

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: P196152

Luminaire Tested: **NAV-AF-06-D-UNV-SL3-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196152
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 40369.7 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G5

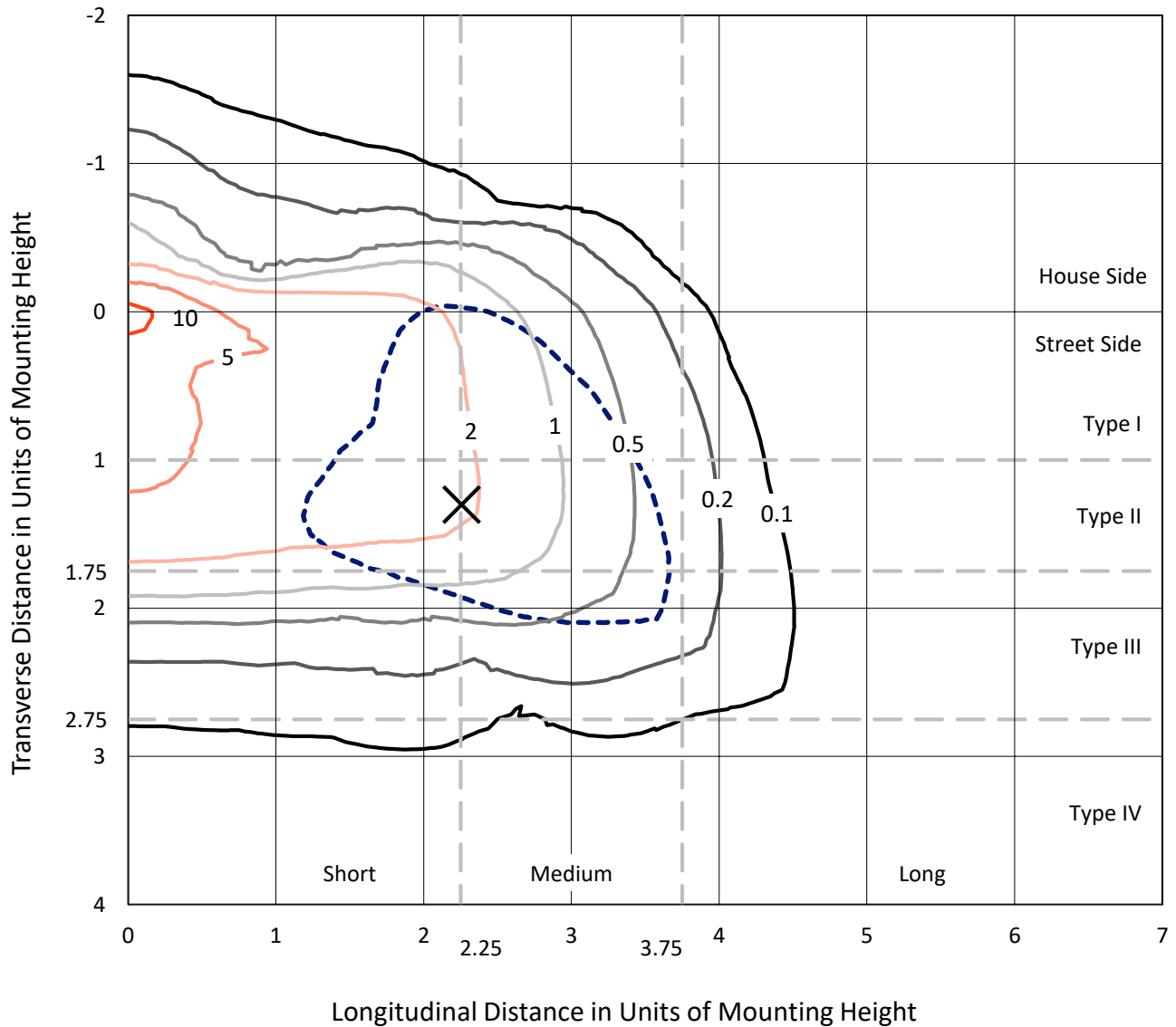
Input Watts (W): 382
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

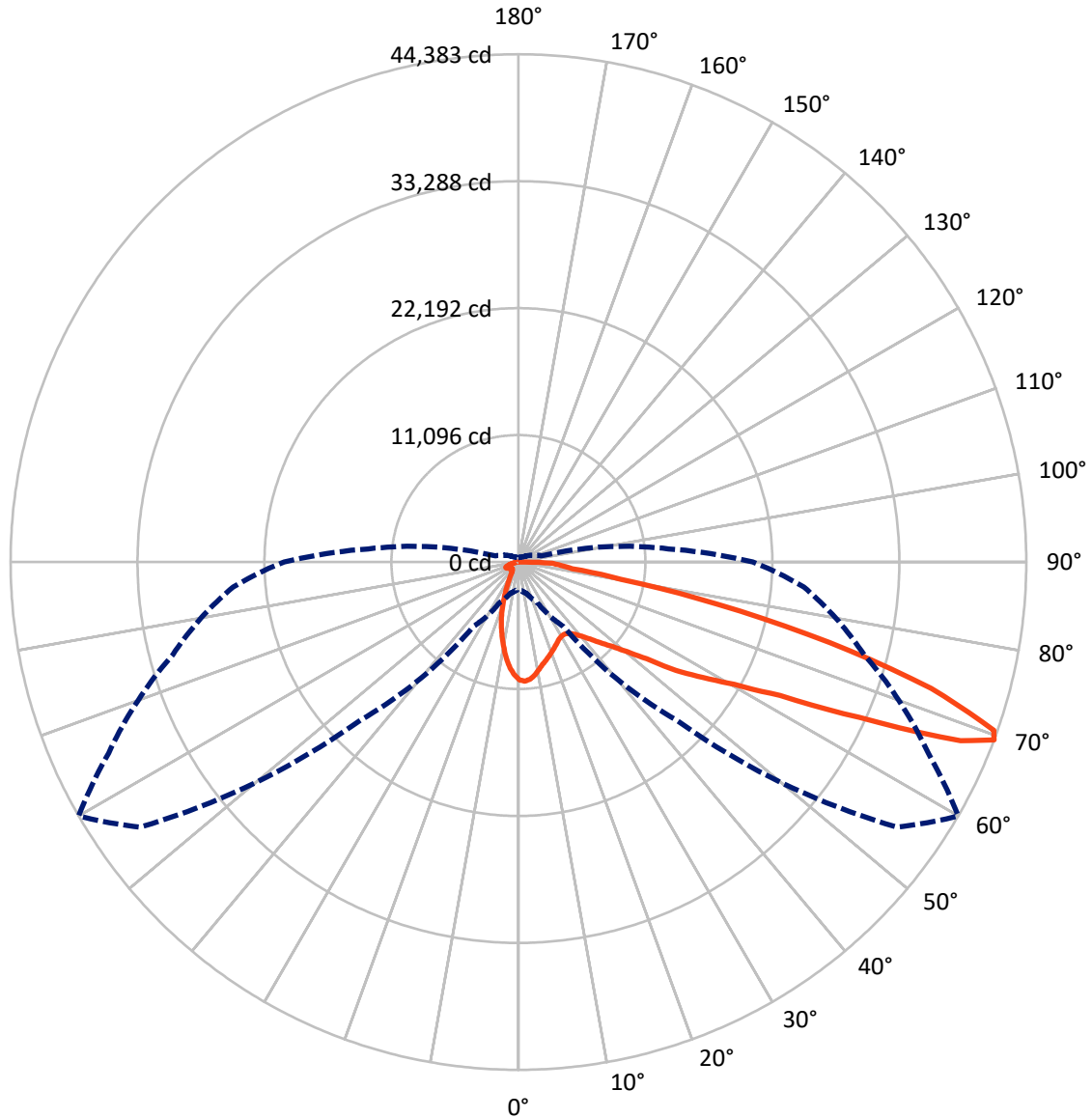
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 11.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5758.1	0.0	5758.1
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	34611.7	0.0	34611.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	40369.7	0.0	40369.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	873.8	2.2
10°-20°	1871.0	4.6
20°-30°	2386.8	5.9
30°-40°	3284.4	8.1
40°-50°	5320.1	13.2
50°-60°	8349.7	20.7
60°-70°	11131.7	27.6
70°-80°	6191.8	15.3
80°-90°	960.3	2.4
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°	40369.7	100.0
0°-180°	40369.7	100.0



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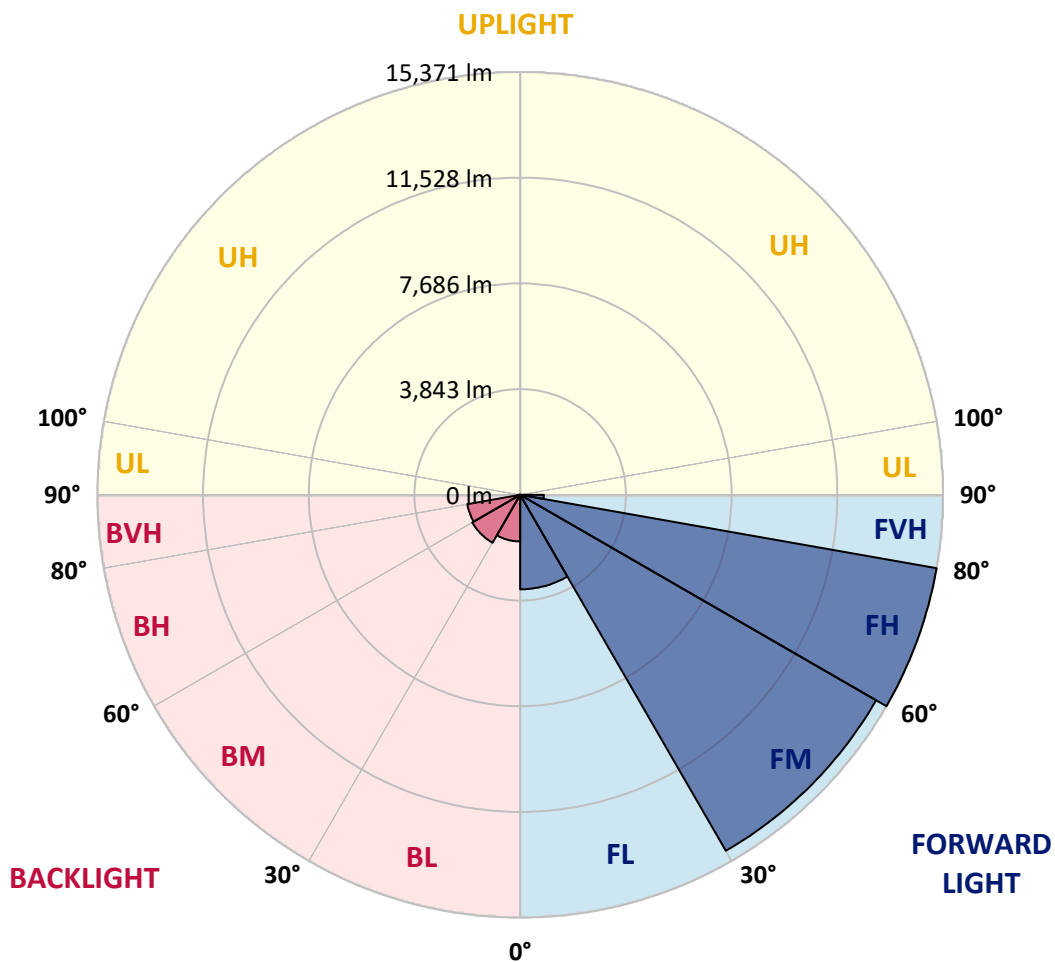
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3434.7	8.5			
FM	(30°-60°)	14942.8	37.0			
FH	(60°-80°)	15371.2	38.1			G5
FVH	(80°-90°)	863.0	2.1			G5
BL	(0°-30°)	1696.9	4.2	B3/2500		
BM	(30°-60°)	2011.5	5.0	B2/2500		
BH	(60°-80°)	1952.3	4.8	B3/2500		G3/2500
BVH	(80°-90°)	97.3	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5
