

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: P196491

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196491
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-03-D-UNV-AFL-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11827.3 lumens
Efficiency: N/A
Efficacy: 123.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G1

Input Watts (W): 96
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

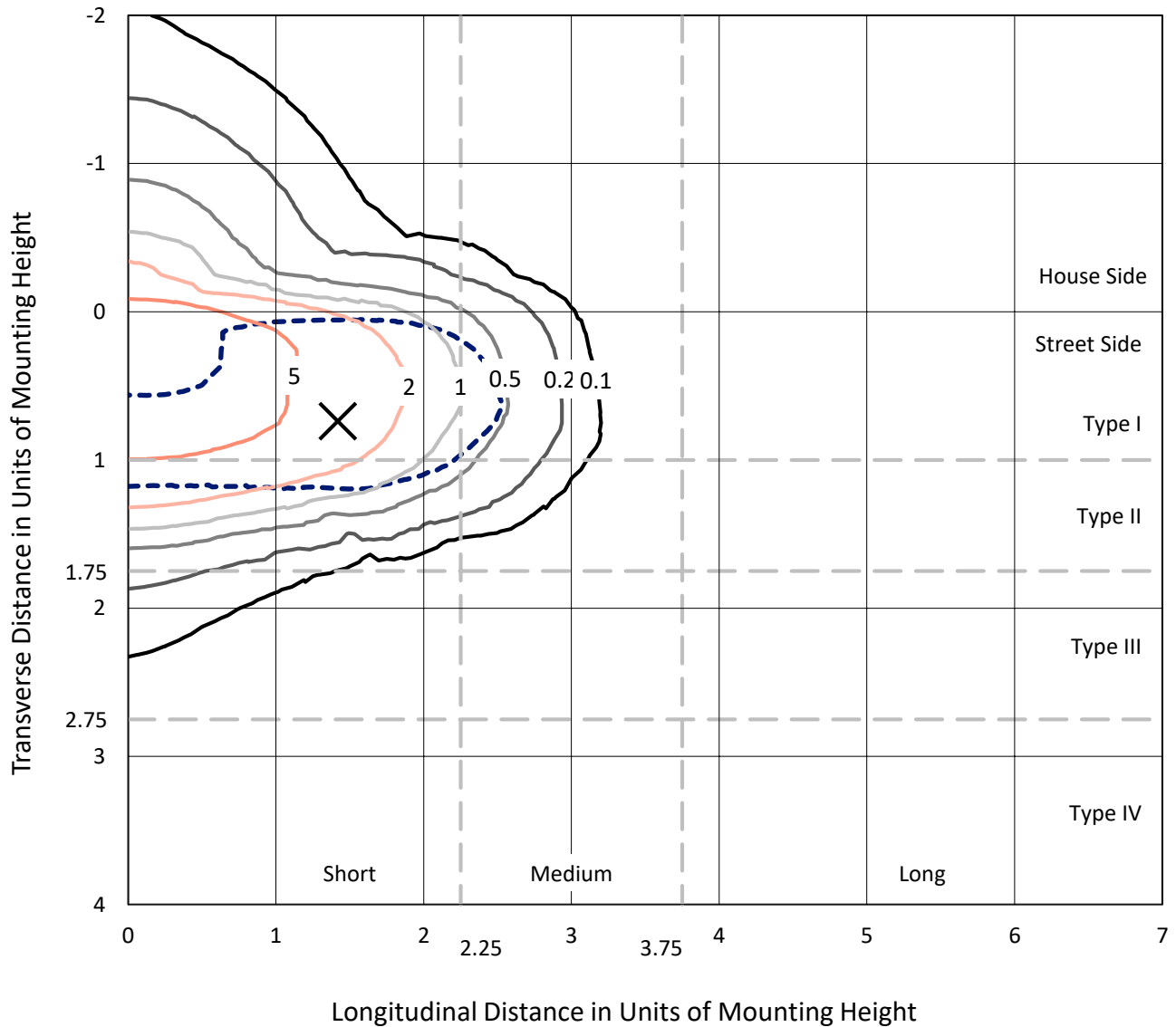


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Iso-Footcandle Lines of Horizontal Illumination

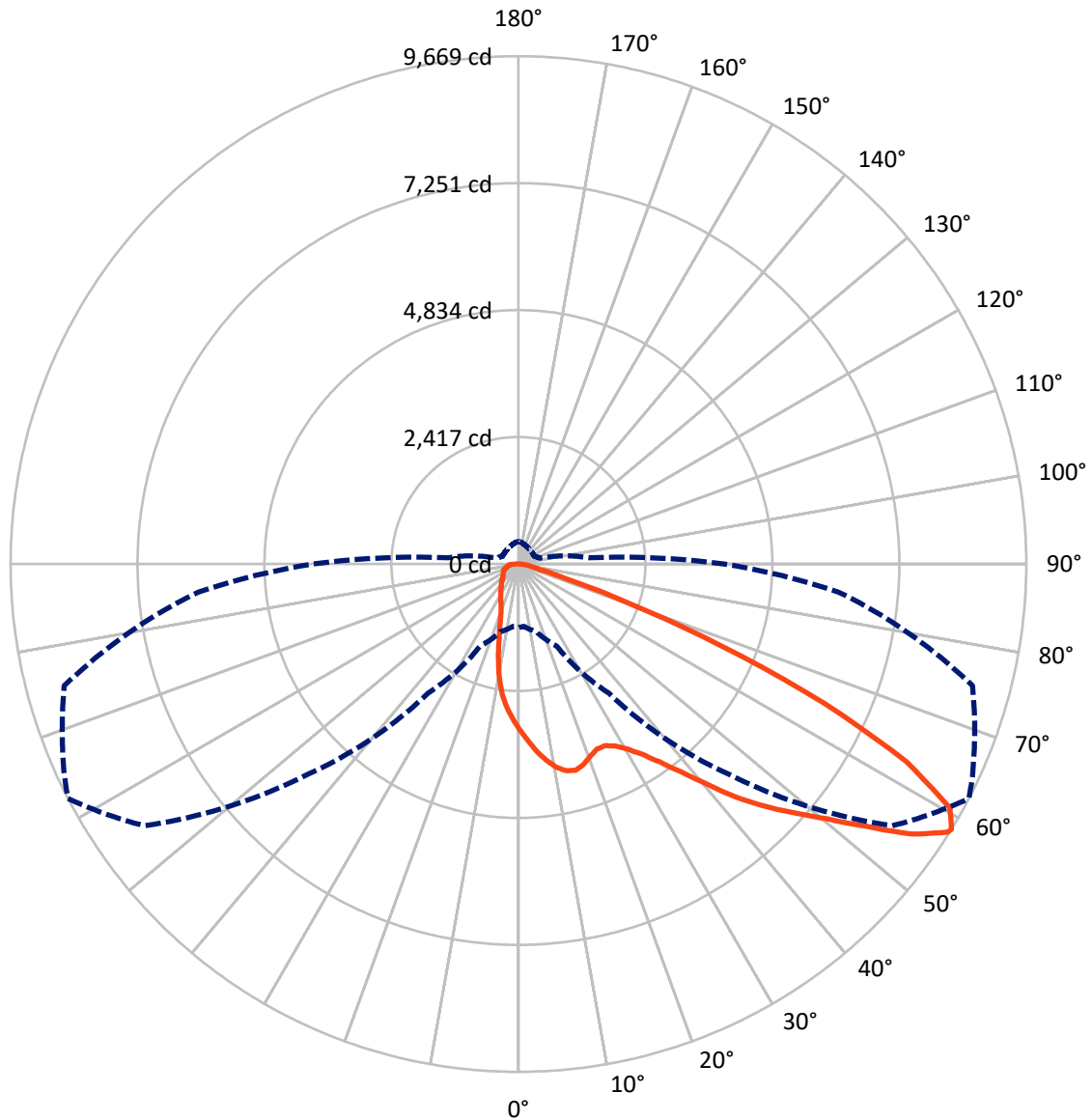
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.2 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
House Side	Lumens	1815.9	0.0	1815.9
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	10011.4	0.0	10011.4
	% Fixture	84.6	0.0	84.6
Total	Lumens	11827.3	0.0	11827.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	282.3	2.4
10°-20°	712.3	6.0
20°-30°	1154.4	9.8
30°-40°	1843.2	15.6
40°-50°	2680.9	22.7
50°-60°	2805.4	23.7
60°-70°	1710.2	14.5
70°-80°	478.3	4.0
80°-90°	160.3	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°	11827.3	100.0
0°-180°	11827.3	100.0

Coefficient of Utilization



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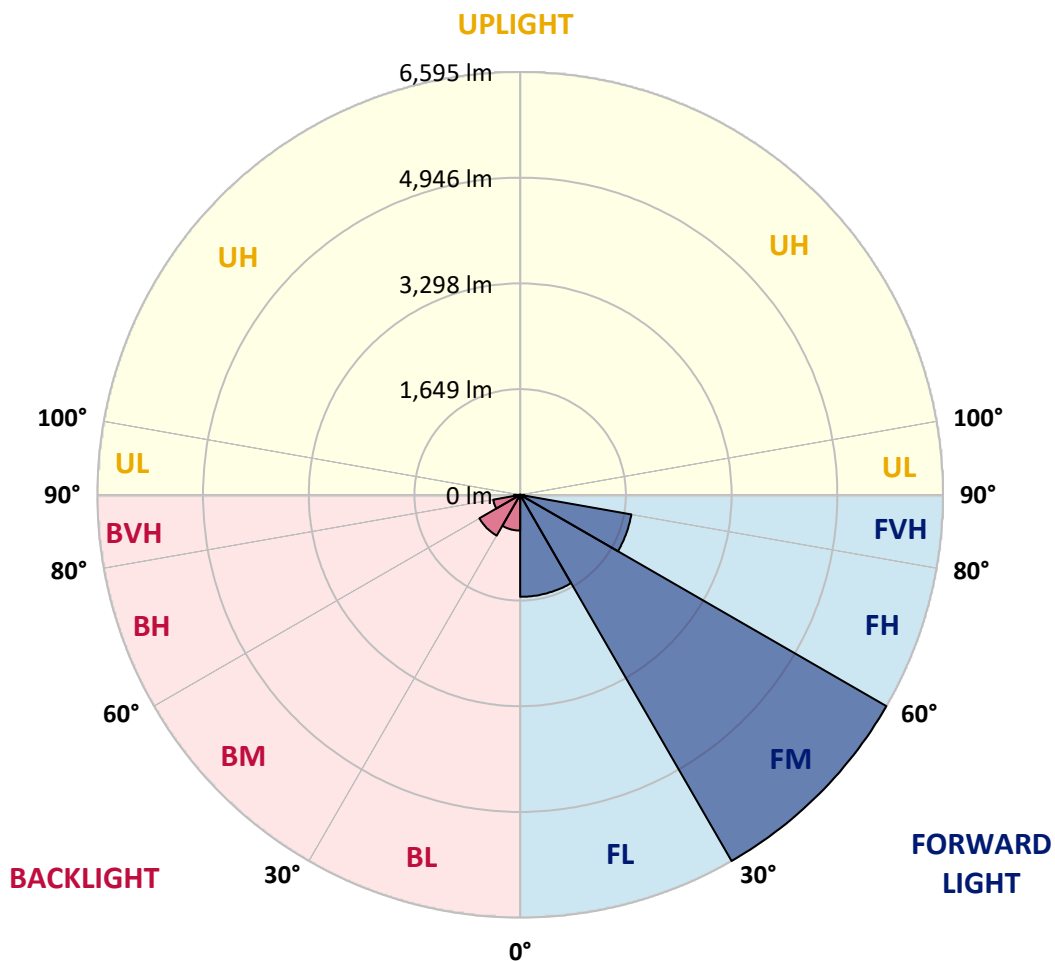
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1590.8	13.5			
FM	(30°-60°)	6595.1	55.8			
FH	(60°-80°)	1761.0	14.9			G1/1800
FVH	(80°-90°)	64.5	0.5			G1/100
