

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: P196493

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196493
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-05-D-UNV-AFL-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 19632.8 lumens
Efficiency: N/A
Efficacy: 121.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

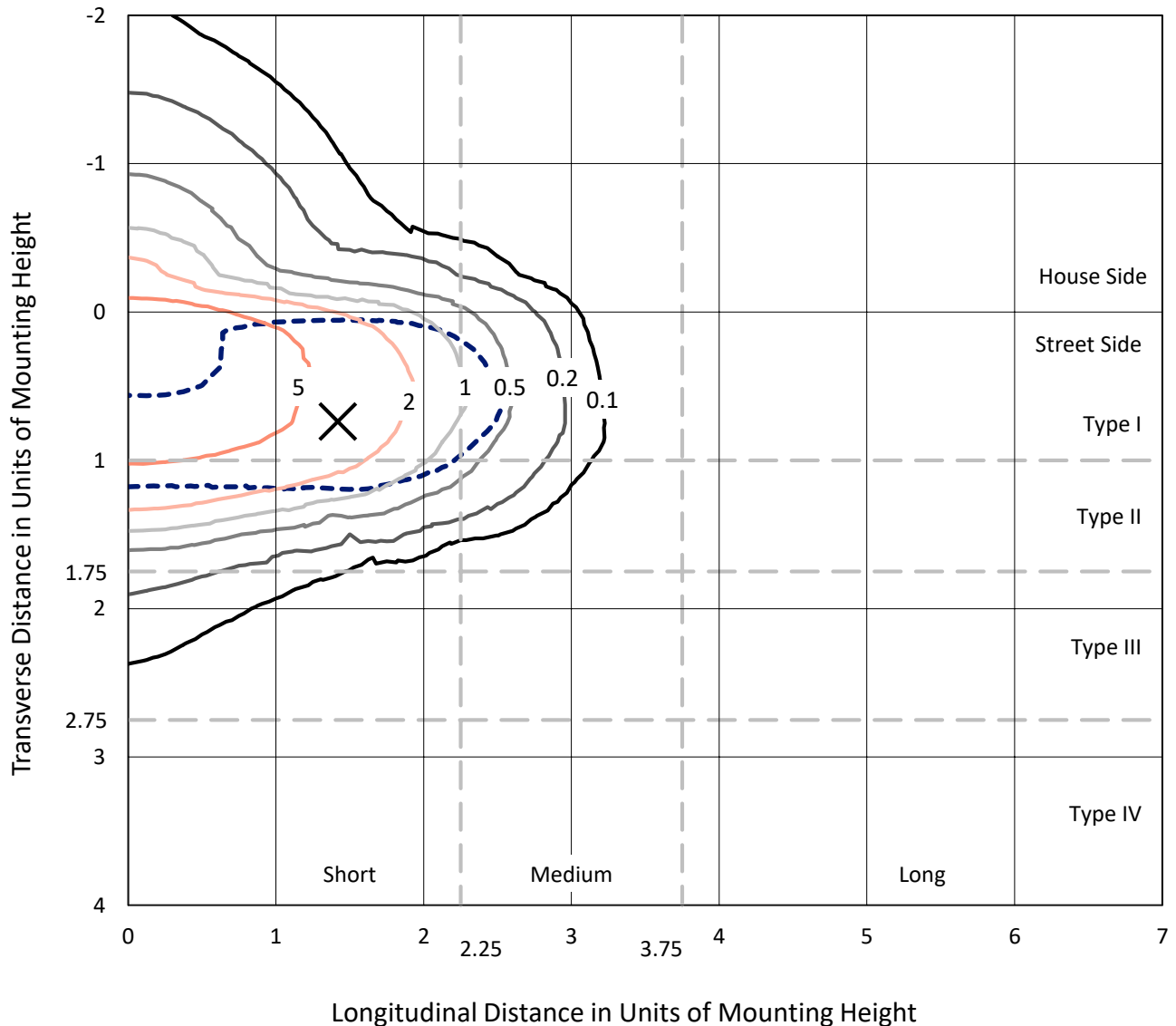
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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 CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-600