2.5°	10574.9	10603.3	10603.3	10580.1	10567.1	10492.0	10448.0	10416.9	10362.6	10261.6	10171.0
5°	10196.9	10251.3	10274.6	10285.0	10352.3	10328.9	10331.5	10310.8	10264.2	10155.4	10007.9
7.5°	9503.1	9513.5	9554.9	9624.8	9787.9	9901.8	9995.0	10013.2	10002.7	9922.5	9715.4
10°	8819.7	8837.9	8887.0	9006.2	9161.4	9324.5	9526.4	9609.3	9671.4	9645.5	9384.0
12.5°	8252.8	8255.4	8309.7	8446.9	8620.4	8824.9	9099.4	9228.8	9376.3	9435.8	9143.3
15°	7706.6	7742.8	7794.6	7960.3	8175.1	8434.0	8749.8	8928.4	9122.6	9293.5	8957.0
17.5°	7292.4	7320.8	7351.9	7489.1	7737.6	8061.3	8452.1	8643.7	8900.0	9161.4	8765.4
20°	7064.6	7074.9	7051.6	7118.9	7328.6	7678.1	8131.1	8361.5	8667.0	9034.6	8568.6
22.5°	7018.0	7018.0	6932.5	6919.6	7012.8	7308.0	7799.8	8081.9	8454.7	8946.5	8392.6
25°	7235.4	7219.9	7059.4	6911.9	6878.2	7028.4	7483.9	7830.8	8273.5	8944.0	8260.5
27.5°	7647.1	7626.3	7427.0	7178.5	6963.6	6898.9	7240.7	7595.3	8131.1	9032.0	8193.2
30°	8159.6	8151.8	7950.0	7639.3	7284.6	6950.6	7144.8	7473.6	8035.4	9195.1	8190.7
32.5°	8721.4	8685.2	8560.9	8250.2	7789.5	7238.0	7201.8	7478.8	8009.5	9433.2	8250.2
35°	9319.4	9293.5	9262.4	8949.2	8431.5	7745.4	7452.9	7657.4	8136.3	9764.6	8418.5
37.5°	10080.5	10051.9	10103.7	9762.0	9195.1	8410.7	7877.4	8014.6	8395.2	10246.1	8731.7
40°	11434.3	11351.5	11206.5	10681.0	10085.6	9226.2	8491.0	8511.7	8837.9	10890.6	9233.9
42.5°	13658.0	13391.3	12674.3	11708.7	11025.3	10173.7	9290.8	9192.5	9448.8	11742.4	9964.0
45°	15886.9	15586.6	14375.1	12829.6	11998.7	11191.0	10279.7	10044.1	10209.9	12733.9	10903.6
