

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: P196120

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196120
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21186.3 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

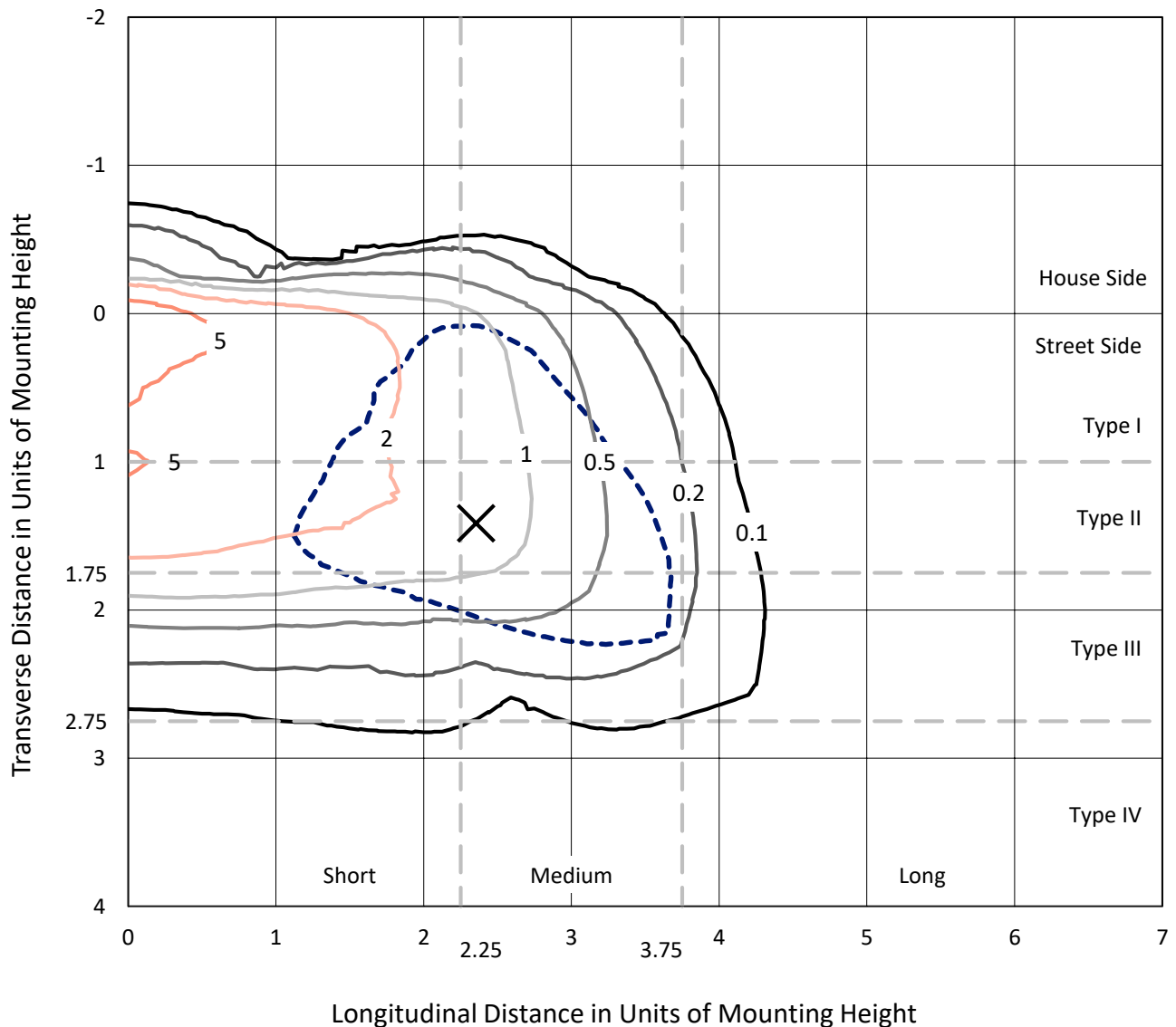
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196120
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-HSS

