

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: P196104

Luminaire Tested: **NAV-AF-06-D-UNV-SL2-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196104
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-06-D-UNV-SL2-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1200mA 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: 39629.1 lumens
Efficiency: N/A
Efficacy: 103.7 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 - G5

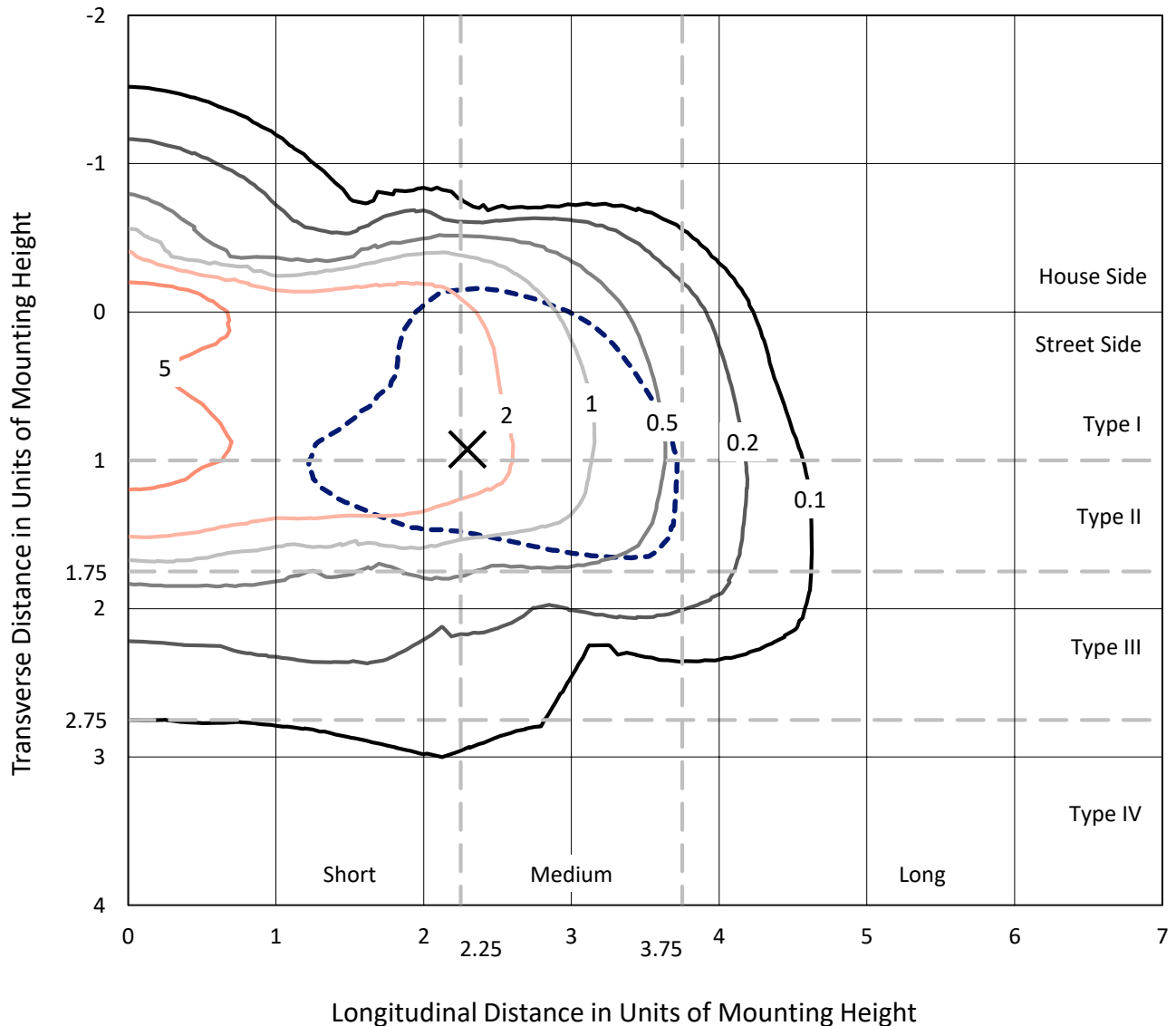
Input Watts (W): 382
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

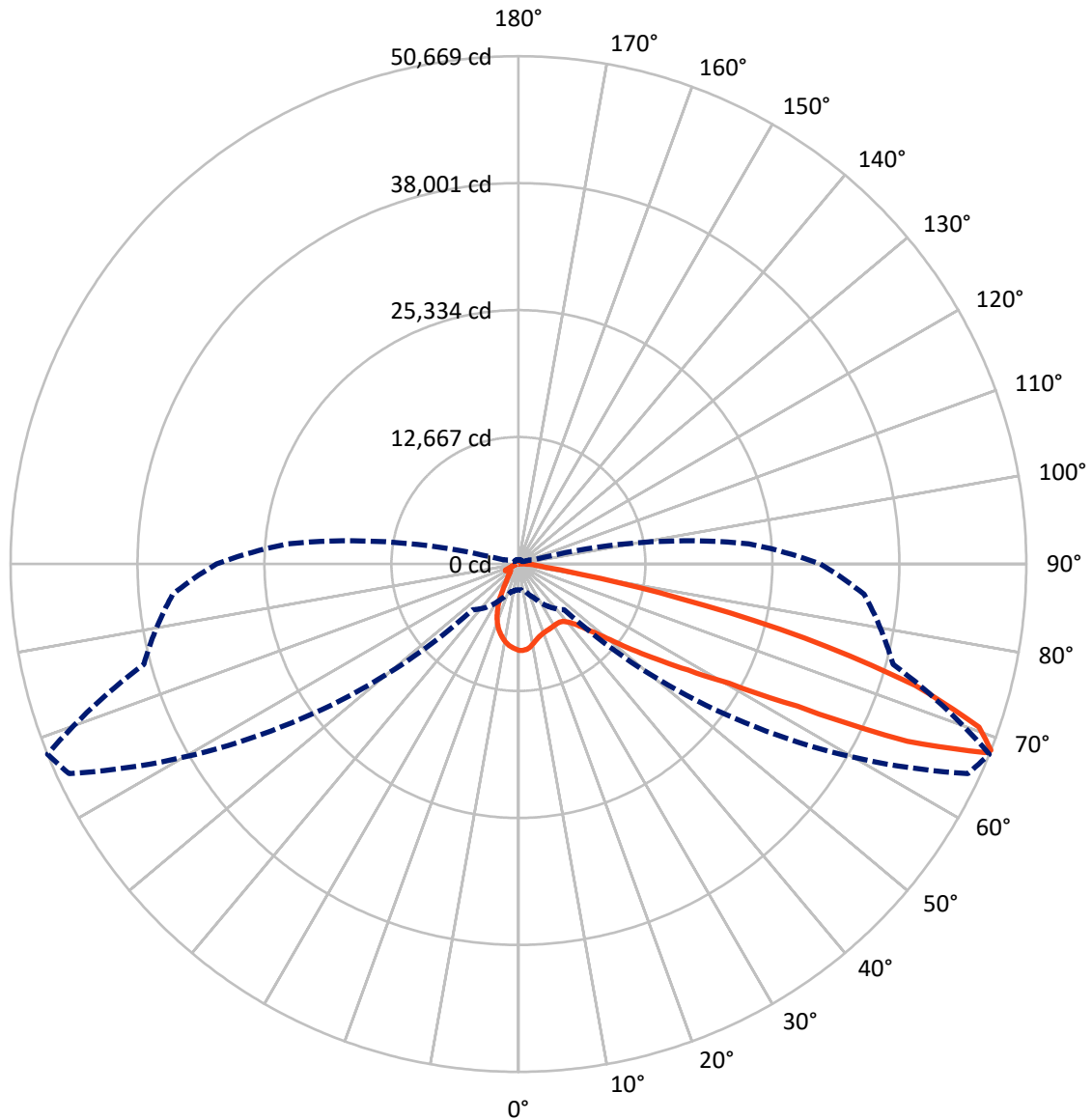
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 9.6 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	6483.4	0.0	6483.4
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	33145.7	0.0	33145.7
	% Fixture	83.6	0.0	83.6
Total	Lumens	39629.1	0.0	39629.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	738.8	1.9
10°-20°	1713.6	4.3
20°-30°	2317.6	5.8
30°-40°	3267.8	8.2
40°-50°	5373.4	13.6
50°-60°	8329.3	21.0
60°-70°	10799.5	27.3
70°-80°	6197.3	15.6
80°-90°	891.7	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°	39629.1	100.0
0°-180°	39629.1	100.0



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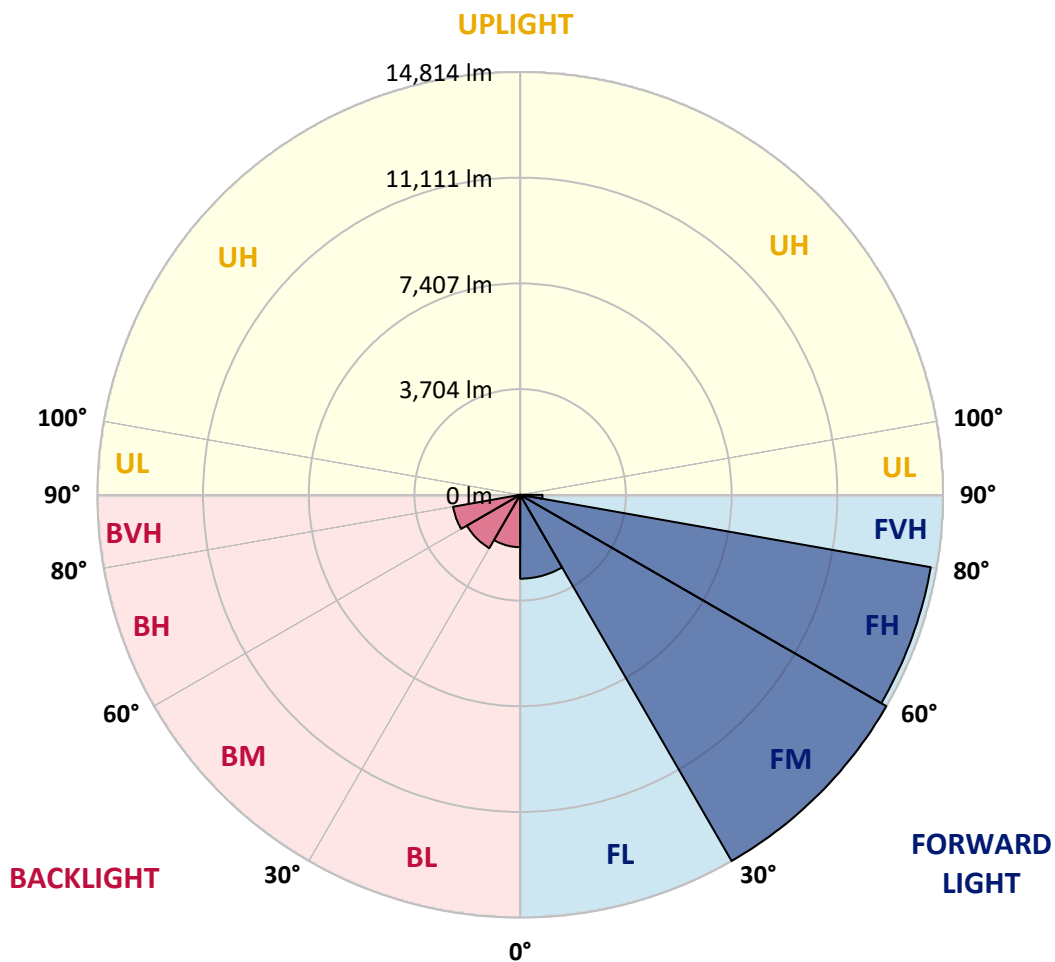
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2937.2	7.4			
FM	(30°-60°)	14814.0	37.4			
FH	(60°-80°)	14609.1	36.9			G5
FVH	(80°-90°)	785.4	2.0			G5
BL	(0°-30°)	1832.9	4.6	B3/2500		
BM	(30°-60°)	2156.5	5.4	B2/2500		