BL	(0°-30°)	558.2	4.7	B2/1000		
BM	(30°-60°)	734.4	6.2	B1/1000		
BH	(60°-80°)	427.5	3.6	B1/500		G1/500
BVH	(80°-90°)	95.8	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8
2.5°	3584.4	3582.1	3551.8	3531.8	3508.2	3453.4	3398.8	3358.1	3337.5	3258.3	3181.5
5°	3880.8	3871.8	3854.8	3833.5	3802.4	3733.6	3647.2	3572.4	3543.0	3402.5	3261.3
7.5°	3724.0	3738.1	3790.5	3849.7	3911.8	3916.2	3854.8	3766.1	3733.6	3545.9	3339.0
10°	3290.2	3284.3	3350.0	3465.2	3670.1	3872.5	3973.9	3930.3	3896.3	3681.9	3416.5
12.5°	3158.5	3157.0	3168.2	3197.7	3326.4	3604.3	3943.6	4038.2	4026.3	3826.0	3499.3
15°	3198.4	3199.9	3199.2	3202.9	3238.3	3370.6	3774.3	4074.4	4111.3	3968.8	3583.6
17.5°	3326.4	3321.2	3304.9	3287.2	3292.3	3339.6	3591.7	4012.3	4123.2	4095.8	3654.5
20°	3523.7	3523.7	3480.1	3430.5	3398.1	3408.5	3515.6	3905.9	4068.5	4203.8	3707.8
22.5°	3771.3	3775.0	3710.8	3620.6	3546.7	3518.5	3559.2	3826.8	4001.9	4303.6	3755.1
25°	4078.8	4078.1	3984.2	3854.8	3738.1	3670.8	3670.1	3830.5	3981.3	4420.3	3804.6
27.5°	4459.5	4424.8	4315.4	4131.3	3966.4	3863.7	3817.2	3923.6	4024.9	4563.8	3871.2
30°	4889.1	4853.6	4710.1	4473.6	4250.3	4100.3	4023.4	4084.7	4158.0	4746.3	3971.7
32.5°	5314.1	5322.1	5153.6	4886.7	4600.0	4388.6	4274.8	4312.5	4363.5	4969.5	4107.7
35°	5936.4	5935.7	5715.5	5382.0	5041.2	4748.5	4604.4	4624.4	4671.0	5284.5	4298.4
37.5°	6400.6	6393.2	6251.3	5956.4	5572.8	5221.6	5013.2	5016.1	5056.1	5680.0	4549.7
40°	6447.9	6446.6	6445.7	6403.5	6141.1	5810.1	5549.1	5495.0	5511.4	6099.8	4816.5
