

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: P196547

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196547
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-05-D-UNV-SL2-7030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 800mA 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: 19166.3 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 210
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

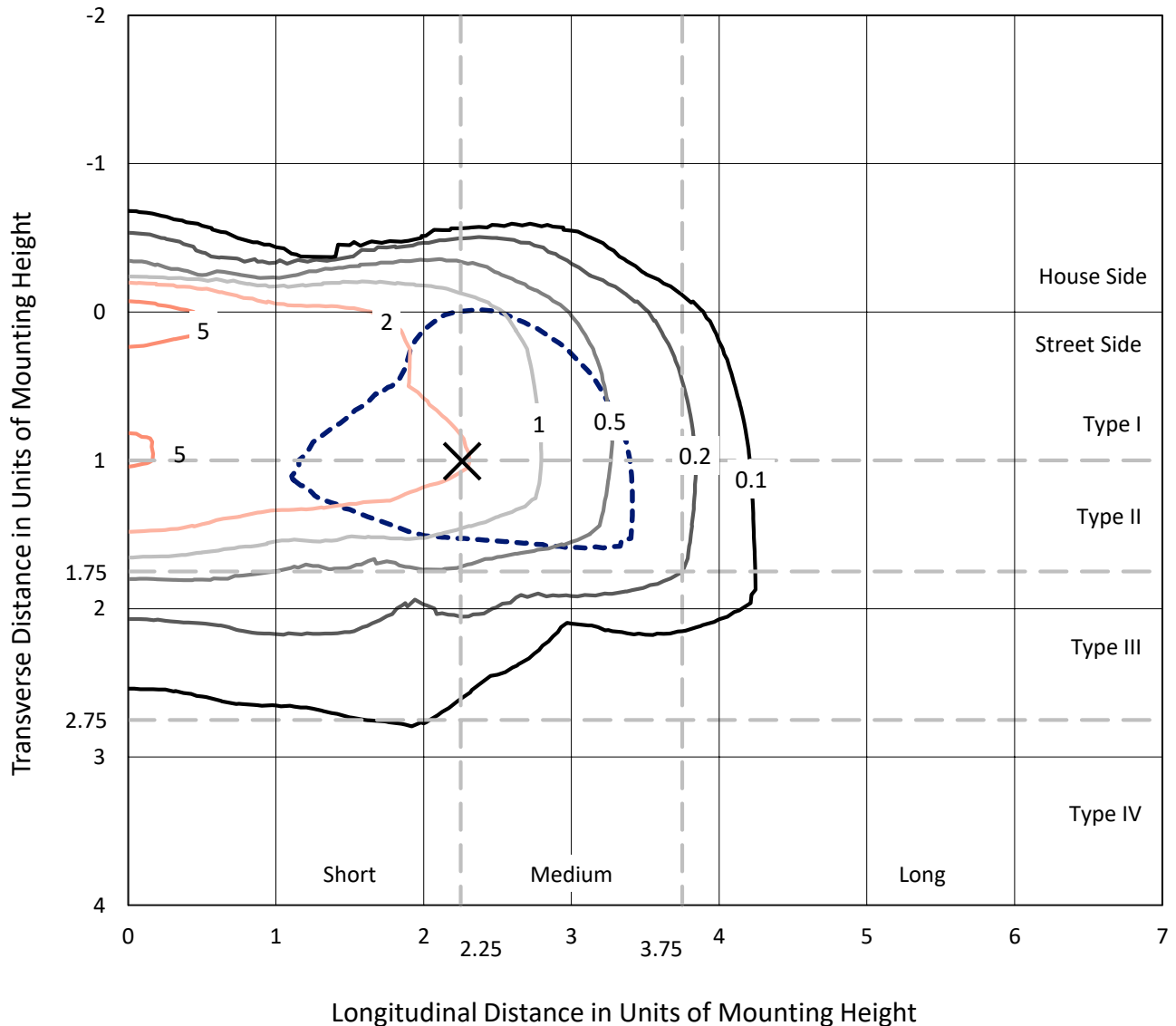


REPORT NUMBER: P196547

CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-7030-800-HSS

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

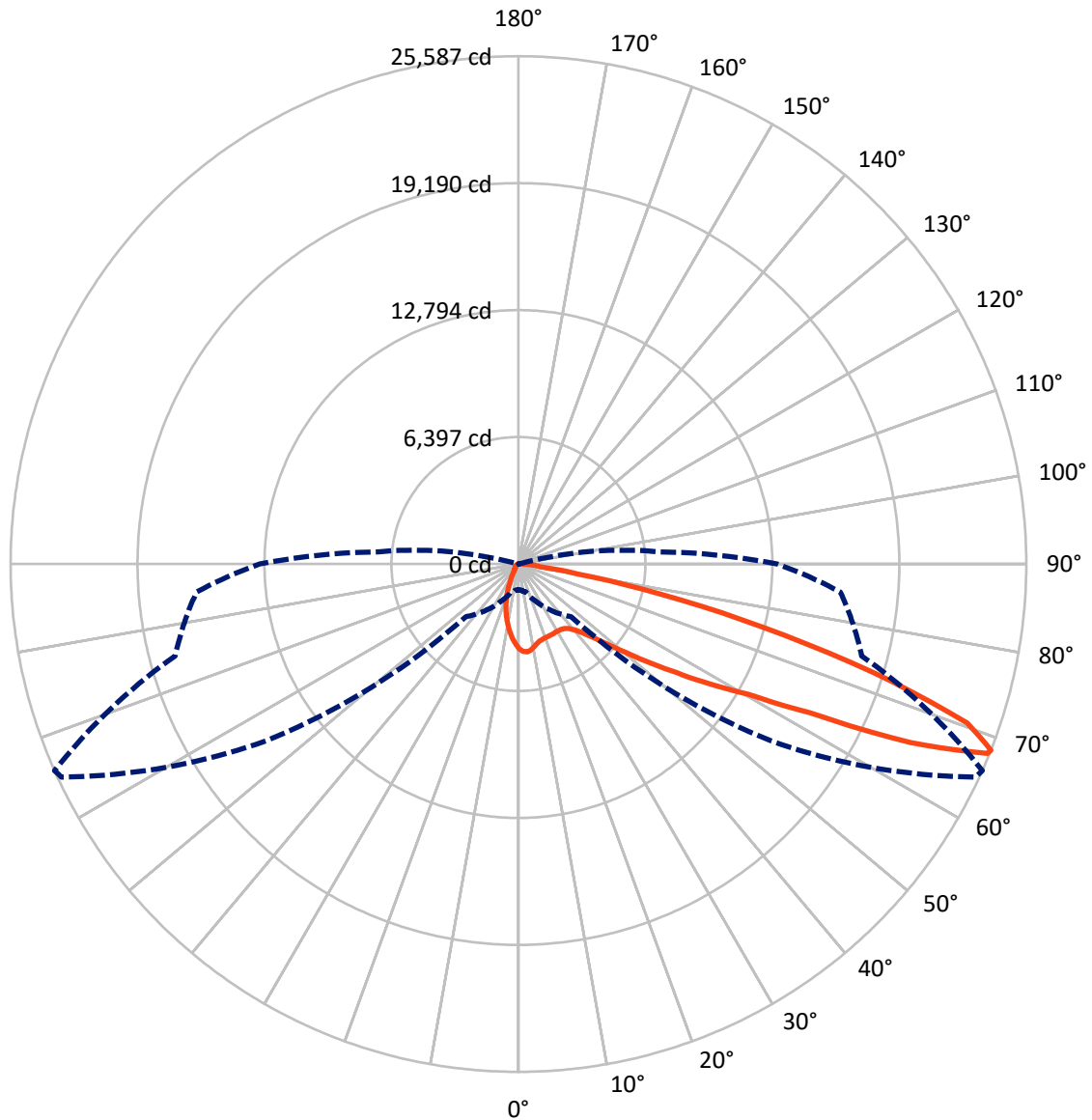


Based on 25 foot mounting height. Maximum calculated value = 6.8 fc
 Type II - Medium - Semi-Cutoff

REPORT NUMBER: P196547

CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-7030-800-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196547

CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-7030-800-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1941.3	0.0	1941.3
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	17224.9	0.0	17224.9
	% Fixture	89.9	0.0	89.9
Total	Lumens	19166.3	0.0	19166.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	350.1	1.8
10°-20°	753.2	3.9
20°-30°	1091.4	5.7
30°-40°	1670.8	8.7
40°-50°	2857.7	14.9
50°-60°	4470.3	23.3
60°-70°	5147.4	26.9
70°-80°	2575.9	13.4
80°-90°	249.5	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°	19166.3	100.0
0°-180°	19166.3	100.0