BH	(60°-80°)	2387.8	6.0	B3/2500		G3/2500
BVH	(80°-90°)	106.3	0.3			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0
2.5°	8392.6	8459.8	8459.8	8509.0	8553.1	8589.3	8620.3	8620.3	8620.3	8599.6	8581.5
5°	7509.8	7600.4	7613.3	7737.6	7900.7	8100.0	8322.6	8519.4	8558.2	8630.7	8659.2
7.5°	6896.3	6924.8	6974.0	7059.4	7225.0	7471.0	7820.5	8260.5	8366.6	8594.4	8713.5
10°	6461.4	6484.7	6526.1	6611.5	6761.7	6984.3	7328.6	7900.7	8076.7	8480.6	8716.2
12.5°	6142.9	6161.1	6199.9	6277.5	6430.3	6629.6	6981.7	7577.1	7794.6	8366.6	8752.4
15°	5894.4	5925.5	5956.5	6031.6	6187.0	6378.5	6735.8	7341.5	7577.1	8276.1	8819.7
17.5°	5796.0	5811.6	5816.8	5855.7	5995.4	6189.6	6546.8	7175.9	7419.2	8203.6	8871.4
20°	5858.2	5860.8	5809.0	5783.2	5863.3	6042.1	6388.9	7051.6	7300.1	8138.9	8892.2
22.5°	6130.0	6130.0	5995.4	5881.6	5827.1	5938.4	6282.8	6966.2	7235.4	8089.7	8892.2
25°	6647.7	6624.4	6414.8	6189.6	5948.9	5902.2	6215.4	6911.8	7186.2	8063.8	8858.5
27.5°	7328.6	7307.9	7041.3	6707.3	6272.4	5979.9	6192.1	6867.8	7137.0	8024.9	8786.0
30°	8157.0	8138.9	7836.0	7398.5	6756.5	6225.8	6246.5	6836.8	7098.2	7960.2	8664.4
32.5°	8982.7	8972.4	8731.7	8283.9	7424.4	6642.6	6388.9	6831.6	7077.5	7882.6	8516.8
35°	9813.8	9813.8	9666.2	9288.2	8322.6	7269.1	6686.6	6927.3	7116.4	7841.1	8389.9
37.5°	11040.8	10991.6	10717.1	10326.3	9453.9	8081.9	7168.1	7129.3	7266.4	7911.1	8348.5
40°	12940.8	12798.5	12112.5	11455.0	10688.7	9122.6	7872.2	7520.1	7603.0	8149.2	8446.9
42.5°	14929.0	14703.8	13795.1	12744.1	11964.9	10406.6	8796.4	8154.4	8151.8	8610.0	8760.1