42.5°	6086.5	6140.5	6295.6	6533.7	6606.9	6433.1	6186.3	6065.7	6030.3	6581.8	5098.9
45°	5571.2	5598.7	5870.6	6405.8	6841.2	7018.6	6833.1	6578.8	6518.2	7050.4	5328.8
47.5°	5331.8	5320.0	5477.3	6060.6	6818.4	7484.3	7497.6	7080.6	6978.0	7454.8	5524.7
50°	4818.0	4802.5	5001.4	5552.8	6568.4	7715.7	8179.9	7627.7	7437.8	7839.2	5702.1
52.5°	3794.2	3779.5	4046.3	4756.7	6009.6	7629.1	8755.0	8298.9	7975.2	8209.4	5867.7
55°	2468.9	2470.4	2724.6	3457.2	4863.1	7125.1	9024.7	9074.3	8711.4	8579.8	6001.5
57.5°	1359.4	1346.8	1527.9	1978.0	3345.5	5980.1	8800.1	9633.1	9444.0	8897.6	6098.3
58°	1208.6	1193.7	1333.5	1721.6	2999.6	5657.0	8686.9	9668.6	9537.8	8950.1	6112.4
60°	861.2	836.1	814.6	970.6	1728.3	4078.8	7933.0	9438.7	9565.1	9055.1	6099.1
62.5°	725.9	697.1	620.1	614.2	813.9	1995.1	6273.4	8289.3	8643.4	8813.4	5884.7
65°	674.1	645.2	544.0	507.8	552.2	861.2	3879.2	6400.6	6873.7	7972.8	5345.1
67.5°	637.2	603.2	494.5	447.2	456.0	515.2	1646.2	4186.0	4734.5	6217.3	4288.0
70°	603.8	566.2	455.4	400.7	393.3	391.8	643.1	2185.7	2714.3	4068.5	2872.5
72.5°	566.2	529.3	420.6	362.2	346.0	317.8	386.6	903.2	1238.1	1994.3	1316.5
75°	511.6	481.2	382.2	330.4	302.3	258.0	285.2	433.2	533.7	763.6	611.3
77.5°	450.1	425.8	343.0	303.8	266.1	210.7	218.1	293.5	329.6	430.2	354.1
80°	318.6	327.4	299.4	267.5	234.4	170.0	167.8	215.1	236.5	289.0	237.9
82.5°	219.5	226.1	243.9	211.4	189.2	132.3	123.5	149.3	160.4	174.5	115.3
85°	156.7	152.3	169.3	151.6	139.0	84.2	79.1	94.6	101.3	106.4	55.4
