

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: P197057

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197057
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24055 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

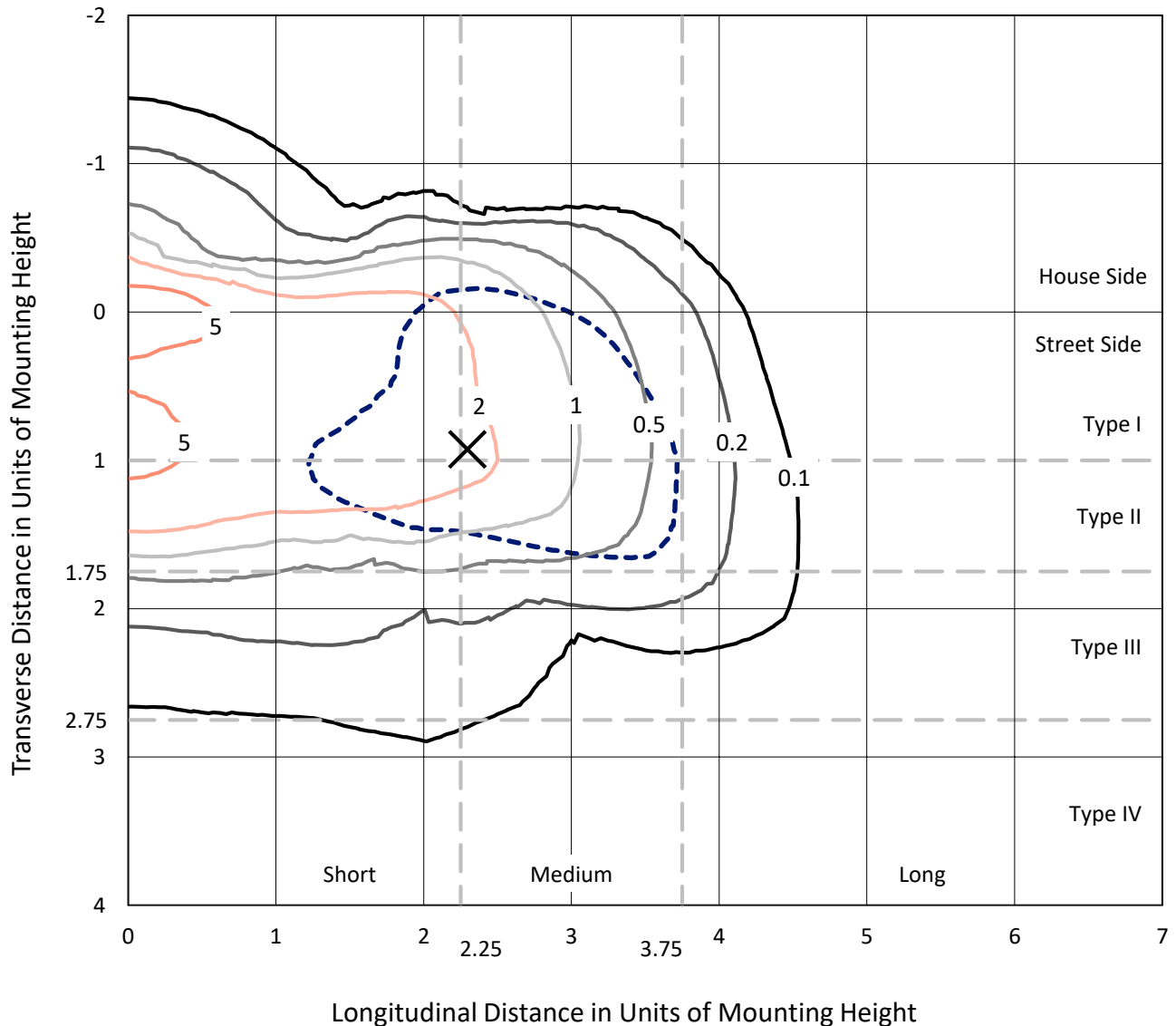
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

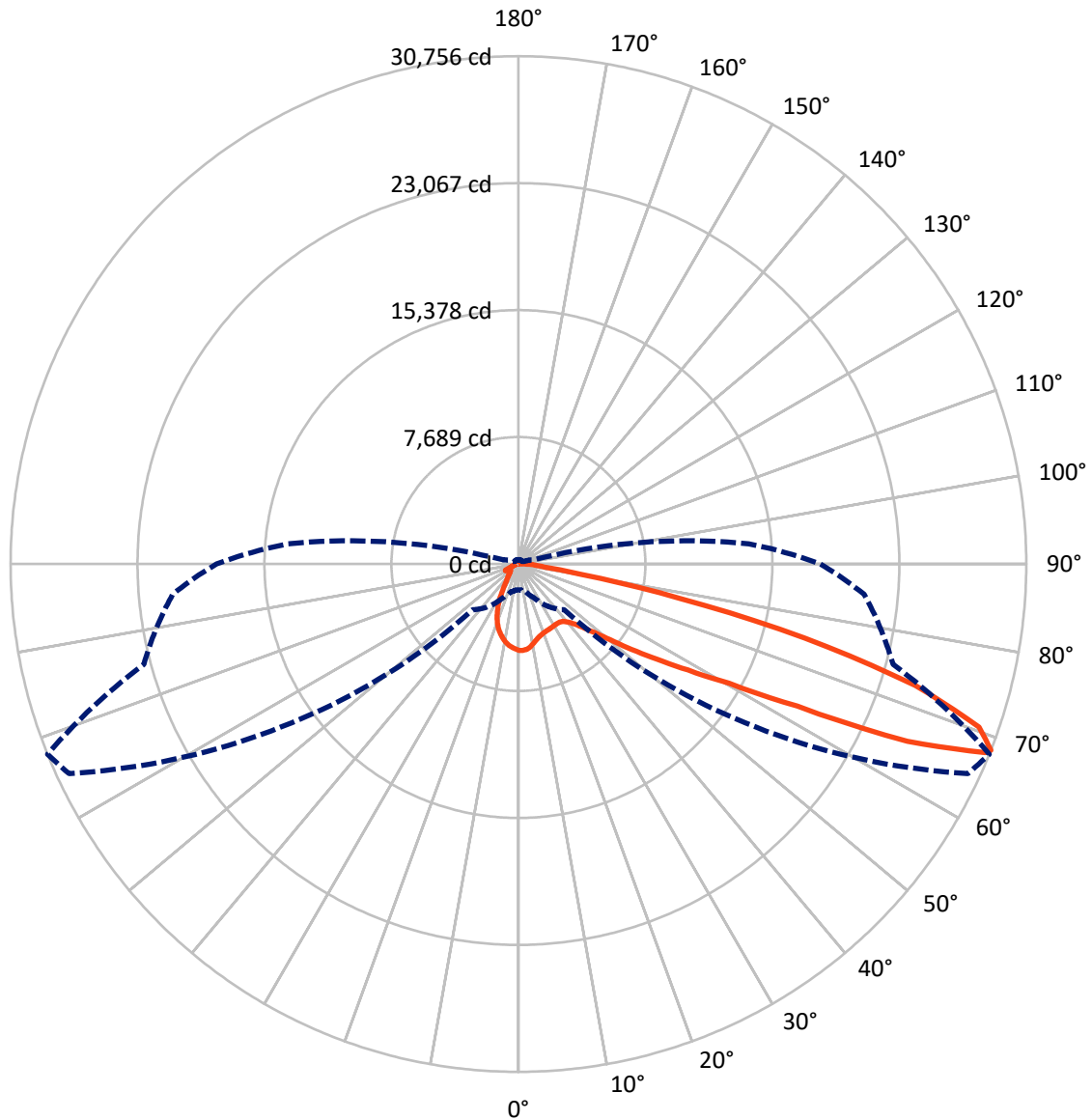
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.4 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3935.5	0.0	3935.5
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	20119.5	0.0	20119.5
	% Fixture	83.6	0.0	83.6
Total	Lumens	24055.0	0.0	24055.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	448.5	1.9
10°-20°	1040.2	4.3
20°-30°	1406.8	5.8
30°-40°	1983.5	8.2
40°-50°	3261.7	13.6
50°-60°	5055.9	21.0
60°-70°	6555.4	27.3
70°-80°	3761.8	15.6
80°-90°	541.2	2.3
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°	24055.0	100.0
0°-180°	24055.0	100.0

Coefficient of Utilization



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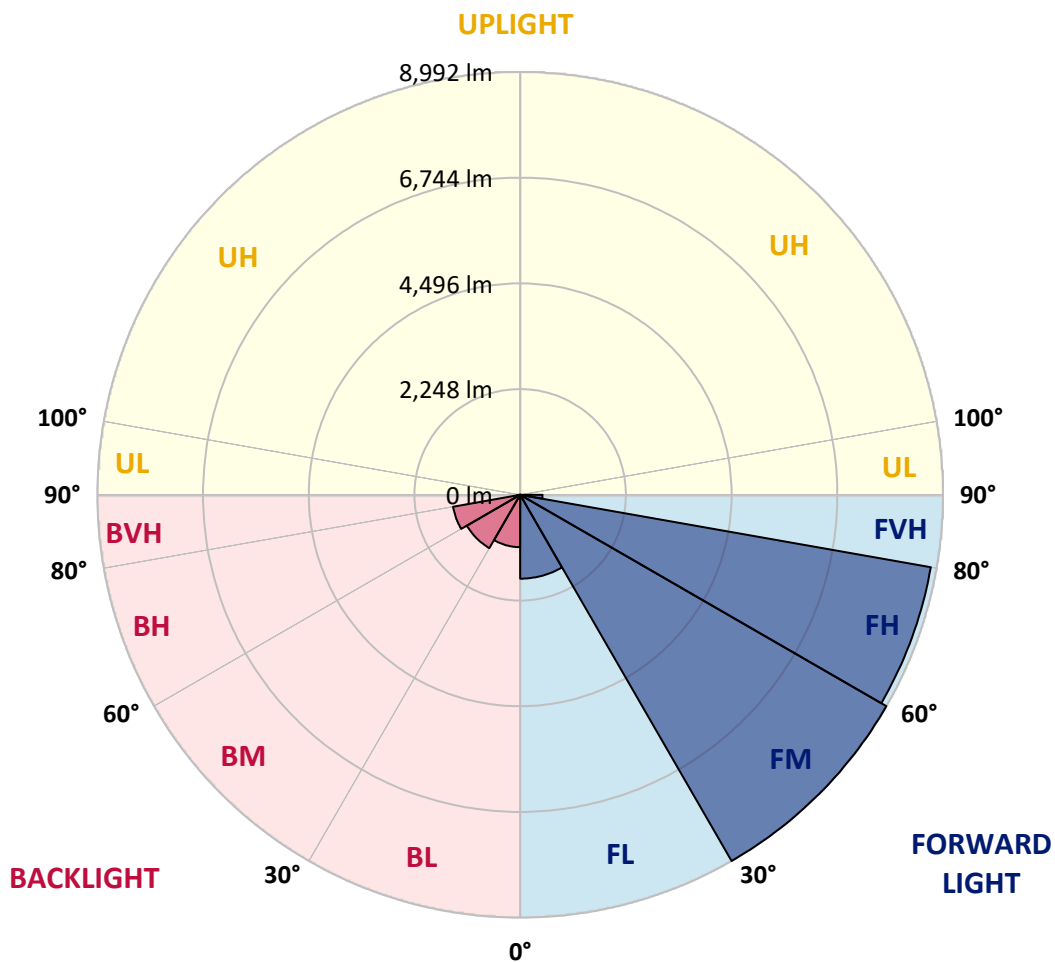
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1782.9	7.4			
FM	(30°-60°)	8992.2	37.4			
FH	(60°-80°)	8867.8	36.9			G4/12000
FVH	(80°-90°)	476.7	2.0			G3/500
BL	(0°-30°)	1112.6	4.6	B3/2500		
BM	(30°-60°)	1309.0	5.4	B2/2500		
BH	(60°-80°)	1449.4	6.0	B3/2500		G3/2500
BVH	(80°-90°)	64.5	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2
