3/500
BL	(0°-30°)	508.4	2.1	B2/1000		
BM	(30°-60°)	812.4	3.4	B1/1000		
BH	(60°-80°)	218.2	0.9	B1/500		G1/500
BVH	(80°-90°)	13.7	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1
2.5°	4037.9	4045.4	4036.0	4019.2	3995.1	3980.1	3959.7	3915.0	3859.0	3810.6	3754.8
5°	4069.6	4073.3	4062.0	4030.5	3993.2	3972.6	3946.7	3898.2	3840.5	3773.4	3672.9
7.5°	4078.8	4077.0	4063.9	4024.8	3967.1	3941.0	3896.3	3836.7	3777.1	3715.7	3602.1
10°	4075.2	4075.2	4065.7	4028.6	3963.4	3939.2	3888.9	3825.5	3751.1	3689.5	3568.5
12.5°	4062.0	4069.6	4063.9	4043.4	3995.1	3976.4	3931.7	3868.5	3797.7	3734.3	3605.8
15°	4078.8	4090.0	4101.1	4093.7	4065.7	4049.0	4008.0	3942.8	3885.2	3818.1	3680.3
17.5°	4145.9	4170.1	4196.2	4198.1	4168.2	4138.4	4091.9	4024.8	3969.0	3907.5	3758.5
20°	4272.6	4291.1	4339.6	4348.9	4289.3	4246.5	4181.3	4103.0	4047.2	3995.1	3831.1
22.5°	4460.6	4481.2	4520.3	4507.2	4406.7	4356.3	4274.4	4184.9	4127.3	4097.4	3915.0
25°	4745.5	4751.2	4760.5	4702.7	4537.0	4481.2	4380.5	4280.0	4233.5	4229.8	4034.2
27.5°	5080.9	5088.3	5047.3	4918.9	4682.3	4609.6	4496.0	4404.8	4382.4	4410.4	4184.9
30°	5464.5	5466.3	5352.8	5144.2	4849.9	4769.8	4652.5	4552.0	4572.4	4641.4	4378.7
32.5°	5857.5	5839.0	5682.5	5410.5	5079.0	4982.1	4881.6	4780.9	4840.6	4980.2	4661.8
35°	6217.0	6209.5	6025.1	5708.5	5376.9	5291.3	5218.7	5112.6	5209.4	5436.6	5047.3
37.5°	6576.5	6570.9	6360.4	6030.8	5743.9	5682.5	5628.4	5546.4	5704.8	6038.2	5563.3
40°	6973.2	6963.8	6704.9	6388.3	6170.4	6136.9	6105.2	6069.8	6339.9	6803.7	6205.8
42.5°	7463.0	7422.0	7069.9	6777.6	6639.8	6649.1	6650.9	6686.3	7109.1	7714.5	6963.8
45°	8025.4	7934.2	7436.9	7194.8	7155.7	7211.5	7267.4	7414.6	8005.0	8763.0	7801.9
47.5°	8571.2	8424.0	7859.7	7643.7	7723.7	7839.3	7973.3	8260.1	9010.7	9860.0	8561.9
50°	9040.5	8889.7	8278.8	8099.9	8355.2	8526.5	8764.9	9198.9	10072.3	10787.5	9040.5
52.5°	9409.3	9290.1	8722.0	8602.8	9055.4	9290.1	9664.4	10234.4	11074.3	11398.4	9375.7
55°	9681.3	9621.6	9146.6	9163.5	9833.9	10172.9	10638.6	11282.9	11919.9	11873.3	9627.2
57.5°	9988.5	9941.9	9591.8	9824.6	10770.8	11208.5	11746.7	12264.5	12534.6	12255.2	9873.0
60°	10303.2	10318.2	10131.9	10625.5	11929.3	12413.5	12882.9	13011.3	13061.6	12642.6	10131.9
62.5°	10541.7	10605.0	10621.7	11489.7	13117.4	13531.0	13734.0	13642.7	13631.5	13162.3	10111.4
65°	10815.5	10981.2	11256.9	12437.6	14197.7	14469.6	14614.9	14747.2	14467.8	13316.7	9116.9
67.5°	11288.5	11549.2	12169.6	13599.8	15445.7	15847.9	16259.5	16119.8	14592.5	11746.7	6945.2
70°	11925.5	12244.0	13339.1	15117.7	17138.6	17812.9	18157.4	16010.0	12389.2	8116.8	3663.5
72°	11523.2	11811.9	13700.4	15892.7	18338.1	18956.4	18094.1	13965.0	8980.9	4207.3	1227.4
72.5°	11132.1	11430.0	13585.0	15883.2	18457.2	18930.3	17682.4	13158.4	7947.2	3274.3	845.5
75°	7723.7	8099.9	11646.2	14277.8	16667.4	16147.8	13529.1	7967.7	2879.4	562.4	279.3
77.5°	3993.2	4283.7	7064.3	10089.1	11616.3	10638.6	7995.7	3456.8	797.1	297.9	184.4
80°	2475.3	2618.6	3304.0	4971.0	6034.5	5278.4	3527.6	1396.9	510.4	176.9	147.2
