

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: P195548

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-7050-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195548  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-AFL-7050-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13691 lumens  
Efficiency: N/A  
Efficacy: 106.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B2 - U0 - G2

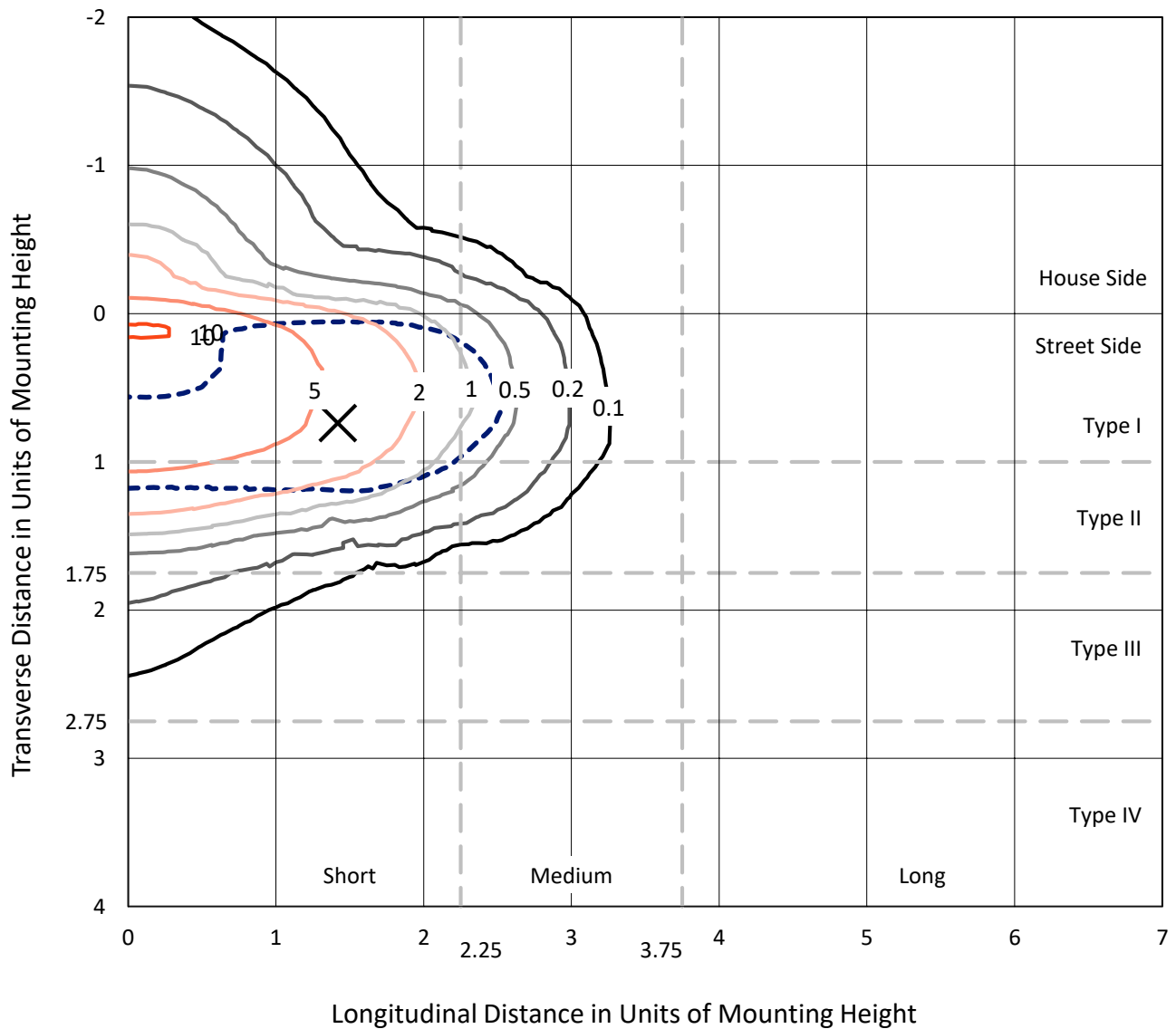
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

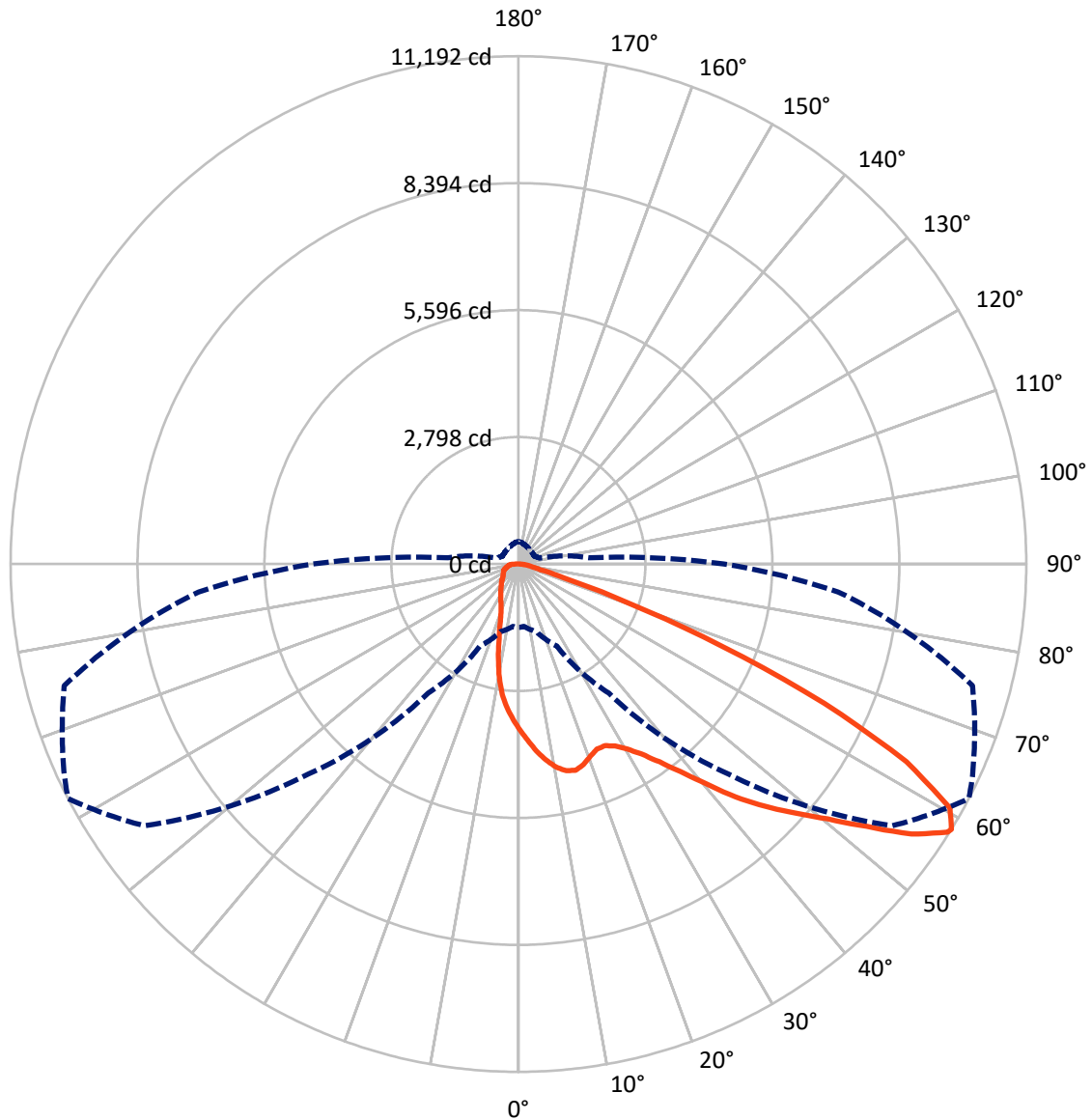
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.7 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral      - - - Horizontal Cone Through 58-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2102.1	0.0	2102.1
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	11588.9	0.0	11588.9
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	13691.0	0.0	13691.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	326.7	2.4
10°-20°	824.6	6.0
20°-30°	1336.3	9.8
30°-40°	2133.6	15.6
40°-50°	3103.4	22.7
50°-60°	3247.4	23.7
60°-70°	1979.7	14.5
70°-80°	553.6	4.0
80°-90°	185.6	1.4
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°	13691.0	100.0
0°-180°	13691.0	100.0

**Coefficient of Utilization**



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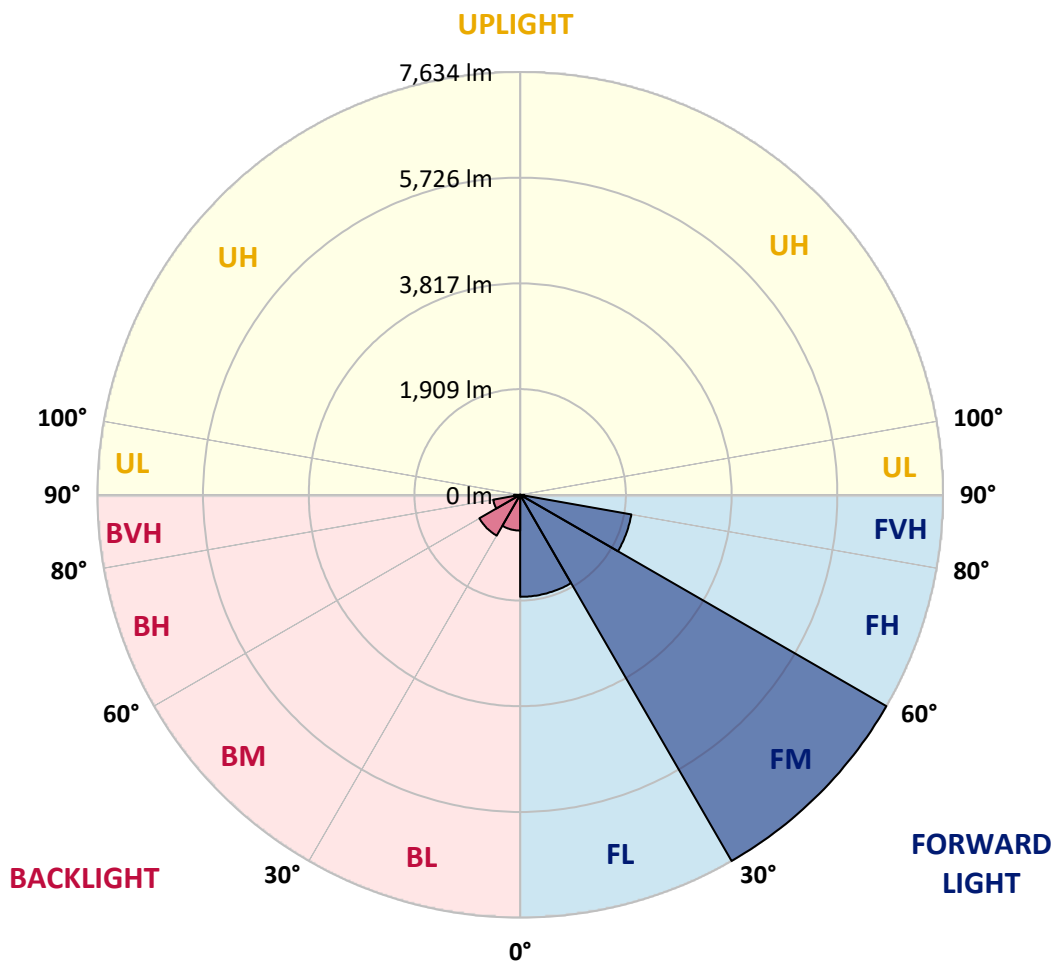
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1841.5	13.5			
FM	(30°-60°)	7634.3	55.8			
FH	(60°-80°)	2038.5	14.9			G2/5000