Iso-Footcandle Lines of Horizontal Illumination

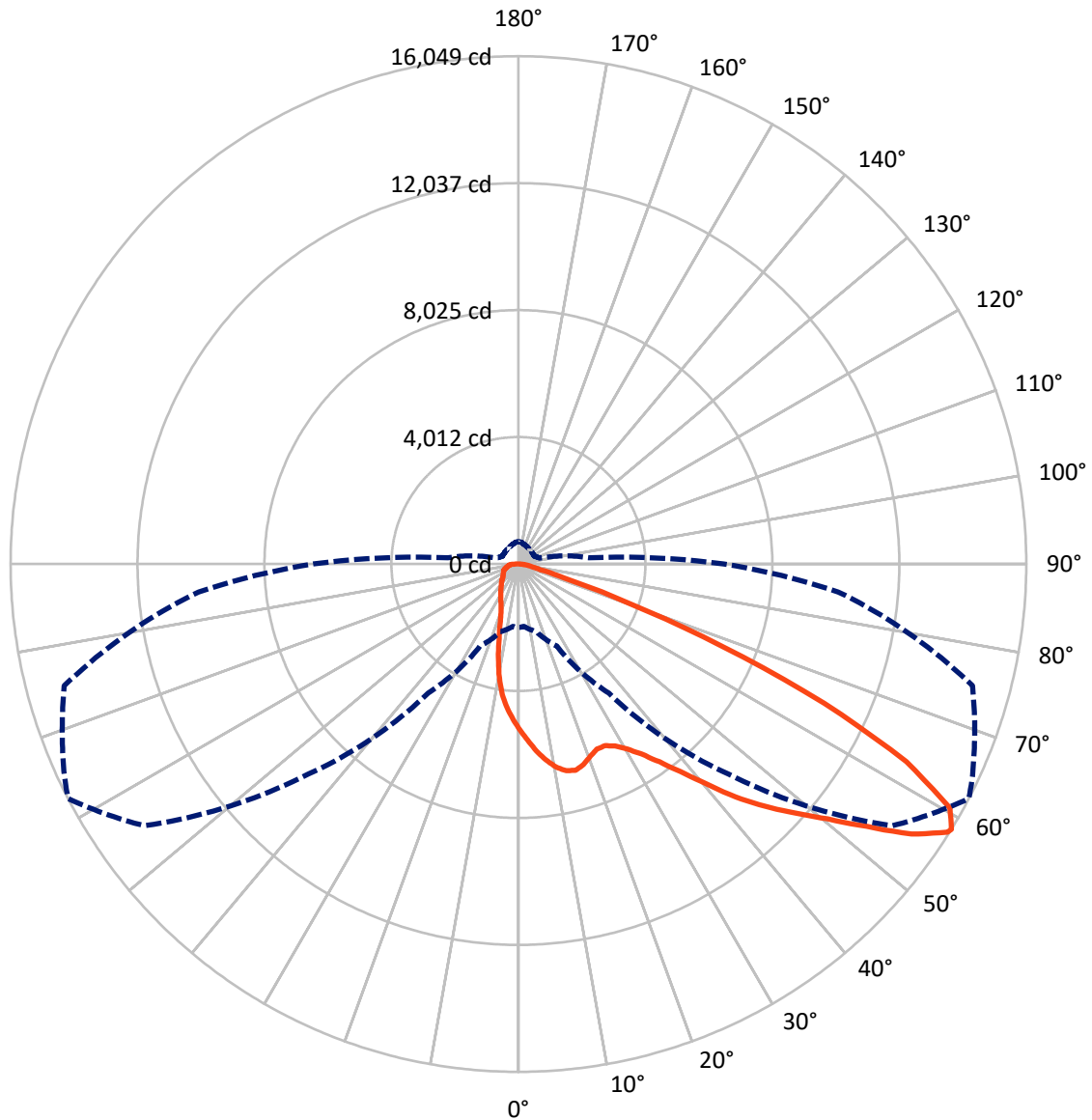
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.8 fc
 Type II - Short - Full Cutoff

REPORT NUMBER: P196493
CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-600

Luminous Intensity Polar Plot



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

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CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3014.4	0.0	3014.4
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	16618.4	0.0	16618.4
	% Fixture	84.6	0.0	84.6
Total	Lumens	19632.8	0.0	19632.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	468.5	2.4
10°-20°	1182.5	6.0
20°-30°	1916.3	9.8
30°-40°	3059.6	15.6
40°-50°	4450.2	22.7
50°-60°	4656.8	23.7
60°-70°	2838.9	14.5
70°-80°	793.9	4.0
80°-90°	266.1	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°	19632.8	100.0
0°-180°	19632.8	100.0