2.5°	5094.3	5135.2	5135.2	5165.0	5191.7	5213.7	5232.6	5232.6	5232.6	5220.0	5209.0
5°	4558.5	4613.5	4621.3	4696.8	4795.7	4916.7	5051.9	5171.3	5194.9	5238.9	5256.2
7.5°	4186.1	4203.4	4233.2	4285.1	4385.6	4534.9	4747.0	5014.2	5078.6	5216.9	5289.2
10°	3922.1	3936.2	3961.4	4013.2	4104.4	4239.5	4448.5	4795.7	4902.6	5147.7	5290.7
12.5°	3728.8	3739.8	3763.4	3810.5	3903.2	4024.2	4237.9	4599.3	4731.3	5078.6	5312.7
15°	3578.0	3596.8	3615.7	3661.2	3755.5	3871.8	4088.6	4456.3	4599.3	5023.6	5353.6
17.5°	3518.2	3527.7	3530.8	3554.4	3639.2	3757.1	3973.9	4355.8	4503.5	4979.6	5385.0
20°	3556.0	3557.5	3526.1	3510.4	3559.1	3667.5	3878.1	4280.3	4431.2	4940.3	5397.6
22.5°	3720.9	3720.9	3639.2	3570.1	3537.1	3604.7	3813.7	4228.5	4391.9	4910.5	5397.6
25°	4035.2	4021.1	3893.8	3757.1	3611.0	3582.7	3772.8	4195.5	4362.1	4894.7	5377.1
27.5°	4448.5	4435.9	4274.1	4071.4	3807.4	3629.8	3758.7	4168.8	4332.2	4871.2	5333.1
30°	4951.3	4940.3	4756.5	4490.9	4101.2	3779.1	3791.7	4149.9	4308.6	4831.9	5259.3
32.5°	5452.6	5446.3	5300.1	5028.3	4506.6	4032.1	3878.1	4146.8	4296.1	4784.7	5169.7
35°	5957.0	5957.0	5867.4	5638.0	5051.9	4412.3	4058.8	4204.9	4319.6	4759.6	5092.7
37.5°	6701.8	6671.9	6505.4	6268.1	5738.6	4905.7	4351.1	4327.5	4410.8	4802.0	5067.6
40°	7855.2	7768.7	7352.3	6953.2	6488.1	5537.4	4778.5	4564.8	4615.0	4946.6	5127.3
42.5°	9062.0	8925.2	8373.7	7735.7	7262.8	6316.8	5339.4	4949.7	4948.2	5226.3	5317.4
45°	10097.5	10026.8	9429.6	8620.4	8147.4	7193.6	6048.1	5521.7	5465.1	5660.0	5683.6