FVH	(80°-90°)	74.7	0.5			G1/100
BL	(0°-30°)	646.2	4.7	B2/1000		
BM	(30°-60°)	850.1	6.2	B1/1000		
BH	(60°-80°)	494.9	3.6	B1/500		G1/500
BVH	(80°-90°)	110.9	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4
2.5°	4149.1	4146.6	4111.5	4088.4	4061.0	3997.7	3934.4	3887.3	3863.3	3771.8	3682.8
5°	4492.2	4482.0	4462.3	4437.5	4401.5	4322.0	4221.9	4135.4	4101.2	3938.6	3775.2
7.5°	4310.8	4327.1	4387.9	4456.3	4528.2	4533.3	4462.3	4359.6	4322.0	4104.6	3865.0
10°	3808.6	3801.7	3877.9	4011.4	4248.4	4482.8	4600.1	4549.6	4510.2	4262.1	3954.9
12.5°	3656.3	3654.6	3667.4	3701.6	3850.5	4172.2	4565.0	4674.5	4660.8	4428.9	4050.7
15°	3702.5	3704.2	3703.3	3707.6	3748.7	3901.8	4369.0	4716.4	4759.2	4594.1	4148.3
17.5°	3850.5	3844.5	3825.7	3805.1	3811.1	3865.9	4157.7	4644.6	4772.9	4741.2	4230.4
20°	4079.0	4079.0	4028.5	3971.1	3933.5	3945.5	4069.5	4521.3	4709.6	4866.2	4292.0
22.5°	4365.6	4369.9	4295.4	4191.1	4105.5	4073.0	4120.0	4429.8	4632.6	4981.7	4346.8
25°	4721.6	4720.7	4612.0	4462.3	4327.1	4249.2	4248.4	4434.1	4608.6	5116.9	4404.1
27.5°	5162.2	5122.0	4995.4	4782.3	4591.5	4472.6	4418.7	4541.9	4659.1	5282.9	4481.1
30°	5659.4	5618.3	5452.3	5178.5	4920.1	4746.4	4657.4	4728.4	4813.1	5494.2	4597.5
32.5°	6151.4	6160.8	5965.7	5656.8	5324.8	5080.1	4948.3	4992.0	5051.0	5752.6	4754.9
35°	6871.9	6871.0	6616.0	6230.1	5835.6	5496.8	5329.9	5353.0	5407.0	6117.2	4975.7
37.5°	7409.2	7400.7	7236.4	6895.0	6450.9	6044.4	5803.1	5806.6	5852.8	6574.9	5266.6