47.5°	17326.2	17178.6	15811.9	13950.5	13018.6	12298.9	11411.0	11022.7	11141.8	13857.3	12063.4
50°	17748.2	17621.4	16547.0	14828.1	13981.6	13637.3	12811.5	12296.4	12317.0	15169.8	13453.5
52.5°	17432.3	17380.5	16668.7	15371.8	14867.0	15048.1	14750.4	14033.4	13862.5	16609.1	14960.1
55°	17010.3	17028.6	16754.1	15917.9	15767.8	16363.2	17287.4	16710.1	15985.2	18108.0	16528.9
57.5°	15682.3	15695.3	16415.0	16958.6	17486.7	18206.4	19262.6	19019.2	18175.3	19726.0	18286.6
60°	12627.7	12728.7	14331.1	16743.8	19451.5	21838.4	22097.2	21677.9	20505.2	21589.8	20572.5
62.5°	9021.6	9112.2	10968.4	14535.6	19221.1	25949.2	27331.6	25664.4	23666.0	24377.8	23787.6
65°	4739.9	4724.4	6161.1	10044.1	16189.7	26901.9	35579.2	32742.0	28990.9	28211.8	26894.1
67.5°	2648.2	2733.6	3290.2	5066.1	10551.5	23676.3	40847.2	41683.4	36394.6	31253.5	26759.5
69°	2448.9	2477.4	2850.1	3916.7	6878.2	19534.4	40394.2	44383.4	39516.6	31266.4	25035.4
70°	2379.0	2410.1	2749.2	3608.7	5778.0	16006.0	38745.2	44067.6	40275.1	30572.6	23466.6
72.5°	2133.1	2174.5	2503.3	3243.7	4869.3	8250.2	31209.4	37717.4	36482.6	26720.6	18196.0
75°	1819.8	1889.8	2386.7	3220.4	4613.1	5244.8	20813.2	28100.5	27152.9	19109.8	10323.7
77.5°	753.3	761.1	1043.2	2358.3	4840.9	5019.5	11185.8	17800.0	15757.4	8379.6	3109.1
80°	525.5	515.2	520.4	688.5	3906.3	5053.2	5739.2	9052.7	7036.1	2210.8	1454.8
82.5°	442.6	437.5	458.2	432.3	1322.9	5733.9	4799.5	4719.2	3313.5	1190.8	693.8
85°	292.6	284.8	375.3	393.5	629.0	4553.6	5161.9	3709.6	2469.6	636.8	295.1
