

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: P195598

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7050-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195598
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-04-D-UNV-SL2-7050-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1200mA 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: 21831 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 258
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

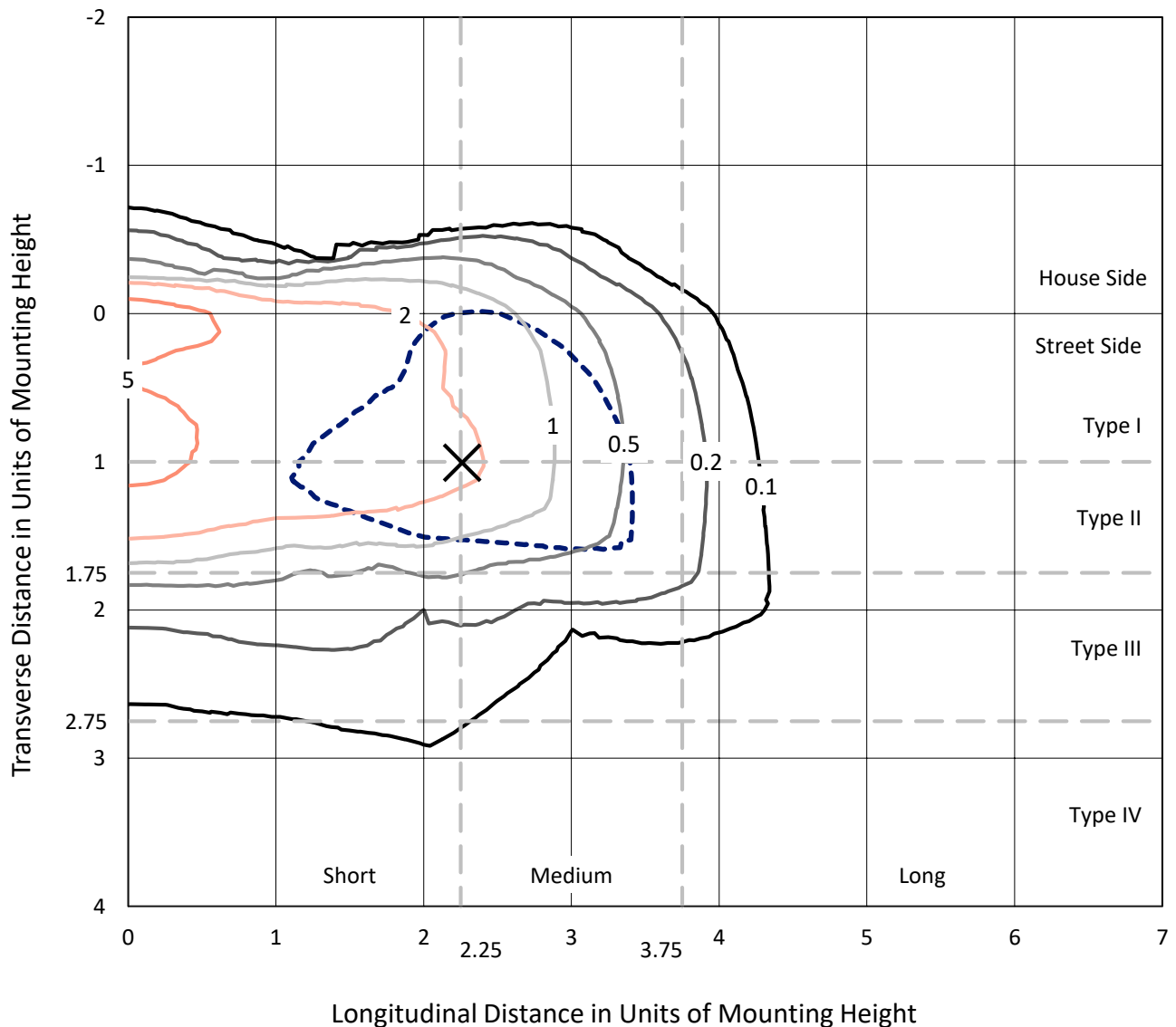


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

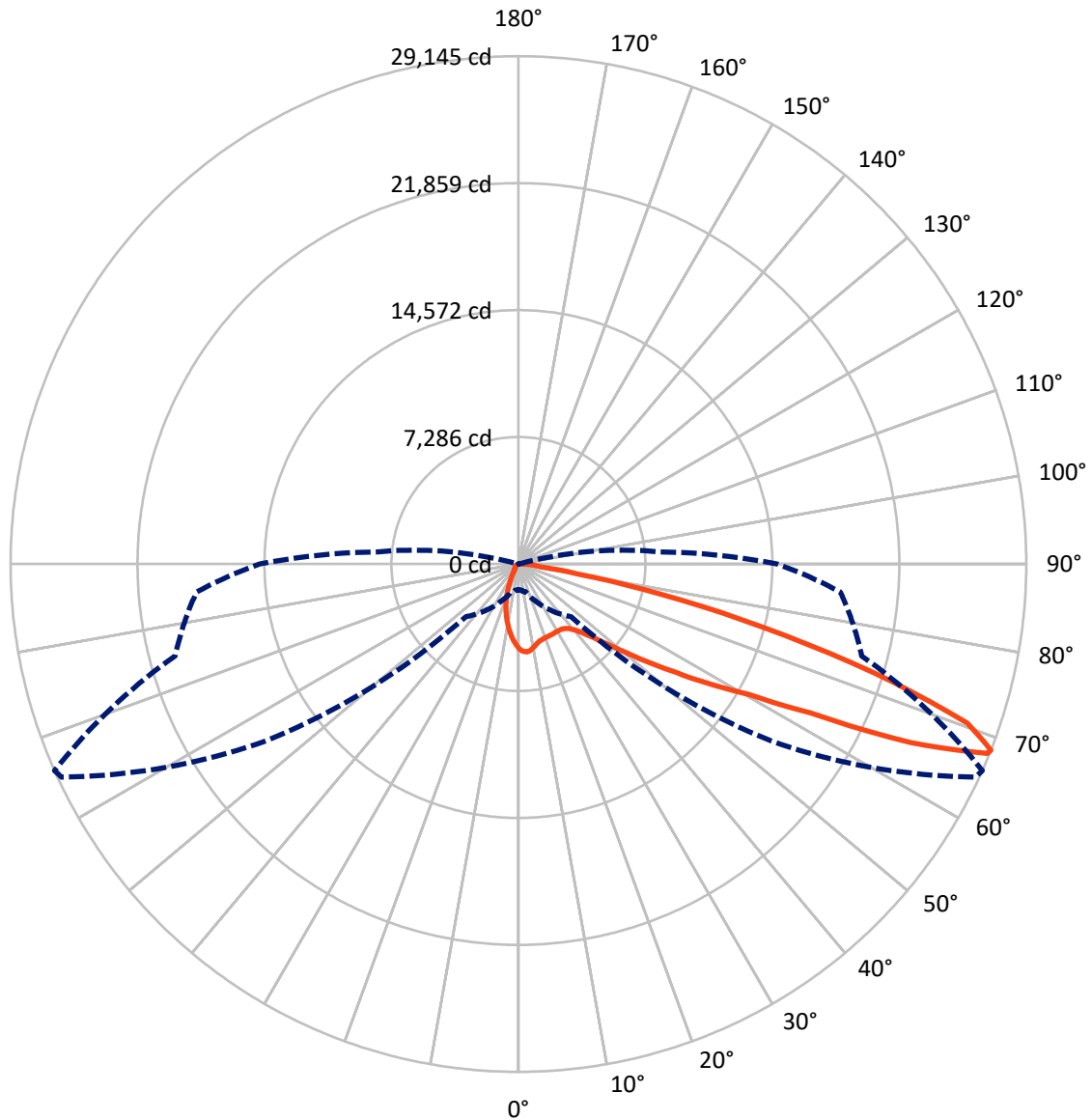


Based on 25 foot mounting height. Maximum calculated value = 7.8 fc
 Type II - Medium - Semi-Cutoff

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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
House Side	Lumens	2211.3	0.0	2211.3
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	19619.8	0.0	19619.8
	% Fixture	89.9	0.0	89.9
Total	Lumens	21831.0	0.0	21831.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	398.7	1.8
10°-20°	857.9	3.9
20°-30°	1243.2	5.7
30°-40°	1903.1	8.7
40°-50°	3255.1	14.9
50°-60°	5091.9	23.3
60°-70°	5863.1	26.9
70°-80°	2934.0	13.4
80°-90°	284.2	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°	21831.0	100.0
0°-180°	21831.0	100.0