82.5°	1281.4	1391.3	2080.4	2005.9	2229.4	1853.1	1301.9	1169.6	314.7	110.0	150.9
85°	420.9	447.0	1277.7	1333.5	953.7	640.7	577.3	1115.6	91.2	70.8	128.5
87.5°	55.8	65.2	448.8	763.6	469.4	290.5	346.5	393.0	31.6	39.2	35.4
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°	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1	3792.1
2.5°	3717.5	3693.3	3616.9	3540.5	3453.0	3373.0	3309.7	3268.7	3287.3	3225.9	3235.1
5°	3611.3	3550.0	3382.2	3201.7	3006.0	2823.5	2678.3	2570.3	2549.8	2456.5	2460.3
7.5°	3509.0	3408.4	3136.4	2838.4	2514.4	2251.8	2013.3	1804.8	1730.2	1653.8	1609.2
10°	3453.0	3315.3	2929.7	2495.7	2039.5	1653.8	1318.6	1056.0	946.1	866.1	827.0
12.5°	3469.8	3287.3	2775.0	2184.7	1585.1	1095.1	745.0	553.2	486.1	448.8	435.8
15°	3525.7	3292.8	2635.5	1881.1	1152.9	663.1	437.7	374.3	368.8	366.9	365.0
17.5°	3577.8	3298.4	2488.3	1564.5	771.1	422.9	352.1	346.5	346.5	346.5	346.5
20°	3631.9	3300.2	2326.2	1233.0	506.6	346.5	331.5	327.8	331.5	331.5	331.5
22.5°	3695.1	3313.4	2169.8	910.7	374.3	325.9	316.7	314.7	316.7	316.7	314.7
25°	3773.4	3341.2	2000.3	651.8	338.9	312.9	303.6	301.8	303.6	301.8	301.8
27.5°	3877.7	3378.6	1802.9	467.5	324.1	299.8	290.5	290.5	290.5	288.7	288.7
30°	4011.8	3423.2	1538.4	368.8	309.2	286.8	279.3	279.3	277.5	275.7	275.7
32.5°	4203.6	3495.9	1249.7	333.3	292.4	270.1	262.7	264.5	262.7	260.8	258.8
35°	4475.6	3609.5	964.8	314.7	275.7	253.3	245.9	245.9	245.9	242.1	242.1
37.5°	4861.1	3782.7	722.6	296.1	258.8	236.5	227.3	227.3	225.4	221.7	223.6
40°	5337.9	4000.6	523.4	279.3	242.1	217.9	210.5	206.7	203.0	199.3	199.3
42.5°	5911.6	4212.9	393.0	262.7	225.4	203.0	193.7	190.0	182.6	178.7	176.9
45°	6554.1	4438.3	325.9	242.1	206.7	186.3	178.7	171.3	162.0	156.5	154.6
47.5°	7096.1	4576.1	290.5	221.7	188.2	169.5	162.0	150.9	139.7	135.9	135.9
50°	7422.0	4518.4	260.8	201.1	169.5	152.8	143.4	128.5	121.1	117.4	115.5
52.5°	7604.6	4347.0	236.5	184.4	152.8	134.1	121.1	108.0	104.4	100.6	100.6
55°	7729.3	4099.3	210.5	167.6	137.7	117.4	102.4	93.1	89.4	87.5	85.7
57.5°	7848.5	3797.7	186.3	152.8	122.9	104.4	87.5	83.8	76.4	74.6	74.6
60°	7883.9	3382.2	163.9	135.9	110.0	91.2	76.4	70.8	63.4	61.5	61.5
62.5°	7433.2	2691.3	145.4	115.5	96.8	78.2	67.0	59.5	52.1	52.1	52.1
65°	6211.4	1827.2	124.8	100.6	85.7	67.0	57.7	48.4	44.7	44.7	44.7
67.5°	4326.5	1018.8	106.2	85.7	72.6	55.8	48.4	41.0	39.2	41.0	41.0
70°	1950.1	404.2	89.4	70.8	59.5	46.6	41.0	35.4	39.2	39.2	39.2
72°	584.9	216.0	74.6	57.7	48.4	41.0	35.4	33.6	37.2	39.2	39.2
72.5°	434.0	193.7	70.8	55.8	48.4	39.2	33.6	33.6	37.2	39.2	39.2
75°	223.6	132.2	54.0	41.0	35.4	31.6	28.0	31.6	37.2	37.2	37.2
77.5°	175.1	108.0	44.7	31.6	29.8	28.0	26.1	29.8	33.6	33.6	33.6
80°	163.9	70.8	35.4	29.8	26.1	24.2	24.2	26.1	29.8	31.6	31.6
82.5°	165.7	57.7	31.6	28.0	24.2	22.4	22.4	24.2	28.0	29.8	29.8
85°	106.2	39.2	28.0	24.2	22.4	20.5	20.5	22.4	26.1	28.0	28.0
87.5°	35.4	29.8	24.2	22.4	18.6	18.6	18.6	18.6	22.4	24.2	26.1
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)