47.5°	10699.3	10652.2	10292.3	9556.9	9197.1	8229.1	6946.9	6315.2	6208.4	6324.7	6288.5
50°	10532.7	10578.3	10474.6	10099.0	10325.3	9684.2	8092.4	7402.6	7199.9	7316.2	7228.2
52.5°	9655.9	9778.5	9871.2	9943.5	10974.3	11631.1	9531.8	8760.3	8592.1	8571.7	8486.8
55°	8076.7	8271.6	8563.8	9095.0	10799.9	13194.6	12045.9	10402.3	10157.2	10028.3	10061.3
57.5°	5496.6	5792.0	6422.1	7432.5	9893.2	13860.8	15763.7	12523.6	12108.8	11650.0	11756.8
60°	3028.0	3274.7	4024.2	5042.4	7823.7	13761.8	19058.9	15971.2	14665.4	13449.2	13669.1
62.5°	1959.5	2012.9	2570.7	3444.4	4802.0	12149.6	20889.5	21733.3	18966.1	15821.9	16131.4
65°	1574.5	1612.2	1885.6	2778.1	3345.4	7815.9	20971.2	27710.7	25886.4	19046.3	19055.7
67.5°	1538.3	1555.6	1714.3	2336.6	3138.0	4255.2	18127.0	30067.7	30490.4	22852.1	21012.0
68°	1560.3	1580.8	1741.1	2264.3	3136.4	3922.1	16753.7	30031.6	30756.0	23488.5	21012.0
70°	1376.5	1401.6	1775.6	2342.9	3002.8	3372.1	11472.4	28436.6	29602.6	24951.4	19937.2
72.5°	719.7	699.2	878.4	1849.5	3380.0	3513.5	6060.7	23757.2	25118.0	23108.2	17225.1
75°	561.0	510.7	491.8	730.7	2973.0	3644.0	3519.8	16885.7	17913.3	16657.8	11513.3
77.5°	528.0	466.7	430.5	432.1	1308.9	3791.7	2847.3	9937.2	9937.2	7946.3	3673.8
80°	424.3	367.7	344.1	392.8	631.7	3494.7	2971.4	4528.6	3862.4	2053.7	1011.9
82.5°	279.7	249.8	251.4	319.0	479.3	2333.4	3441.2	2236.0	1679.8	909.8	595.5
85°	177.6	152.4	169.7	223.1	358.3	1040.2	3406.7	1554.1	1112.5	510.7	297.0
87.5°	89.6	69.1	84.9	116.3	218.4	298.6	2804.9	1387.5	825.0	212.1	161.8