Iso-Footcandle Lines of Horizontal Illumination

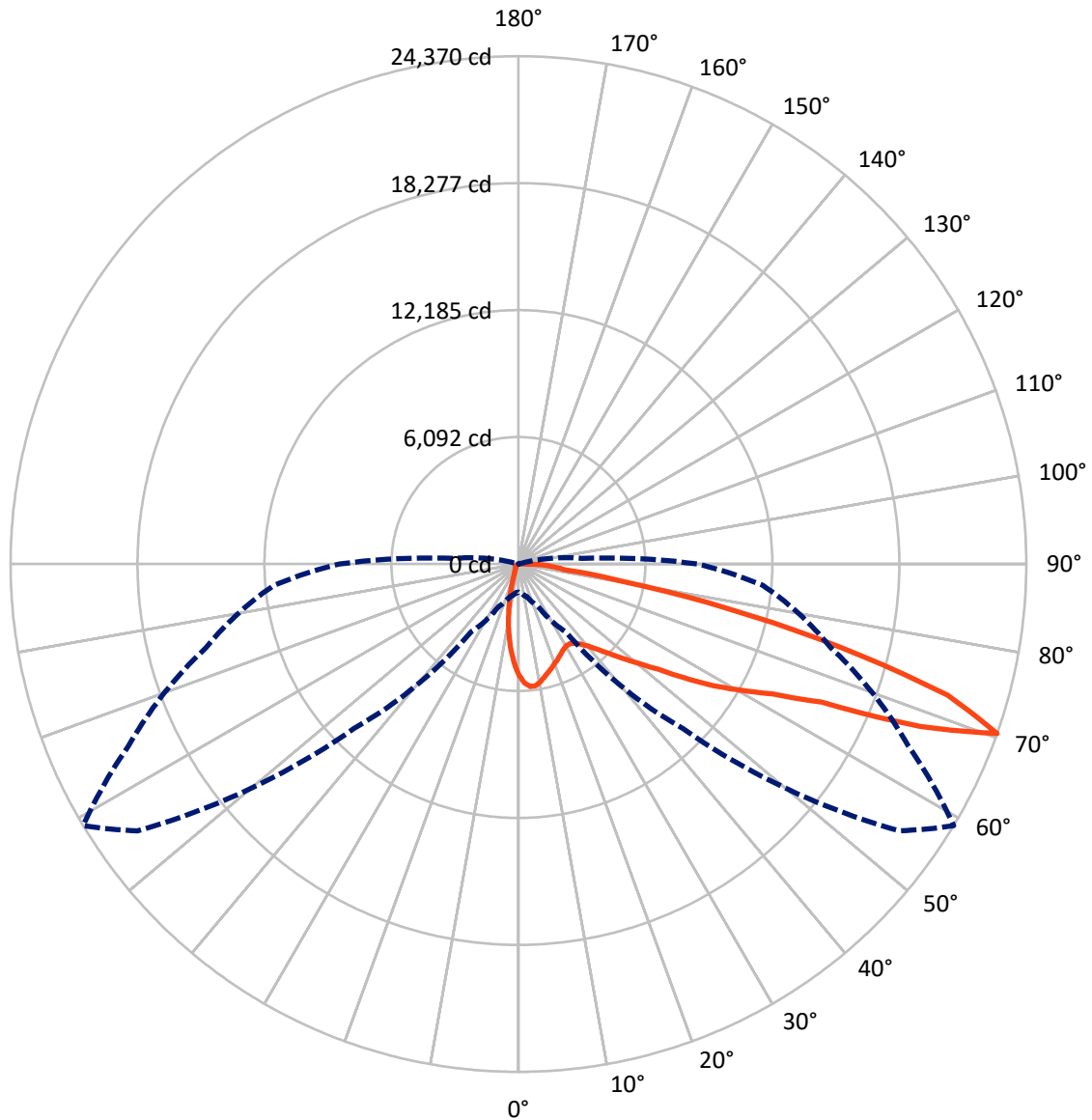
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.1 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P196120
CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P196120

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1628.7	0.0	1628.7
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	19557.7	0.0	19557.7
	% Fixture	92.3	0.0	92.3
Total	Lumens	21186.3	0.0	21186.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	440.5	2.1
10°-20°	924.0	4.4
20°-30°	1250.8	5.9
30°-40°	1805.0	8.5
40°-50°	2997.8	14.1
50°-60°	4585.4	21.6
60°-70°	5703.2	26.9
70°-80°	3152.7	14.9
80°-90°	326.9	1.5
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°	21186.3	100.0
0°-180°	21186.3	100.0