40°	7464.0	7462.3	7461.4	7412.6	7108.9	6725.5	6423.5	6361.0	6379.8	7061.0	5575.5
42.5°	7045.6	7108.0	7287.7	7563.2	7647.9	7446.9	7161.1	7021.6	6980.5	7618.9	5902.4
45°	6449.2	6480.8	6795.7	7415.2	7919.2	8124.6	7909.8	7615.4	7545.3	8161.3	6168.5
47.5°	6171.9	6158.2	6340.5	7015.6	7892.7	8663.6	8679.0	8196.4	8077.5	8629.4	6395.3
50°	5577.2	5559.3	5789.4	6427.8	7603.5	8931.4	9468.8	8829.6	8609.7	9074.3	6600.6
52.5°	4392.1	4375.0	4683.9	5506.2	6956.6	8831.3	10134.5	9606.6	9231.8	9503.0	6792.3
55°	2857.9	2859.6	3154.0	4002.0	5629.4	8247.8	10446.8	10504.2	10084.0	9931.7	6947.2
57.5°	1573.6	1559.0	1768.7	2289.8	3872.7	6922.3	10186.7	11151.0	10932.0	10299.7	7059.2
58°	1399.0	1381.9	1543.6	1992.8	3472.3	6548.4	10055.8	11192.1	11040.7	10360.4	7075.5
60°	996.9	967.8	942.9	1123.5	2000.5	4721.6	9183.0	10926.0	11072.3	10481.9	7060.1
62.5°	840.3	806.9	717.9	711.1	942.1	2309.4	7262.0	9595.4	10005.3	10202.1	6812.0
65°	780.4	747.0	629.8	587.8	639.2	996.9	4490.5	7409.2	7956.8	9229.2	6187.3
67.5°	737.6	698.2	572.4	517.7	527.9	596.4	1905.6	4845.6	5480.5	7197.0	4963.7
70°	699.1	655.4	527.1	463.8	455.2	453.5	744.4	2530.2	3142.0	4709.6	3325.1
72.5°	655.4	612.7	486.9	419.3	400.5	367.9	447.5	1045.6	1433.2	2308.6	1523.9
75°	592.1	557.0	442.4	382.5	350.0	298.6	330.3	501.4	617.8	883.9	707.6
77.5°	521.1	492.9	397.0	351.7	308.0	243.9	252.4	339.7	381.6	498.0	409.9
80°	368.8	379.1	346.5	309.8	271.2	196.8	194.2	249.0	273.8	334.6	275.5
82.5°	254.1	261.8	282.4	244.7	219.1	153.2	142.9	172.8	185.7	201.9	133.5