REPORT NUMBER: P196493

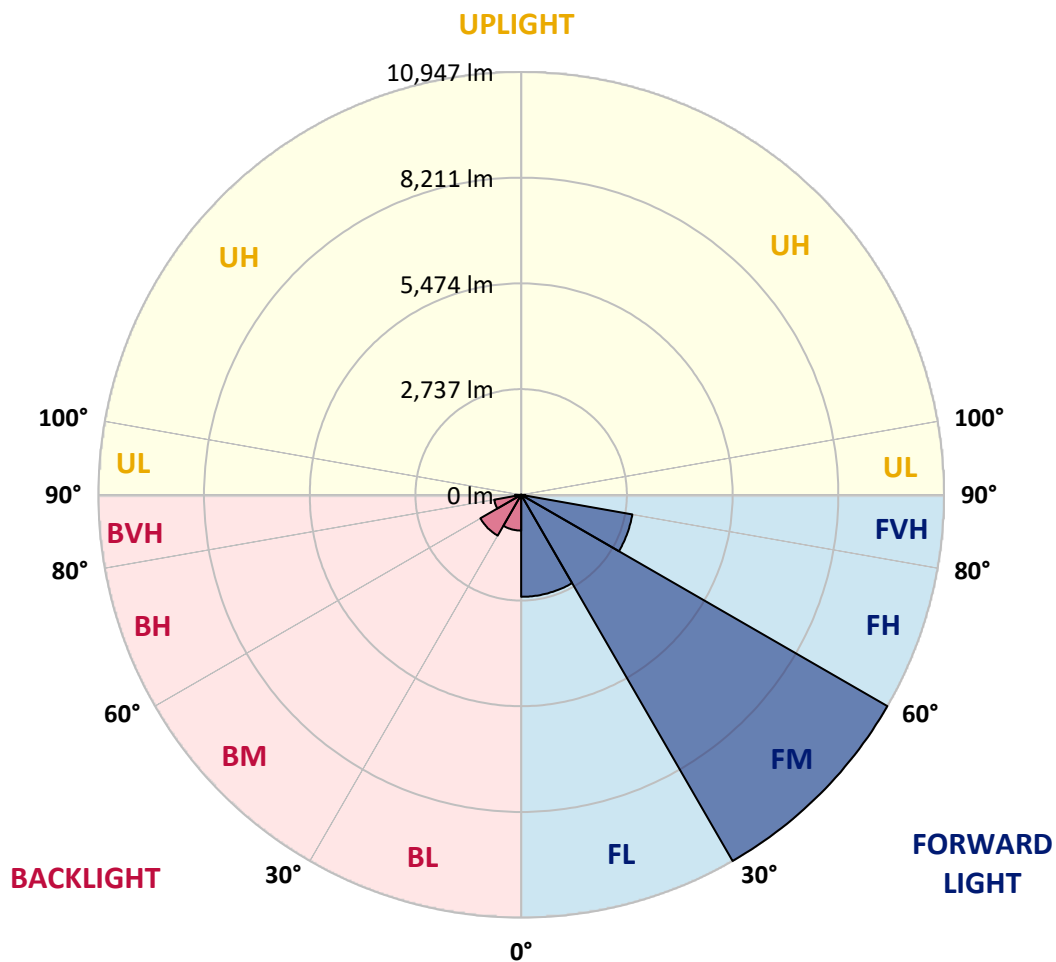
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2640.7	13.5			
FM	(30°-60°)	10947.5	55.8			
FH	(60°-80°)	2923.2	14.9			G2/5000
FVH	(80°-90°)	107.0	0.5			G2/225
BL	(0°-30°)	926.6	4.7	B2/1000		
BM	(30°-60°)	1219.0	6.2	B2/2500		
BH	(60°-80°)	709.6	3.6	B2/1000		G2/1000
BVH	(80°-90°)	159.1	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