REPORT NUMBER: P196120

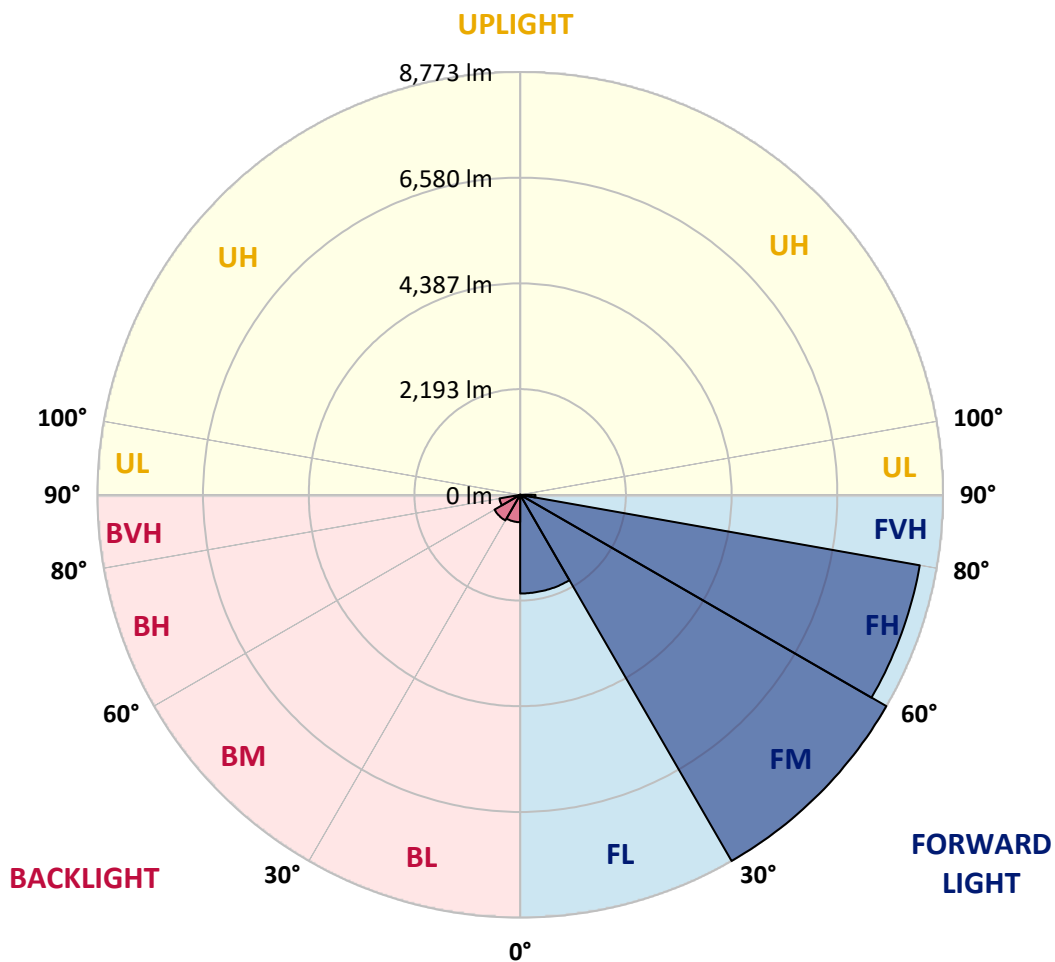
CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2047.7	9.7			
FM	(30°-60°)	8773.5	41.4			
FH	(60°-80°)	8419.0	39.7			G4/12000
FVH	(80°-90°)	317.5	1.5			G3/500
BL	(0°-30°)	567.5	2.7	B2/1000		
BM	(30°-60°)	614.8	2.9	B1/1000		
BH	(60°-80°)	436.9	2.1	B1/500		G1/500
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-G4