45°	16634.9	16518.5	15534.7	14201.6	13422.3	11851.1	9963.8	9096.7	9003.5	9324.5	9363.3
47.5°	17626.5	17548.7	16955.9	15744.4	15151.6	13557.0	11444.6	10403.9	10228.0	10419.5	10359.9
50°	17352.0	17427.1	17256.3	16637.6	17010.3	15954.1	13331.8	12195.3	11861.4	12052.9	11908.0
52.5°	15907.5	16109.4	16262.2	16381.2	18079.4	19161.5	15703.0	14432.0	14155.0	14121.3	13981.6
55°	13305.9	13626.9	14108.4	14983.4	17792.1	21737.3	19844.9	17137.2	16733.3	16521.1	16575.4
57.5°	9055.3	9541.9	10580.0	12244.5	16298.5	22834.9	25969.8	20631.9	19948.5	19192.6	19368.7
60°	4988.4	5394.8	6629.6	8307.1	12889.1	22671.8	31398.2	26311.5	24160.3	22156.6	22519.0
62.5°	3228.1	3316.1	4235.1	5674.4	7911.1	20015.8	34414.1	35804.2	31245.5	26065.6	26575.5
65°	2593.9	2656.0	3106.4	4576.8	5511.4	12876.2	34548.7	45651.6	42646.2	31377.6	31393.1
67.5°	2534.4	2562.8	2824.3	3849.4	5169.6	7010.2	29863.2	49534.7	50231.1	37647.4	34616.0
68°	2570.6	2604.2	2868.3	3730.3	5167.0	6461.4	27600.6	49475.1	50668.5	38695.8	34616.0
70°	2267.7	2309.1	2925.2	3859.7	4947.0	5555.3	18900.0	46847.6	48768.5	41105.8	32845.3
72.5°	1185.6	1151.9	1447.1	3046.9	5568.3	5788.4	9984.6	39138.5	41380.3	38069.3	28377.3
75°	924.1	841.3	810.3	1203.7	4897.8	6003.2	5798.7	27818.1	29511.1	27442.7	18967.3
77.5°	869.8	768.8	709.3	711.9	2156.4	6246.5	4690.7	16370.9	16370.9	13091.0	6052.4
80°	699.0	605.8	566.9	647.2	1040.6	5757.3	4895.2	7460.6	6363.1	3383.4	1667.1
82.5°	460.7	411.6	414.2	525.5	789.5	3844.2	5669.2	3683.7	2767.3	1498.8	981.1
85°	292.6	251.1	279.6	367.5	590.2	1713.7	5612.3	2560.2	1832.8	841.3	489.3