REPORT NUMBER: P196547

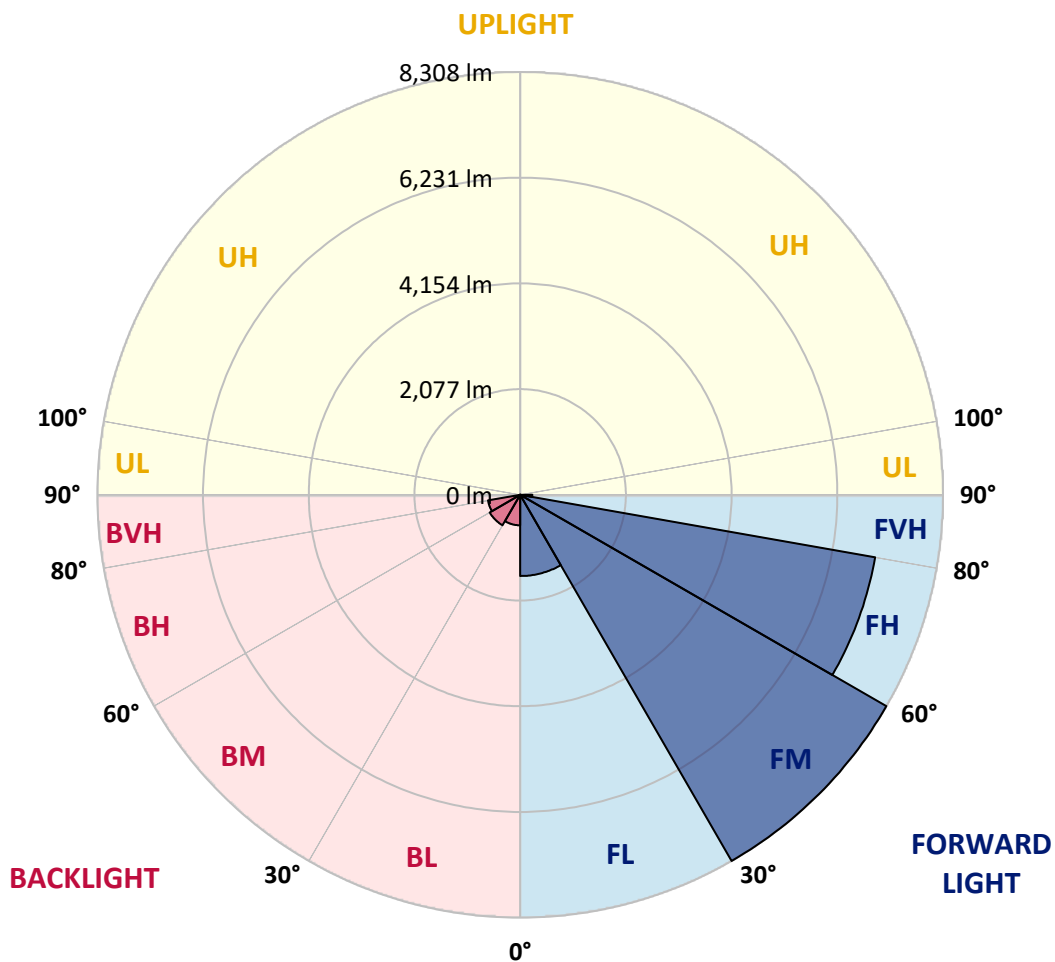
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1595.5	8.3			
FM (30°-60°)	8307.6	43.3			
FH (60°-80°)	7081.9	36.9			G3/7500
FVH (80°-90°)	240.0	1.3			G3/500
BL (0°-30°)	599.2	3.1	B2/1000		
BM (30°-60°)	691.3	3.6	B1/1000		
BH (60°-80°)	641.4	3.3	B2/1000		G2/1000
BVH (80°-90°)	9.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