87.5°	142.4	145.0	214.8	266.7	334.0	1442.0	4944.4	2933.0	1907.9	277.0	119.1
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°	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5	10300.5
2.5°	10134.8	10057.1	9987.3	9899.2	9831.9	9774.9	9697.3	9694.7	9681.7	9699.9	9705.0
5°	9909.5	9780.1	9583.4	9363.4	9208.0	9003.5	8804.2	8736.9	8661.8	8654.1	8677.4
7.5°	9570.4	9368.5	9032.0	8695.5	8358.9	8014.6	7688.5	7522.8	7362.3	7313.1	7336.4
10°	9192.5	8936.2	8421.0	7872.2	7398.5	6886.0	6388.9	6067.9	5775.4	5651.2	5682.2
12.5°	8897.4	8571.2	7846.3	7134.5	6425.2	5690.0	5035.1	4400.8	3921.9	3707.1	3720.0
15°	8643.7	8226.9	7308.0	6360.5	5472.5	4465.5	3556.9	2821.7	2402.3	2247.0	2241.8
17.5°	8369.3	7864.4	6746.2	5640.8	4488.8	3243.7	2381.6	1946.7	1781.1	1729.3	1729.3
20°	8076.8	7491.7	6158.6	4856.5	3453.4	2265.1	1791.4	1623.1	1561.0	1545.5	1542.9
22.5°	7804.9	7126.7	5568.3	4020.3	2498.1	1718.9	1524.7	1460.1	1449.7	1462.6	1462.6
25°	7590.1	6805.7	4970.3	3140.2	1817.3	1439.3	1356.4	1348.8	1387.5	1434.2	1442.0
27.5°	7429.6	6518.3	4380.1	2293.6	1429.0	1252.9	1224.5	1258.1	1348.8	1442.0	1460.1
30°	7318.3	6272.4	3673.4	1649.0	1190.8	1097.6	1110.5	1170.1	1307.3	1449.7	1488.5
32.5°	7269.1	6073.2	2961.4	1265.9	1017.3	965.6	999.2	1076.9	1219.3	1361.6	1408.3
35°	7315.7	5928.1	2304.0	1051.0	890.5	851.7	890.5	970.8	1064.0	1133.8	1162.4
37.5°	7483.9	5876.3	1734.4	931.9	807.7	768.8	799.9	854.3	895.7	921.6	934.6
40°	7838.6	5930.8	1359.1	869.8	761.1	717.1	724.9	750.7	779.2	799.9	802.5
42.5°	8402.9	6109.4	1208.9	846.5	732.6	675.7	662.7	680.9	711.9	740.4	745.5