87.5°	147.5	113.9	139.8	191.6	359.9	491.8	4620.8	2285.8	1359.1	349.4	266.7
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°	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0	8623.0
2.5°	8581.5	8524.6	8496.1	8449.5	8392.6	8335.6	8296.7	8278.6	8268.3	8273.4	8270.9
5°	8643.6	8568.5	8446.9	8273.4	8094.8	7905.9	7760.9	7649.6	7579.7	7559.0	7553.8
7.5°	8690.3	8581.5	8353.7	8037.9	7732.4	7401.0	7118.9	6893.7	6740.9	6671.1	6668.5
10°	8682.5	8542.7	8182.9	7716.9	7269.1	6782.4	6339.7	5961.8	5687.4	5555.3	5550.1
12.5°	8690.3	8498.7	7973.2	7341.5	6699.5	6003.2	5345.6	4758.1	4349.0	4154.8	4147.0
15°	8721.3	8452.1	7758.4	6922.2	6034.3	5050.5	4110.8	3373.1	3000.3	2873.5	2873.5
17.5°	8718.7	8374.4	7509.8	6435.5	5244.7	3927.0	2806.2	2350.5	2314.3	2430.7	2448.9
20°	8667.0	8250.2	7188.8	5858.2	4318.0	2718.1	1902.7	1837.9	2127.9	2448.9	2485.2
22.5°	8586.6	8089.7	6818.6	5187.8	3238.5	1770.6	1467.8	1566.1	1959.7	2358.3	2415.3
25°	8475.4	7895.5	6394.1	4408.5	2153.8	1273.7	1224.5	1346.1	1623.1	1889.7	1931.1
27.5°	8312.3	7649.6	5930.7	3564.7	1374.6	1048.4	1066.5	1151.9	1271.0	1385.0	1408.3
30°	8107.8	7362.3	5425.9	2630.1	1043.2	937.1	968.1	1020.0	1071.7	1144.2	1159.7
32.5°	7900.7	7069.7	4900.4	1806.9	911.2	877.6	908.6	937.1	981.1	1030.3	1040.6
35°	7714.3	6797.9	4359.4	1260.7	854.3	838.7	854.3	872.4	916.4	965.6	970.8
37.5°	7579.7	6575.3	3795.0	996.7	820.6	805.1	812.8	820.6	872.4	944.9	952.7
40°	7561.6	6427.7	3222.9	895.7	794.7	774.1	768.8	774.1	841.3	924.1	931.9