85°	181.4	176.3	195.9	175.4	160.9	97.5	91.6	109.5	117.2	123.2	64.2
87.5°	110.4	109.5	112.9	90.7	83.9	49.6	45.4	52.2	55.6	53.9	30.8
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°	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4	3655.4
2.5°	3649.4	3607.5	3515.9	3442.3	3362.8	3302.0	3241.3	3207.0	3169.4	3148.0	3145.4
5°	3689.6	3604.1	3409.0	3227.6	3041.0	2873.3	2709.0	2587.5	2488.3	2431.8	2428.4
7.5°	3734.1	3599.8	3298.6	2984.6	2652.6	2322.3	2030.5	1824.3	1691.7	1630.0	1625.8
10°	3768.4	3581.8	3164.3	2675.7	2149.4	1713.0	1447.8	1326.3	1286.1	1275.8	1274.1
12.5°	3809.4	3569.0	2994.8	2279.5	1642.9	1304.0	1223.6	1215.9	1224.5	1229.6	1230.4
15°	3847.9	3544.2	2766.4	1840.5	1286.1	1165.4	1167.1	1183.4	1200.5	1208.2	1209.1
17.5°	3865.9	3483.4	2466.0	1450.4	1125.2	1103.0	1122.6	1144.0	1159.4	1165.4	1165.4
20°	3865.9	3385.9	2117.8	1174.8	1041.3	1045.6	1069.6	1085.8	1089.3	1084.1	1081.6
22.5°	3849.6	3265.2	1778.9	1025.1	972.9	989.2	1008.0	996.9	956.6	925.8	919.8
25°	3835.1	3122.3	1452.9	933.5	913.0	934.4	926.7	850.5	788.9	757.3	752.1
27.5°	3811.1	2949.5	1180.8	858.2	854.8	871.9	795.8	722.2	691.4	674.3	670.8
30°	3805.1	2762.1	988.3	791.5	797.5	773.5	686.2	662.3	655.4	646.0	641.7
32.5°	3824.8	2574.7	867.6	736.7	742.7	664.0	630.6	634.0	633.2	621.2	616.9
35°	3878.7	2392.4	790.6	687.1	670.0	594.7	599.0	609.2	609.2	594.7	589.6
37.5°	3972.9	2223.0	741.9	645.2	586.1	558.8	569.9	583.6	583.6	573.3	569.0
40°	4073.0	2057.9	705.1	611.8	533.1	533.9	545.1	555.3	559.6	561.3	557.9