Coefficient of Utilization



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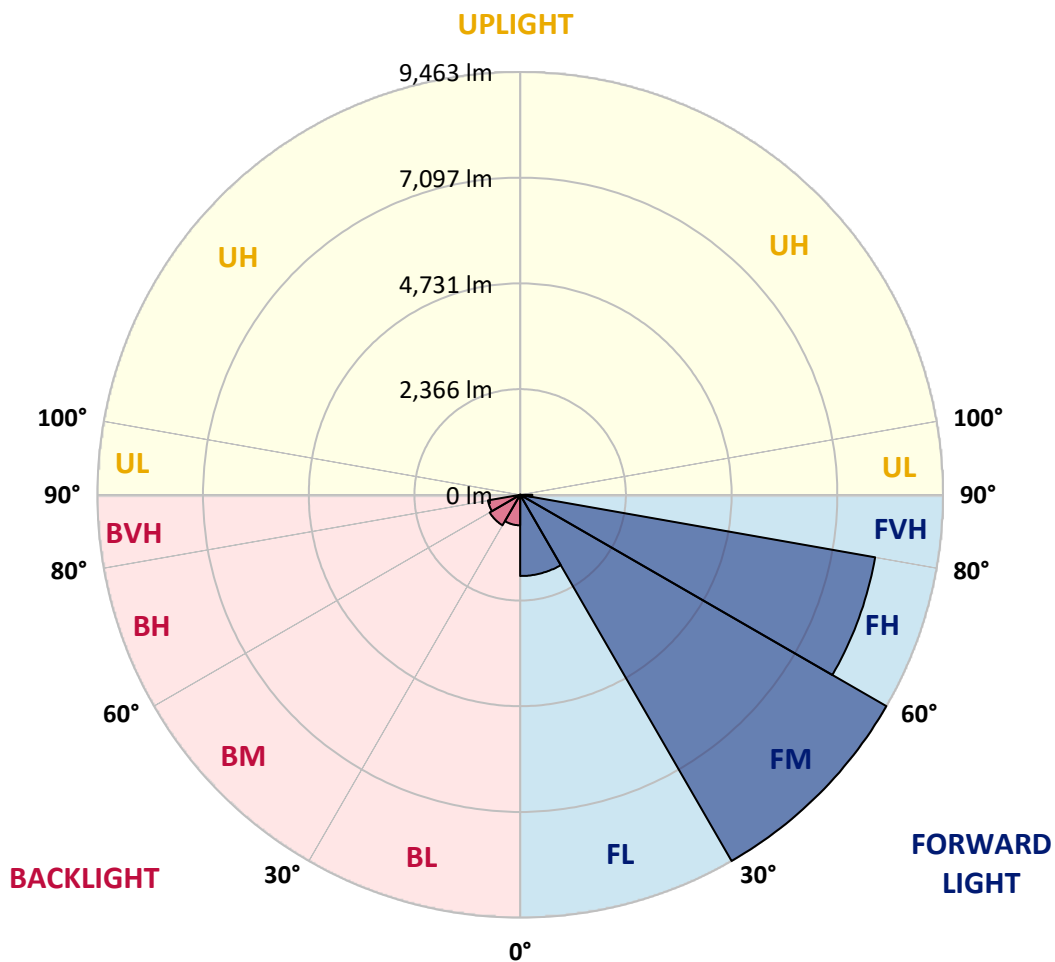
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1817.3	8.3			
FM (30°-60°)	9462.6	43.3			
FH (60°-80°)	8066.5	36.9			G4/12000
FVH (80°-90°)	273.4	1.3			G3/500
BL (0°-30°)	682.5	3.1	B2/1000		
BM (30°-60°)	787.4	3.6	B1/1000		
BH (60°-80°)	730.6	3.3	B2/1000		G2/1000
BVH (80°-90°)	10.8	0.0			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7
2.5°	5115.7	5119.1	5117.4	5122.5	5119.1	5093.4	5066.0	5007.7	5012.8	4937.4	4853.5
5°	4755.8	4784.9	4814.0	4843.2	4913.4	4975.1	5048.8	5066.0	5066.0	5000.8	4877.5
7.5°	4389.0	4390.7	4423.3	4462.7	4557.0	4670.1	4841.5	4995.7	4999.1	5016.3	4880.9
10°	4113.1	4121.7	4143.9	4186.8	4281.1	4392.4	4584.4	4826.0	4844.9	4971.7	4846.6
12.5°	3898.9	3909.2	3933.2	3982.9	4068.5	4183.4	4385.6	4661.5	4687.2	4928.9	4836.3
15°	3734.4	3748.1	3766.9	3816.6	3909.2	4030.8	4251.9	4551.8	4582.7	4911.7	4868.9
17.5°	3665.8	3665.8	3664.1	3698.4	3790.9	3914.3	4145.7	4493.6	4533.0	4925.4	4923.7
20°	3694.9	3689.8	3653.8	3645.2	3701.8	3825.2	4061.7	4455.9	4500.4	4951.1	4990.6
22.5°	3849.2	3838.9	3758.3	3691.5	3674.4	3756.6	4005.1	4430.2	4483.3	5004.3	5079.7
25°	4176.5	4145.7	4034.3	3883.5	3748.1	3739.5	3965.7	4416.4	4473.0	5066.0	5177.4
27.5°	4601.5	4593.0	4414.7	4212.5	3952.0	3796.0	3953.7	4406.2	4462.7	5110.5	5256.2
30°	5129.4	5132.8	4927.2	4663.2	4269.1	3955.4	3991.4	4401.0	4459.3	5114.0	5290.5
32.5°	5674.4	5677.8	5506.4	5223.6	4702.6	4229.6	4097.7	4425.0	4478.1	5100.2	5288.8
35°	6198.8	6203.9	6101.1	5873.2	5281.9	4610.1	4298.2	4507.3	4545.0	5108.8	5285.3
37.5°	6862.0	6882.6	6755.8	6543.3	6008.6	5168.8	4625.5	4673.5	4704.4	5179.1	5311.0
40°	7993.1	7965.7	7602.4	7242.5	6796.9	5849.2	5098.5	4959.7	4970.0	5360.7	5408.7
42.5°	9311.0	9276.8	8654.6	8034.3	7607.5	6670.1	5703.5	5398.4	5396.7	5665.8	5621.2
45°	10445.6	10425.0	9770.3	8942.6	8505.5	7576.7	6449.0	6030.8	6010.3	6193.6	6008.6
47.5°	11251.0	11233.9	10738.6	9909.1	9544.1	8574.1	7379.6	6892.9	6850.0	6884.3	6637.5