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°	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2	5234.2
2.5°	5209.0	5174.4	5157.2	5128.9	5094.3	5059.7	5036.2	5025.2	5018.9	5022.0	5020.5
5°	5246.7	5201.2	5127.3	5022.0	4913.6	4798.9	4710.9	4643.3	4600.9	4588.3	4585.2
7.5°	5275.0	5209.0	5070.7	4879.0	4693.6	4492.5	4321.2	4184.5	4091.8	4049.4	4047.8
10°	5270.3	5185.4	4967.0	4684.2	4412.3	4116.9	3848.2	3618.8	3452.2	3372.1	3369.0
12.5°	5275.0	5158.7	4839.7	4456.3	4066.6	3644.0	3244.8	2888.1	2639.9	2522.0	2517.3
15°	5293.9	5130.4	4709.3	4201.8	3662.8	3065.7	2495.3	2047.5	1821.2	1744.2	1744.2
17.5°	5292.3	5083.3	4558.5	3906.4	3183.5	2383.7	1703.3	1426.8	1404.8	1475.5	1486.5
20°	5260.9	5007.9	4363.6	3556.0	2621.0	1649.9	1154.9	1115.7	1291.6	1486.5	1508.5
22.5°	5212.2	4910.5	4138.9	3149.0	1965.8	1074.8	891.0	950.7	1189.5	1431.5	1466.1
25°	5144.6	4792.6	3881.2	2676.0	1307.4	773.1	743.2	817.1	985.2	1147.1	1172.2
27.5°	5045.6	4643.3	3600.0	2163.7	834.4	636.4	647.4	699.2	771.5	840.7	854.8
30°	4921.5	4468.9	3293.5	1596.5	633.3	568.8	587.7	619.1	650.5	694.5	704.0
32.5°	4795.7	4291.3	2974.6	1096.8	553.1	532.7	551.5	568.8	595.5	625.4	631.7
35°	4682.6	4126.4	2646.1	765.2	518.5	509.1	518.5	529.5	556.3	586.1	589.3
37.5°	4600.9	3991.2	2303.6	605.0	498.1	488.7	493.4	498.1	529.5	573.5	578.3
40°	4589.9	3901.7	1956.3	543.7	482.4	469.8	466.7	469.8	510.7	561.0	565.7
42.5°	4696.8	3906.4	1616.9	518.5	469.8	455.7	443.1	449.4	485.5	524.8	528.0