42.5°	4163.7	1886.7	665.7	575.9	509.1	515.1	520.2	527.9	545.9	557.9	556.2
45°	4216.7	1714.8	622.9	531.4	492.9	495.4	493.7	507.4	528.8	546.8	546.8
47.5°	4265.5	1573.6	587.8	486.9	476.6	476.6	471.5	485.2	504.8	526.2	527.9
50°	4311.7	1482.0	563.0	452.6	456.1	453.5	451.8	464.6	491.2	516.8	521.1
52.5°	4358.8	1451.2	540.8	427.8	434.7	431.3	433.0	450.9	480.9	507.4	511.7
55°	4424.7	1470.9	517.7	410.7	414.1	413.3	420.1	440.7	467.2	493.7	495.4
57.5°	4505.9	1542.8	498.0	397.9	394.5	399.6	410.7	430.4	456.1	487.7	490.3
58°	4522.2	1559.9	494.6	394.5	390.2	397.9	409.0	427.8	454.4	487.7	490.3
60°	4547.0	1620.6	486.0	387.6	375.6	389.3	403.0	421.8	450.9	492.0	497.1
62.5°	4427.2	1632.6	483.5	379.9	360.2	377.3	393.6	415.0	447.5	506.6	517.7
65°	4012.2	1509.4	465.5	367.1	347.4	367.9	385.0	409.9	457.8	550.2	555.3
67.5°	3220.7	1253.6	421.8	347.4	332.9	356.8	378.2	409.9	462.1	557.0	560.5
70°	2214.5	942.1	367.1	326.0	315.7	343.1	375.6	419.3	447.5	527.1	516.8
72.5°	1156.9	655.4	321.7	301.2	295.2	331.1	400.5	409.9	430.4	492.0	481.7
75°	582.7	445.8	283.2	273.0	272.1	326.9	448.4	394.5	412.4	462.9	485.2
77.5°	344.0	349.1	252.4	246.4	250.7	319.2	449.2	379.1	391.9	426.1	450.1
80°	235.3	288.4	228.5	226.8	230.2	293.5	414.1	360.2	367.9	403.0	428.7
82.5°	132.6	159.2	200.2	211.3	209.6	240.4	357.7	327.7	337.1	476.6	504.0
85°	64.2	95.8	167.7	197.7	178.8	160.0	290.9	290.9	293.5	341.4	345.7
87.5°	24.0	42.8	112.9	156.6	124.9	95.8	197.7	206.2	229.3	236.2	241.3
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)