50°	11329.9	11311.0	11137.9	10604.9	10757.5	10037.7	8529.5	8022.3	7967.4	7914.3	7588.7
52.5°	10592.9	10591.2	10682.1	10647.8	11607.5	11921.1	9940.0	9419.0	9353.9	9218.5	8894.6
55°	9086.5	9078.0	9422.4	9922.9	11588.7	13864.6	12090.8	11081.4	10995.7	10724.9	10299.9
57.5°	6639.2	6594.7	7314.5	8375.3	10774.6	14714.6	15506.4	13146.5	13004.3	12145.6	11491.0
60°	3665.8	3682.9	4608.4	5864.6	8846.6	14546.7	18649.5	15554.4	15180.8	13371.0	12711.2
62.5°	2054.8	2097.7	2786.6	3811.5	5640.1	13184.2	20335.9	19698.3	18798.6	14800.3	14253.6
65°	1554.4	1580.1	1926.3	2940.9	3556.1	9213.3	20604.9	25492.6	24716.3	16966.5	16709.5
67.5°	1463.6	1484.1	1653.8	2438.7	3239.1	4778.1	18579.2	28920.2	29017.9	19921.1	18611.8
68°	1473.9	1499.6	1669.2	2346.2	3233.9	4274.2	17715.5	28937.4	29144.7	20397.5	18546.7
70°	1353.9	1360.8	1765.2	2301.6	3134.5	3367.6	12815.7	26954.5	27326.4	20964.8	16836.3
72.5°	517.6	519.3	791.8	1993.1	3283.6	3386.5	6455.9	21304.1	21323.0	18245.0	13125.9
75°	269.1	226.2	248.5	623.8	3136.2	3300.8	3239.1	14546.7	14455.8	12339.3	8042.8
77.5°	185.1	157.7	166.2	215.9	1304.2	3299.0	2339.3	8365.0	8346.2	5249.3	2294.8
80°	104.5	90.8	99.4	181.7	457.6	3096.8	2179.9	3595.5	3388.2	922.0	371.9
82.5°	53.1	44.6	53.1	152.5	284.5	1948.6	2120.0	1410.5	1256.2	219.4	241.6
85°	13.7	13.7	25.7	106.3	176.5	639.2	1900.6	1018.0	915.2	96.0	171.4
87.5°	3.4	1.7	10.3	39.4	63.4	138.8	1054.0	567.3	488.4	49.7	99.4
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°	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7	4863.7
2.5°	4819.2	4771.2	4676.9	4570.7	4495.3	4413.0	4365.0	4306.8	4262.2	4222.8	4251.9
5°	4802.0	4709.5	4500.4	4265.6	4068.5	3880.0	3739.5	3605.8	3504.7	3441.3	3467.0
7.5°	4757.5	4620.4	4281.1	3914.3	3592.1	3288.8	3042.0	2820.9	2649.5	2557.0	2586.1
10°	4682.1	4488.4	4032.6	3523.6	3072.8	2644.4	2277.6	1948.6	1700.1	1583.5	1611.0
12.5°	4627.2	4371.9	3775.5	3146.5	2553.5	1945.2	1458.4	1081.4	887.7	771.2	781.5
15°	4603.2	4281.1	3535.6	2748.9	1986.3	1249.4	788.3	570.7	503.9	479.9	481.6
17.5°	4606.7	4209.1	3307.6	2335.9	1413.9	718.1	483.3	435.3	425.0	419.9	419.9