45°	4949.7	4016.4	1323.1	507.5	458.8	447.8	429.0	432.1	449.4	469.8	473.0
47.5°	5396.0	4256.8	1098.4	501.3	449.4	440.0	416.4	407.0	408.5	419.5	419.5
50°	6109.4	4659.0	961.7	495.0	441.5	424.3	397.6	378.7	374.0	380.3	381.8
52.5°	7173.2	5348.9	895.7	482.4	427.4	403.8	374.0	355.1	347.3	353.6	353.6
55°	8611.0	6450.4	864.2	465.1	410.1	378.7	352.0	336.3	330.0	334.7	334.7
57.5°	10249.9	7881.9	917.7	441.5	388.1	352.0	333.1	322.1	317.4	322.1	323.7
60°	12196.8	9754.9	1285.4	411.7	364.6	328.4	317.4	311.1	308.0	312.7	312.7
62.5°	14784.8	12247.1	1989.3	388.1	339.4	306.4	303.3	300.1	297.0	301.7	301.7
65°	17578.6	14514.5	2047.5	374.0	317.4	287.6	289.1	289.1	286.0	290.7	290.7
67.5°	18468.0	14318.1	1143.9	356.7	290.7	268.7	275.0	275.0	273.4	278.1	276.6
68°	18279.5	14007.0	996.2	352.0	286.0	264.0	270.3	271.8	270.3	275.0	273.4
70°	16874.7	12297.4	655.3	325.3	265.6	248.3	257.7	259.3	257.7	264.0	262.4
72.5°	13930.0	9223.8	484.0	284.4	240.4	227.8	237.3	238.8	240.4	246.7	245.1
75°	8846.7	5094.3	381.8	242.0	215.3	204.3	213.7	218.4	221.6	231.0	226.3
77.5°	2423.0	1546.2	309.6	205.8	185.4	180.7	187.0	193.3	196.4	207.4	199.6
80°	848.5	683.5	257.7	174.4	154.0	152.4	158.7	165.0	168.1	177.6	168.1
82.5°	515.4	446.3	205.8	136.7	121.0	119.4	127.3	133.6	136.7	136.7	130.4
85°	268.7	235.7	150.8	95.9	83.3	78.6	92.7	100.6	102.1	100.6	95.9
87.5°	150.8	133.6	80.1	45.6	37.7	39.3	48.7	59.7	64.4	62.9	59.7
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)