REPORT NUMBER: P196493

CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-7030-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8
2.5°	5949.8	5946.1	5895.8	5862.8	5823.4	5732.7	5641.8	5574.3	5540.0	5408.7	5281.0
5°	6441.8	6427.1	6398.9	6363.4	6311.8	6197.6	6054.2	5930.1	5881.1	5647.9	5413.6
7.5°	6181.7	6205.1	6292.1	6390.3	6493.4	6500.7	6398.9	6251.7	6197.6	5886.1	5542.4
10°	5461.5	5451.6	5560.9	5752.3	6092.2	6428.4	6596.4	6524.1	6467.6	6111.8	5671.3
12.5°	5243.1	5240.6	5258.9	5308.1	5521.6	5982.9	6546.2	6703.2	6683.6	6351.0	5808.7
15°	5309.4	5311.7	5310.5	5316.7	5375.5	5595.1	6265.2	6763.3	6824.7	6587.9	5948.6
17.5°	5521.6	5513.0	5486.0	5456.5	5465.1	5543.7	5962.1	6660.2	6844.3	6798.8	6066.4
20°	5849.2	5849.2	5776.7	5694.6	5640.6	5657.8	5835.7	6483.6	6753.6	6978.1	6154.7
22.5°	6260.2	6266.3	6159.6	6010.0	5887.2	5840.6	5908.0	6352.4	6643.1	7143.7	6233.2
25°	6770.7	6769.4	6613.7	6398.9	6205.1	6093.4	6092.2	6358.5	6608.8	7337.6	6315.5
27.5°	7402.7	7345.0	7163.4	6857.7	6584.2	6413.6	6336.4	6513.1	6681.1	7575.6	6425.9
30°	8115.6	8056.6	7818.6	7426.0	7055.4	6806.3	6678.7	6780.5	6902.0	7878.6	6592.8
32.5°	8821.0	8834.6	8554.8	8111.9	7635.7	7284.9	7095.9	7158.4	7243.2	8249.3	6818.6
35°	9854.2	9853.0	9487.3	8933.9	8368.2	7882.4	7643.1	7676.2	7753.6	8772.0	7135.0
37.5°	10624.8	10612.5	10376.9	9887.3	9250.6	8667.6	8321.6	8326.5	8392.9	9428.4	7552.3
40°	10703.2	10700.9	10699.6	10629.8	10194.1	9644.5	9211.2	9121.6	9148.6	10125.4	7995.3
42.5°	10103.3	10192.9	10450.5	10845.6	10967.1	10678.8	10268.9	10068.9	10010.0	10925.4	8464.0
45°	9248.0	9293.5	9745.0	10633.3	11356.1	11650.6	11342.5	10920.5	10819.8	11703.3	8845.6
47.5°	8850.5	8830.9	9092.2	10060.4	11318.0	12423.6	12445.6	11753.7	11583.0	12374.4	9170.7
50°	7997.7	7972.0	8302.1	9217.3	10903.3	12807.6	13578.2	12661.6	12346.3	13012.6	9465.2
52.5°	6298.2	6273.7	6716.7	7895.8	9975.7	12664.0	14532.8	13775.7	13238.3	13627.3	9740.1
55°	4098.2	4100.7	4522.8	5738.8	8072.5	11827.2	14980.6	15062.9	14460.5	14242.1	9962.1
57.5°	2256.5	2235.7	2536.2	3283.5	5553.5	9926.6	14607.6	15990.5	15676.4	14769.6	10122.9
58°	2006.2	1981.6	2213.6	2857.6	4979.3	9390.4	14419.9	16049.4	15832.2	14856.7	10146.3
60°	1429.4	1387.8	1352.2	1611.0	2868.8	6770.7	13168.4	15667.8	15877.7	15031.1	10124.2
62.5°	1204.9	1157.0	1029.4	1019.6	1351.0	3311.7	10413.7	13759.8	14347.5	14629.7	9768.4
65°	1119.1	1071.2	903.1	842.9	916.5	1429.4	6439.4	10624.8	11410.1	13234.7	8872.6
67.5°	1057.7	1001.3	820.9	742.3	757.0	855.3	2732.6	6948.6	7859.0	10320.4	7117.9
70°	1002.5	939.8	755.8	665.1	652.9	650.3	1067.5	3628.3	4505.7	6753.6	4768.2
72.5°	939.8	878.6	698.1	601.3	574.2	527.6	641.7	1499.4	2055.2	3310.4	2185.3
75°	849.1	798.8	634.4	548.5	501.8	428.2	473.6	719.0	885.9	1267.5	1014.7
77.5°	747.3	706.8	569.4	504.3	441.7	349.7	361.9	487.1	547.3	714.1	587.7
80°	528.9	543.6	496.9	444.1	389.0	282.2	278.5	357.1	392.7	479.7	395.1
82.5°	364.4	375.5	405.0	350.9	314.1	219.6	204.9	247.9	266.3	289.5	191.4
85°	260.1	252.7	281.1	251.6	230.6	139.9	131.3	157.0	168.2	176.7	92.0