42.5°	7737.6	6435.5	2663.8	854.3	774.1	750.7	730.0	740.4	799.9	864.6	869.8
45°	8154.4	6616.8	2179.7	836.2	755.9	737.8	706.8	711.9	740.4	774.1	779.2
47.5°	8889.5	7012.7	1809.5	825.8	740.4	724.9	686.0	670.4	673.1	691.2	691.2
50°	10064.8	7675.5	1584.2	815.4	727.4	699.0	654.9	623.9	616.1	626.5	629.0
52.5°	11817.4	8811.9	1475.6	794.7	704.1	665.3	616.1	585.0	572.1	582.5	582.5
55°	14186.1	10626.6	1423.7	766.3	675.7	623.9	579.9	554.0	543.6	551.4	551.4
57.5°	16886.1	12984.9	1511.8	727.4	639.4	579.9	548.8	530.7	522.9	530.7	533.3
60°	20093.4	16070.7	2117.5	678.2	600.6	541.0	522.9	512.6	507.4	515.2	515.2
62.5°	24357.1	20176.3	3277.3	639.4	559.1	504.8	499.6	494.4	489.3	497.1	497.1
65°	28959.7	23911.8	3373.1	616.1	522.9	473.7	476.3	476.3	471.2	478.9	478.9
67.5°	30424.9	23588.2	1884.6	587.6	478.9	442.6	453.1	453.1	450.4	458.2	455.6
68°	30114.2	23075.6	1641.2	579.9	471.2	434.9	445.3	447.8	445.3	453.1	450.4
70°	27800.0	20259.1	1079.5	535.8	437.5	409.0	424.5	427.2	424.5	434.9	432.3
72.5°	22948.8	15195.6	797.3	468.5	396.1	375.3	390.9	393.5	396.1	406.4	403.9
75°	14574.4	8392.6	629.0	398.6	354.7	336.6	352.1	359.9	365.0	380.5	372.8
77.5°	3991.8	2547.2	509.9	339.1	305.5	297.7	308.0	318.4	323.6	341.7	328.8
80°	1397.9	1126.1	424.5	287.3	253.7	251.1	261.5	271.8	277.0	292.6	277.0
82.5°	849.0	735.2	339.1	225.3	199.4	196.7	209.7	220.0	225.3	225.3	214.8
85°	442.6	388.3	248.5	157.9	137.2	129.4	152.7	165.7	168.3	165.7	157.9
87.5°	248.5	220.0	132.1	75.1	62.1	64.8	80.2	98.4	106.2	103.5	98.4
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)