REPORT NUMBER: P196547

CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-7030-800-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1
2.5°	4491.2	4494.3	4492.7	4497.2	4494.3	4471.7	4447.6	4396.5	4401.0	4334.8	4261.0
5°	4175.3	4200.8	4226.4	4252.1	4313.7	4367.8	4432.5	4447.6	4447.6	4390.5	4282.1
7.5°	3853.2	3854.7	3883.4	3918.0	4000.7	4100.1	4250.5	4385.8	4389.0	4404.0	4285.1
10°	3611.0	3618.5	3638.2	3675.7	3758.5	3856.3	4024.8	4237.0	4253.5	4364.8	4255.0
12.5°	3423.0	3432.1	3453.0	3496.8	3571.9	3672.7	3850.3	4092.6	4115.1	4327.2	4246.1
15°	3278.6	3290.6	3307.2	3350.8	3432.1	3538.8	3733.0	3996.2	4023.3	4312.3	4274.6
17.5°	3218.3	3218.3	3216.8	3246.9	3328.1	3436.5	3639.7	3945.1	3979.7	4324.3	4322.8
20°	3243.9	3239.4	3207.9	3200.3	3249.9	3358.3	3565.9	3911.9	3951.1	4346.8	4381.4
22.5°	3379.4	3370.3	3299.6	3240.9	3225.9	3298.1	3516.3	3889.4	3936.1	4393.5	4459.6
25°	3666.7	3639.7	3541.8	3409.4	3290.6	3283.0	3481.6	3877.4	3927.0	4447.6	4545.4
27.5°	4039.9	4032.3	3875.9	3698.3	3469.6	3332.7	3471.1	3868.4	3918.0	4486.7	4614.6
30°	4503.2	4506.3	4325.7	4094.1	3747.9	3472.6	3504.3	3863.9	3915.0	4489.7	4644.7
32.5°	4981.7	4984.7	4834.2	4586.0	4128.6	3713.4	3597.5	3884.9	3931.4	4477.7	4643.2
35°	5442.1	5446.7	5356.4	5156.3	4637.2	4047.4	3773.6	3957.2	3990.2	4485.2	4640.2
37.5°	6024.4	6042.5	5931.1	5744.6	5275.1	4537.9	4060.9	4103.0	4130.1	4547.0	4662.7
40°	7017.5	6993.3	6674.4	6358.5	5967.3	5135.1	4476.3	4354.3	4363.4	4706.4	4748.5
42.5°	8174.4	8144.4	7598.2	7053.6	6678.9	5855.9	5007.4	4739.4	4738.0	4974.2	4935.1
45°	9170.5	9152.5	8577.7	7851.1	7467.4	6651.8	5661.9	5294.7	5276.6	5437.7	5275.1
47.5°	9877.7	9862.7	9427.9	8699.7	8379.1	7527.5	6478.8	6051.6	6013.8	6044.0	5827.4
50°	9947.0	9930.3	9778.3	9310.5	9444.4	8812.5	7488.4	7043.1	6994.9	6948.3	6662.4
52.5°	9299.9	9298.4	9378.2	9348.1	10190.7	10466.1	8726.6	8269.3	8212.2	8093.3	7808.9
55°	7977.4	7969.9	8272.3	8711.7	10174.1	12172.2	10615.0	9728.8	9653.5	9415.9	9042.7
57.5°	5828.9	5789.7	6421.6	7353.0	9459.4	12918.5	13613.6	11541.8	11416.9	10663.1	10088.4
60°	3218.3	3233.4	4045.9	5148.8	7766.8	12771.1	16373.0	13655.8	13327.8	11739.0	11159.6
62.5°	1804.0	1841.7	2446.6	3346.3	4951.6	11574.9	17853.6	17293.9	16503.9	12993.7	12513.8
65°	1364.6	1387.3	1691.3	2581.9	3122.1	8088.8	18089.8	22381.0	21699.3	14895.6	14669.9
67.5°	1284.9	1303.0	1451.9	2141.1	2843.7	4194.8	16311.5	25390.2	25475.9	17489.4	16339.9
68°	1293.9	1316.6	1465.5	2059.7	2839.2	3752.5	15553.0	25405.2	25587.3	17907.8	16282.8
70°	1188.6	1194.6	1549.8	2020.6	2751.9	2956.5	11251.4	23664.4	23990.9	18405.9	14781.2
72.5°	454.4	455.9	695.1	1749.9	2882.8	2973.1	5667.9	18703.8	18720.3	16018.0	11523.8
75°	236.2	198.7	218.2	547.7	2753.5	2897.9	2843.7	12771.1	12691.3	10833.2	7061.1
77.5°	162.5	138.4	146.0	189.6	1145.0	2896.4	2053.7	7344.0	7327.4	4608.5	2014.6
80°	91.8	79.8	87.3	159.5	401.7	2718.8	1913.9	3156.6	2974.6	809.5	326.4
82.5°	46.7	39.2	46.7	134.0	249.7	1710.8	1861.2	1238.2	1102.9	192.7	212.2
85°	12.0	12.0	22.6	93.3	154.9	561.3	1668.6	893.7	803.5	84.2	150.4
87.5°	3.1	1.5	9.1	34.6	55.7	121.9	925.3	498.0	428.9	43.6	87.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196547