87.5°	158.3	157.0	161.9	130.0	120.3	71.1	65.0	74.9	79.8	77.3	44.1
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°	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8	5241.8
2.5°	5233.2	5173.1	5041.9	4936.4	4822.1	4735.1	4648.0	4598.8	4544.8	4514.1	4510.6
5°	5290.9	5168.2	4888.5	4628.3	4360.9	4120.3	3884.7	3710.6	3568.2	3487.2	3482.3
7.5°	5354.7	5162.1	4730.2	4279.8	3803.8	3330.1	2911.8	2616.0	2425.8	2337.5	2331.4
10°	5403.8	5136.3	4537.5	3836.8	3082.3	2456.4	2076.2	1901.8	1844.2	1829.4	1827.1
12.5°	5462.8	5117.9	4294.6	3268.8	2355.8	1870.0	1754.6	1743.6	1755.9	1763.2	1764.4
15°	5517.9	5082.3	3966.9	2639.2	1844.2	1671.2	1673.7	1697.1	1721.5	1732.6	1733.7
17.5°	5543.7	4995.3	3536.2	2079.8	1613.5	1581.6	1609.8	1640.5	1662.6	1671.2	1671.2
20°	5543.7	4855.3	3036.9	1684.7	1493.2	1499.4	1533.8	1557.1	1562.0	1554.6	1550.9
22.5°	5520.4	4682.3	2550.9	1470.0	1395.1	1418.4	1445.4	1429.4	1371.9	1327.6	1319.1
25°	5499.4	4477.5	2083.5	1338.7	1309.3	1339.9	1328.8	1219.7	1131.3	1085.9	1078.5
27.5°	5465.1	4229.5	1693.3	1230.7	1225.8	1250.4	1141.1	1035.6	991.4	967.0	962.0
30°	5456.5	3960.8	1417.2	1134.9	1143.6	1109.2	984.1	949.7	939.8	926.4	920.3
32.5°	5484.9	3692.1	1244.3	1056.4	1065.1	952.2	904.3	909.2	908.0	890.8	884.7
35°	5562.1	3430.7	1133.8	985.3	960.7	852.8	858.9	873.6	873.6	852.8	845.4
37.5°	5697.1	3187.7	1063.8	925.2	840.5	801.2	817.1	836.8	836.8	822.0	815.9
40°	5840.6	2951.0	1011.0	877.4	764.5	765.7	781.6	796.3	802.5	804.9	800.0
42.5°	5970.7	2705.6	954.6	825.8	730.1	738.7	746.0	757.0	782.9	800.0	797.6
45°	6046.7	2459.0	893.3	762.0	706.8	710.4	708.0	727.6	758.3	784.1	784.1
47.5°	6116.7	2256.5	842.9	698.1	683.4	683.4	676.1	695.8	724.0	754.7	757.0
50°	6183.0	2125.2	807.4	649.1	654.0	650.3	647.9	666.3	704.2	741.1	747.3
52.5°	6250.4	2081.1	775.5	613.5	623.4	618.4	620.9	646.6	689.5	727.6	733.7
55°	6344.9	2109.2	742.3	589.0	593.9	592.6	602.4	631.9	670.0	708.0	710.4
57.5°	6461.5	2212.3	714.1	570.6	565.6	573.1	589.0	617.2	654.0	699.4	703.1
58°	6484.7	2236.9	709.2	565.6	559.5	570.6	586.5	613.5	651.5	699.4	703.1
60°	6520.4	2324.0	697.0	555.8	538.6	558.4	577.9	605.0	646.6	705.5	712.9
62.5°	6348.6	2341.2	693.2	544.7	516.6	541.2	564.5	595.1	641.7	726.3	742.3
65°	5753.5	2164.4	667.5	526.4	498.2	527.6	552.2	587.7	656.4	789.0	796.3
67.5°	4618.5	1797.6	605.0	498.2	477.4	511.7	542.4	587.7	662.5	798.8	803.7
70°	3175.5	1351.0	526.4	467.5	452.8	492.0	538.6	601.3	641.7	755.8	741.1
72.5°	1658.9	939.8	461.4	431.9	423.3	474.8	574.2	587.7	617.2	705.5	690.8
75°	835.7	639.2	406.1	391.3	390.2	468.7	643.0	565.6	591.4	663.9	695.8
77.5°	493.3	500.6	361.9	353.4	359.5	457.7	644.2	543.6	561.9	611.1	645.4
80°	337.4	413.5	327.7	325.1	330.1	420.8	593.9	516.6	527.6	577.9	614.7
82.5°	190.2	228.3	287.2	303.0	300.6	344.8	512.9	470.0	483.5	683.4	722.8
85°	92.0	137.4	240.5	283.4	256.4	229.5	417.2	417.2	420.8	489.6	495.7
87.5°	34.3	61.4	161.9	224.5	179.1	137.4	283.4	295.8	328.9	338.7	346.1
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)