20°	4615.2	4137.1	3071.1	1905.7	904.9	462.7	402.7	387.3	382.2	375.3	377.0
22.5°	4640.9	4082.3	2832.9	1473.9	557.0	377.0	356.5	342.8	334.2	323.9	325.6
25°	4680.4	4041.1	2598.1	1060.8	392.5	329.0	310.2	291.3	275.9	263.9	265.6
27.5°	4704.4	3982.9	2347.9	723.2	325.6	287.9	262.2	236.5	219.4	209.1	207.4
30°	4687.2	3888.6	2063.4	474.7	287.9	248.5	217.7	188.5	171.4	162.8	162.8
32.5°	4640.9	3766.9	1749.8	346.2	255.4	214.2	176.5	150.8	138.8	133.7	135.4
35°	4587.8	3640.1	1415.6	293.1	229.6	181.7	144.0	123.4	118.3	116.5	116.5
37.5°	4558.7	3530.4	1095.1	265.6	205.7	150.8	118.3	106.3	101.1	101.1	101.1
40°	4591.2	3446.4	810.6	245.1	181.7	125.1	99.4	90.8	89.1	89.1	89.1
42.5°	4730.1	3417.3	593.0	227.9	157.7	104.5	85.7	78.8	77.1	78.8	78.8
45°	5000.8	3480.7	449.0	210.8	135.4	85.7	73.7	68.6	68.6	70.3	70.3
47.5°	5460.1	3643.5	368.5	193.7	113.1	72.0	63.4	60.0	60.0	61.7	61.7
50°	6173.1	3945.1	330.8	174.8	94.3	61.7	53.1	51.4	51.4	53.1	54.8
52.5°	7256.2	4519.3	311.9	156.0	77.1	51.4	44.6	42.8	44.6	46.3	46.3
55°	8461.0	5254.5	289.6	137.1	65.1	42.8	36.0	36.0	37.7	41.1	41.1
57.5°	9583.5	5964.0	269.1	113.1	56.6	34.3	29.1	29.1	32.6	36.0	36.0
60°	10769.5	6659.8	241.6	90.8	48.0	27.4	24.0	24.0	29.1	32.6	34.3
62.5°	12234.8	7468.7	205.7	72.0	37.7	20.6	17.1	22.3	27.4	32.6	32.6
65°	14353.0	8474.7	161.1	56.6	29.1	15.4	13.7	20.6	25.7	30.8	32.6
67.5°	15122.5	8346.2	121.7	46.3	22.3	12.0	12.0	18.9	25.7	30.8	30.8
68°	14841.4	8065.1	116.5	44.6	20.6	12.0	12.0	18.9	25.7	30.8	30.8
70°	12932.3	6593.0	96.0	34.3	17.1	10.3	10.3	17.1	25.7	29.1	30.8
72.5°	9682.9	4380.5	82.3	22.3	15.4	10.3	8.6	17.1	24.0	29.1	29.1
75°	5554.4	1818.3	70.3	17.1	13.7	8.6	8.6	15.4	24.0	29.1	29.1
77.5°	1569.8	425.0	56.6	13.7	12.0	8.6	6.9	15.4	22.3	27.4	27.4
80°	287.9	126.8	44.6	12.0	10.3	8.6	6.9	15.4	22.3	27.4	27.4
82.5°	190.2	60.0	32.6	12.0	10.3	8.6	6.9	13.7	20.6	25.7	25.7
85°	142.2	42.8	20.6	12.0	10.3	8.6	6.9	13.7	20.6	25.7	25.7
87.5°	78.8	18.9	15.4	13.7	12.0	8.6	6.9	12.0	18.9	24.0	24.0
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)