CATALOG NUMBER: NAV-AF-05-D-UNV-SL2-7030-800-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1	4270.1
2.5°	4230.9	4188.8	4106.1	4012.8	3946.6	3874.4	3832.3	3781.0	3741.9	3707.3	3733.0
5°	4215.9	4134.7	3951.1	3745.0	3571.9	3406.3	3283.0	3165.7	3077.0	3021.2	3043.9
7.5°	4176.8	4056.4	3758.5	3436.5	3153.7	2887.2	2670.7	2476.6	2326.1	2244.8	2270.4
10°	4110.6	3940.6	3540.3	3093.4	2697.7	2321.6	1999.7	1710.8	1492.6	1390.3	1414.4
12.5°	4062.5	3838.3	3314.6	2762.4	2241.9	1707.7	1280.4	949.4	779.3	677.1	686.1
15°	4041.4	3758.5	3103.9	2413.4	1743.9	1096.9	692.1	501.1	442.4	421.3	422.9
17.5°	4044.3	3695.2	2903.9	2050.8	1241.3	630.4	424.3	382.2	373.1	368.6	368.6
20°	4051.9	3632.1	2696.3	1673.1	794.5	406.2	353.6	340.1	335.5	329.5	331.0
22.5°	4074.5	3583.9	2487.1	1293.9	489.1	331.0	312.9	300.9	293.4	284.4	285.8
25°	4109.0	3547.8	2281.0	931.3	344.6	288.9	272.4	255.7	242.2	231.7	233.2
27.5°	4130.1	3496.8	2061.2	634.9	285.8	252.8	230.2	207.6	192.7	183.5	182.0
30°	4115.1	3414.0	1811.5	416.9	252.8	218.2	191.1	165.5	150.4	142.9	142.9
32.5°	4074.5	3307.2	1536.1	304.0	224.2	188.0	154.9	132.4	121.9	117.4	118.9
35°	4027.9	3195.8	1242.9	257.3	201.6	159.5	126.4	108.3	103.8	102.2	102.2
37.5°	4002.2	3099.4	961.5	233.2	180.6	132.4	103.8	93.3	88.7	88.7	88.7
40°	4030.8	3025.7	711.8	215.1	159.5	109.8	87.3	79.8	78.2	78.2	78.2
42.5°	4152.7	3000.2	520.6	200.2	138.4	91.8	75.3	69.2	67.7	69.2	69.2
45°	4390.5	3055.9	394.2	185.0	118.9	75.3	64.7	60.2	60.2	61.7	61.7
47.5°	4793.6	3198.8	323.5	170.0	99.3	63.2	55.7	52.7	52.7	54.2	54.2
50°	5419.6	3463.6	290.4	153.5	82.7	54.2	46.7	45.2	45.2	46.7	48.2
52.5°	6370.5	3967.6	273.8	136.9	67.7	45.2	39.2	37.5	39.2	40.7	40.7
55°	7428.2	4613.2	254.2	120.4	57.2	37.5	31.5	31.5	33.1	36.2	36.2
57.5°	8413.7	5236.0	236.2	99.3	49.6	30.0	25.5	25.5	28.6	31.5	31.5
60°	9455.0	5846.9	212.2	79.8	42.2	24.0	21.1	21.1	25.5	28.6	30.0
62.5°	10741.4	6557.0	180.6	63.2	33.1	18.0	15.1	19.5	24.0	28.6	28.6
65°	12601.1	7440.2	141.4	49.6	25.5	13.5	12.0	18.0	22.6	27.1	28.6
67.5°	13276.6	7327.4	106.8	40.7	19.5	10.5	10.5	16.5	22.6	27.1	27.1
68°	13029.8	7080.6	102.2	39.2	18.0	10.5	10.5	16.5	22.6	27.1	27.1
70°	11353.6	5788.2	84.2	30.0	15.1	9.1	9.1	15.1	22.6	25.5	27.1
72.5°	8501.0	3845.8	72.2	19.5	13.5	9.1	7.5	15.1	21.1	25.5	25.5
75°	4876.5	1596.4	61.7	15.1	12.0	7.5	7.5	13.5	21.1	25.5	25.5
77.5°	1378.2	373.1	49.6	12.0	10.5	7.5	6.0	13.5	19.5	24.0	24.0
80°	252.8	111.3	39.2	10.5	9.1	7.5	6.0	13.5	19.5	24.0	24.0
82.5°	167.0	52.7	28.6	10.5	9.1	7.5	6.0	12.0	18.0	22.6	22.6
85°	124.9	37.5	18.0	10.5	9.1	7.5	6.0	12.0	18.0	22.6	22.6
87.5°	69.2	16.5	13.5	12.0	10.5	7.5	6.0	10.5	16.5	21.1	21.1
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)