87.5°	95.4	94.6	97.6	78.3	72.4	42.8	39.3	45.2	48.1	46.6	26.7
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°	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8	3157.8
2.5°	3152.6	3116.4	3037.3	2973.7	2904.9	2852.5	2800.1	2770.5	2737.9	2719.5	2717.3
5°	3187.4	3113.5	2945.0	2788.2	2627.0	2482.2	2340.3	2235.3	2149.5	2100.7	2097.8
7.5°	3225.8	3109.7	2849.6	2578.3	2291.5	2006.1	1754.0	1575.9	1461.4	1408.2	1404.4
10°	3255.4	3094.2	2733.5	2311.5	1856.9	1479.8	1250.7	1145.7	1110.9	1102.1	1100.7
12.5°	3290.9	3083.2	2587.2	1969.2	1419.3	1126.6	1057.1	1050.4	1057.7	1062.2	1063.0
15°	3324.1	3061.8	2389.8	1590.0	1110.9	1006.9	1008.3	1022.3	1037.1	1043.8	1044.5
17.5°	3339.6	3009.2	2130.3	1252.8	972.1	952.8	969.7	988.2	1001.6	1006.9	1006.9
20°	3339.6	2925.0	1829.5	1014.9	899.6	903.2	924.0	938.0	940.9	936.6	934.3
22.5°	3325.7	2820.7	1536.7	885.5	840.4	854.5	870.8	861.2	826.4	799.8	794.7
25°	3313.1	2697.3	1255.2	806.5	788.8	807.2	800.6	734.8	681.6	654.1	649.8
27.5°	3292.3	2548.0	1020.1	741.5	738.5	753.3	687.5	623.9	597.2	582.5	579.5
30°	3287.2	2386.1	853.8	683.8	688.9	668.2	592.8	572.1	566.2	558.1	554.4
32.5°	3304.2	2224.2	749.5	636.4	641.6	573.6	544.7	547.7	547.0	536.7	532.9
35°	3350.8	2066.7	683.0	593.6	578.7	513.7	517.5	526.3	526.3	513.7	509.2
37.5°	3432.1	1920.4	641.0	557.3	506.3	482.7	492.3	504.1	504.1	495.3	491.5
40°	3518.5	1777.7	609.1	528.5	460.5	461.3	470.9	479.7	483.5	484.9	482.0