45°	9153.7	6407.0	1193.4	854.3	719.6	642.0	616.1	634.2	675.7	722.2	730.0
47.5°	10124.5	6878.2	1265.9	895.7	727.4	623.9	585.0	603.1	657.6	719.6	730.0
50°	11273.8	7530.6	1400.5	957.8	763.6	623.9	572.1	587.7	644.6	714.5	724.9
52.5°	12627.7	8439.1	1540.3	1020.0	815.4	647.2	577.3	574.7	626.5	691.2	704.1
55°	14121.4	9567.9	1674.9	1074.3	843.9	678.2	590.2	559.1	600.6	652.3	662.7
57.5°	15879.2	11113.3	1910.5	1126.1	859.5	701.5	605.8	543.6	566.9	603.1	610.9
60°	18263.4	13383.6	2368.6	1214.1	887.9	711.9	608.3	528.0	525.5	551.4	554.0
62.5°	21372.4	16042.2	2806.2	1317.7	944.9	714.5	598.0	517.7	491.8	499.6	499.6
65°	23583.1	17020.8	2679.3	1405.6	996.7	711.9	587.7	509.9	466.0	453.1	453.1
67.5°	22325.0	15035.2	2275.5	1429.0	1001.9	683.4	564.4	491.8	442.6	411.6	411.6
69°	20476.7	13179.1	2089.1	1387.5	960.4	649.8	538.5	473.7	427.2	390.9	390.9
70°	18970.0	11773.4	1975.2	1338.3	911.2	621.3	515.2	455.6	411.6	380.5	378.0
72.5°	14162.9	7856.8	1687.9	1154.6	748.2	525.5	450.4	406.4	370.2	349.4	349.4
75°	7473.6	3937.4	1382.4	942.2	577.3	419.4	370.2	341.7	321.0	318.4	315.8
77.5°	2448.9	1781.1	994.1	709.3	424.5	326.2	295.1	277.0	274.4	284.8	284.8
80°	1322.9	1064.0	639.4	478.9	295.1	243.4	227.8	225.3	233.0	248.5	248.5
82.5°	642.0	525.5	380.5	295.1	201.9	178.6	178.6	181.2	191.6	209.7	209.7
85°	277.0	248.5	220.0	165.7	124.3	111.3	126.8	139.8	147.5	160.5	165.7
87.5°	132.1	116.5	101.0	64.8	54.3	57.0	67.3	82.9	98.4	108.7	111.3
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)