Type III Medium





REPORT NUMBER: P196120

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3
2.5°	6055.7	6046.0	6006.2	5998.2	5953.4	5863.9	5760.0	5718.5	5633.8	5499.5	5350.9
5°	6156.4	6161.1	6164.4	6146.8	6140.4	6066.9	5951.8	5902.2	5788.8	5568.2	5296.5
7.5°	5779.2	5791.9	5831.9	5849.5	5926.3	5955.0	5931.1	5899.1	5809.5	5549.1	5167.0
10°	5381.2	5405.2	5448.3	5477.1	5571.4	5648.1	5745.6	5753.6	5734.5	5485.2	5021.7
12.5°	5039.3	5061.6	5109.5	5167.0	5263.0	5362.1	5507.5	5558.6	5622.5	5443.5	4917.7
15°	4745.2	4751.5	4797.8	4869.8	4996.1	5131.9	5304.5	5379.6	5504.3	5427.6	4837.8
17.5°	4487.8	4489.4	4519.8	4585.3	4738.7	4917.7	5119.2	5218.2	5376.4	5405.2	4767.6
20°	4318.4	4316.9	4318.4	4353.6	4489.4	4702.0	4946.5	5050.4	5253.4	5378.1	4695.5
22.5°	4260.9	4252.9	4216.1	4203.3	4289.6	4476.6	4769.1	4904.9	5143.1	5370.1	4642.9
25°	4331.2	4326.4	4248.1	4174.6	4182.5	4299.3	4588.5	4754.8	5056.8	5398.8	4630.1
27.5°	4558.2	4548.6	4428.7	4284.8	4193.8	4214.6	4454.2	4628.4	4988.1	5469.1	4647.7
30°	4855.4	4857.0	4729.2	4555.0	4340.8	4222.5	4382.3	4546.9	4941.8	5574.6	4686.0
32.5°	5186.3	5184.6	5093.6	4892.2	4618.9	4369.5	4414.3	4553.4	4948.1	5729.6	4759.5
35°	5528.2	5510.7	5480.4	5302.9	4983.3	4626.9	4559.7	4662.0	5015.2	5934.2	4884.2
37.5°	5923.0	5916.6	5947.0	5760.0	5434.0	5005.6	4815.4	4884.2	5184.6	6236.3	5085.6
40°	6551.2	6516.0	6530.3	6276.2	5942.2	5515.4	5173.5	5191.1	5454.8	6635.9	5403.6
42.5°	7748.2	7605.9	7339.1	6862.8	6501.6	6081.2	5641.8	5611.4	5836.8	7120.1	5822.3
45°	9178.6	9015.6	8342.8	7510.1	7061.0	6688.6	6220.3	6138.8	6306.6	7697.1	6362.5
47.5°	10372.5	10196.7	9304.9	8186.2	7630.0	7315.1	6861.2	6765.3	6869.2	8366.7	7011.4
50°	10780.1	10682.6	9899.4	8748.7	8203.7	8018.3	7665.1	7505.3	7530.9	9089.1	7769.0
52.5°	10593.1	10559.5	10035.2	9133.8	8734.4	8795.0	8545.7	8377.9	8349.1	9878.6	8606.5
55°	10198.3	10182.4	9926.6	9348.0	9202.6	9506.3	9781.1	9635.7	9364.0	10717.8	9298.5
57.5°	9634.2	9694.8	9878.6	9760.4	9778.0	10257.4	10928.7	11003.8	10597.9	11385.7	9811.5
60°	8127.0	8290.0	9132.3	10203.1	11023.0	11507.3	12157.8	12298.3	11643.1	11842.9	10404.4
62.5°	6007.8	6241.1	7441.4	9408.8	11708.6	13883.8	13792.8	13730.4	12640.4	12455.0	11483.2
65°	3528.9	3802.2	4817.1	7351.8	10674.6	15411.7	16845.3	15982.3	14160.3	13727.2	13201.4
67.5°	1758.0	1759.7	2218.4	3880.5	7888.9	14345.7	21301.2	20802.5	17391.9	15601.9	13879.0
70°	1352.1	1388.9	1641.4	2255.1	3989.2	11173.2	22322.4	24369.8	20639.6	15518.8	11775.7
72.5°	1145.9	1169.9	1460.8	1962.6	2982.3	6134.0	19324.2	21540.9	19695.0	13111.9	8679.9
75°	824.7	843.8	1293.0	1780.4	2745.8	3043.1	13255.7	15975.9	14777.2	9223.3	4777.1
77.5°	204.6	203.0	450.7	1444.8	2456.5	2534.8	7605.9	10244.6	8478.6	3776.6	1227.4
80°	91.1	87.9	102.3	303.7	2285.5	2392.6	3345.0	5173.5	3252.4	612.1	375.6
82.5°	63.9	60.8	63.9	111.9	763.9	2219.9	2021.8	2242.3	1190.7	209.4	159.8
85°	20.8	19.1	35.2	94.3	214.2	1280.2	1972.2	1675.0	885.5	89.5	107.1
87.5°	3.2	3.2	12.8	51.1	62.3	426.8	1157.2	1160.3	397.9	52.8	48.0
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: P196120