42.5°	3597.0	1629.9	575.1	497.4	439.8	445.0	449.4	456.0	471.6	482.0	480.5
45°	3642.7	1481.3	538.1	459.0	425.8	428.0	426.5	438.3	456.8	472.3	472.3
47.5°	3684.9	1359.4	507.8	420.6	411.7	411.7	407.3	419.1	436.2	454.6	456.0
50°	3724.7	1280.3	486.4	391.0	394.0	391.8	390.3	401.4	424.3	446.5	450.1
52.5°	3765.4	1253.6	467.2	369.7	375.6	372.6	374.0	389.5	415.4	438.3	442.1
55°	3822.3	1270.6	447.2	354.8	357.8	357.1	363.0	380.7	403.6	426.5	428.0
57.5°	3892.6	1332.8	430.2	343.7	340.8	345.2	354.8	371.8	394.0	421.3	423.6
58°	3906.6	1347.5	427.2	340.8	337.1	343.7	353.4	369.7	392.5	421.3	423.6
60°	3928.1	1400.0	419.9	334.9	324.5	336.3	348.2	364.4	389.5	425.0	429.5
62.5°	3824.5	1410.3	417.6	328.3	311.2	326.0	340.1	358.5	386.6	437.6	447.2
65°	3466.0	1303.9	402.1	317.1	300.1	317.8	332.5	354.1	395.5	475.3	479.7
67.5°	2782.3	1082.9	364.4	300.1	287.6	308.2	326.6	354.1	399.2	481.2	484.1
70°	1913.0	813.9	317.1	281.7	272.7	296.4	324.5	362.2	386.6	455.4	446.5
72.5°	999.4	566.2	277.9	260.1	255.0	286.0	346.0	354.1	371.8	425.0	416.2
75°	503.3	385.1	244.6	235.8	235.0	282.3	387.4	340.8	356.3	399.9	419.1
77.5°	297.1	301.5	218.1	212.8	216.6	275.8	388.1	327.4	338.6	368.1	388.9
80°	203.3	249.1	197.3	195.9	198.9	253.6	357.8	311.2	317.8	348.2	370.3
82.5°	114.6	137.4	172.9	182.6	181.2	207.7	308.9	283.1	291.2	411.7	435.4
85°	55.4	82.8	144.9	170.8	154.5	138.2	251.3	251.3	253.6	294.9	298.6
87.5°	20.6	36.9	97.6	135.3	107.9	82.8	170.8	178.1	198.1	204.0	208.4
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)