CATALOG NUMBER: NAV-AF-04-D-UNV-SL3-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3	5357.3
2.5°	5275.8	5181.5	5048.8	4916.2	4796.3	4673.2	4574.1	4527.8	4507.0	4478.3	4415.9
5°	5154.2	4983.3	4692.4	4406.4	4139.4	3883.7	3664.7	3540.1	3405.8	3399.5	3333.9
7.5°	4959.3	4716.4	4257.7	3813.4	3405.8	3015.9	2680.2	2462.9	2314.2	2221.5	2157.6
10°	4742.0	4430.3	3823.0	3198.1	2643.5	2122.4	1690.9	1409.6	1238.6	1152.4	1102.7
12.5°	4569.3	4177.7	3394.7	2608.3	1913.1	1315.3	914.2	709.6	618.5	583.4	567.3
15°	4420.7	3946.0	2993.5	2080.9	1276.9	756.0	529.0	461.9	447.5	447.5	445.9
17.5°	4270.5	3722.3	2603.5	1563.1	803.9	495.4	417.2	407.5	409.2	414.0	414.0
20°	4128.2	3509.7	2227.9	1114.0	527.4	396.4	378.8	375.6	380.3	386.8	385.1
22.5°	4013.1	3322.7	1876.3	765.6	405.9	359.6	348.4	343.6	346.8	351.6	350.1
25°	3931.6	3162.9	1553.5	533.8	353.2	327.7	314.9	308.4	305.2	308.4	306.9
27.5°	3882.1	3028.7	1249.8	401.2	316.4	295.6	279.7	266.9	258.9	258.9	255.7
30°	3850.2	2902.4	979.7	332.5	286.1	263.7	241.3	223.7	210.9	207.8	206.1
32.5°	3848.5	2793.7	732.0	294.1	257.3	231.7	204.6	182.2	167.8	164.6	163.1
35°	3888.4	2705.8	538.6	265.4	231.7	201.4	171.0	147.0	134.2	134.2	132.7
37.5°	3992.4	2654.7	407.5	243.0	210.9	175.8	143.8	121.4	110.3	113.4	113.4
40°	4185.7	2645.0	332.5	225.4	193.3	153.4	116.7	99.1	94.3	99.1	99.1
42.5°	4481.4	2696.2	295.6	212.6	177.4	131.0	97.5	84.7	83.1	87.9	87.9
45°	4866.6	2796.8	274.9	201.4	159.8	108.6	81.5	73.6	71.9	78.4	78.4
47.5°	5333.3	2932.8	255.7	188.6	142.3	89.5	68.7	62.3	62.3	68.7	70.3
50°	5886.3	3116.5	236.5	175.8	127.9	75.1	57.5	52.8	54.3	60.8	62.3
52.5°	6522.3	3341.9	218.9	164.6	111.9	60.8	48.0	44.7	46.3	52.8	54.3
55°	7070.5	3538.5	198.1	153.4	91.1	49.5	40.0	38.4	40.0	48.0	48.0
57.5°	7548.5	3727.0	179.0	135.8	71.9	40.0	31.9	31.9	35.2	43.2	44.7
60°	8182.9	4024.3	163.1	115.1	54.3	30.4	25.6	27.2	31.9	38.4	40.0
62.5°	9306.5	4529.4	142.3	95.9	40.0	23.9	20.8	22.4	28.7	36.7	38.4
65°	10713.0	5007.2	118.3	79.9	30.4	17.6	16.0	20.8	28.7	36.7	38.4
67.5°	10569.1	4355.2	92.7	63.9	22.4	14.4	12.8	19.1	27.2	36.7	38.4
70°	8571.3	3052.6	68.7	43.2	17.6	12.8	12.8	19.1	27.2	35.2	36.7
72.5°	5945.4	1698.9	52.8	28.7	16.0	12.8	11.2	17.6	25.6	35.2	36.7
75°	2828.9	521.0	41.5	20.8	14.4	11.2	9.6	17.6	25.6	35.2	36.7
77.5°	543.4	132.7	33.6	17.6	12.8	11.2	9.6	16.0	25.6	33.6	35.2
80°	183.8	59.1	27.2	16.0	12.8	11.2	9.6	16.0	23.9	31.9	33.6
82.5°	100.7	33.6	23.9	14.4	12.8	9.6	8.0	14.4	22.4	31.9	33.6
85°	78.4	23.9	19.1	14.4	12.8	9.6	8.0	14.4	22.4	30.4	31.9
87.5°	40.0	17.6	16.0	14.4	12.8	9.6	8.0	12.8	20.8	28.7	31.9
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)