

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: P196146

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196146
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 1050mA 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: 36800.7 lumens
Efficiency: N/A
Efficacy: 110.5 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

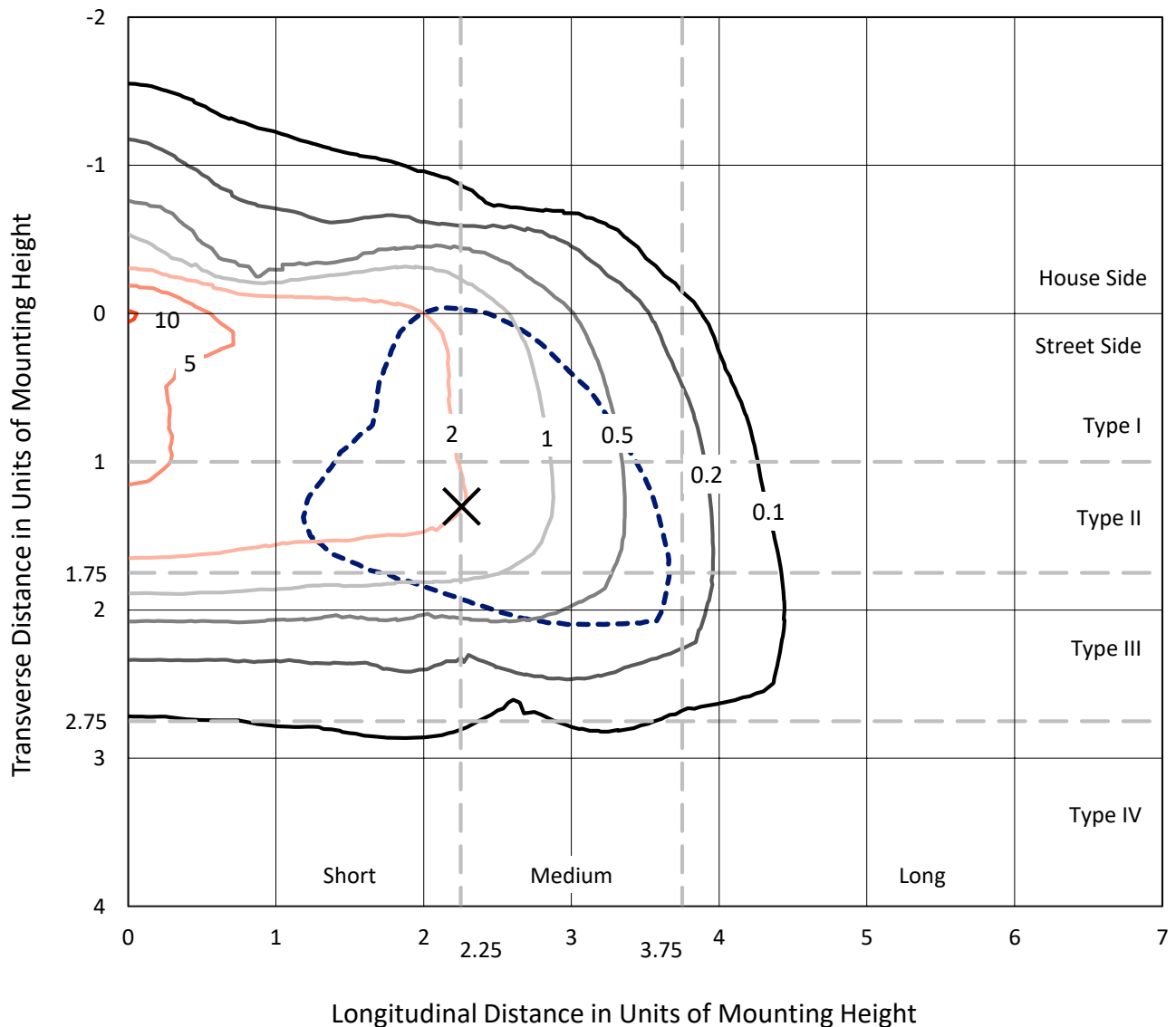
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

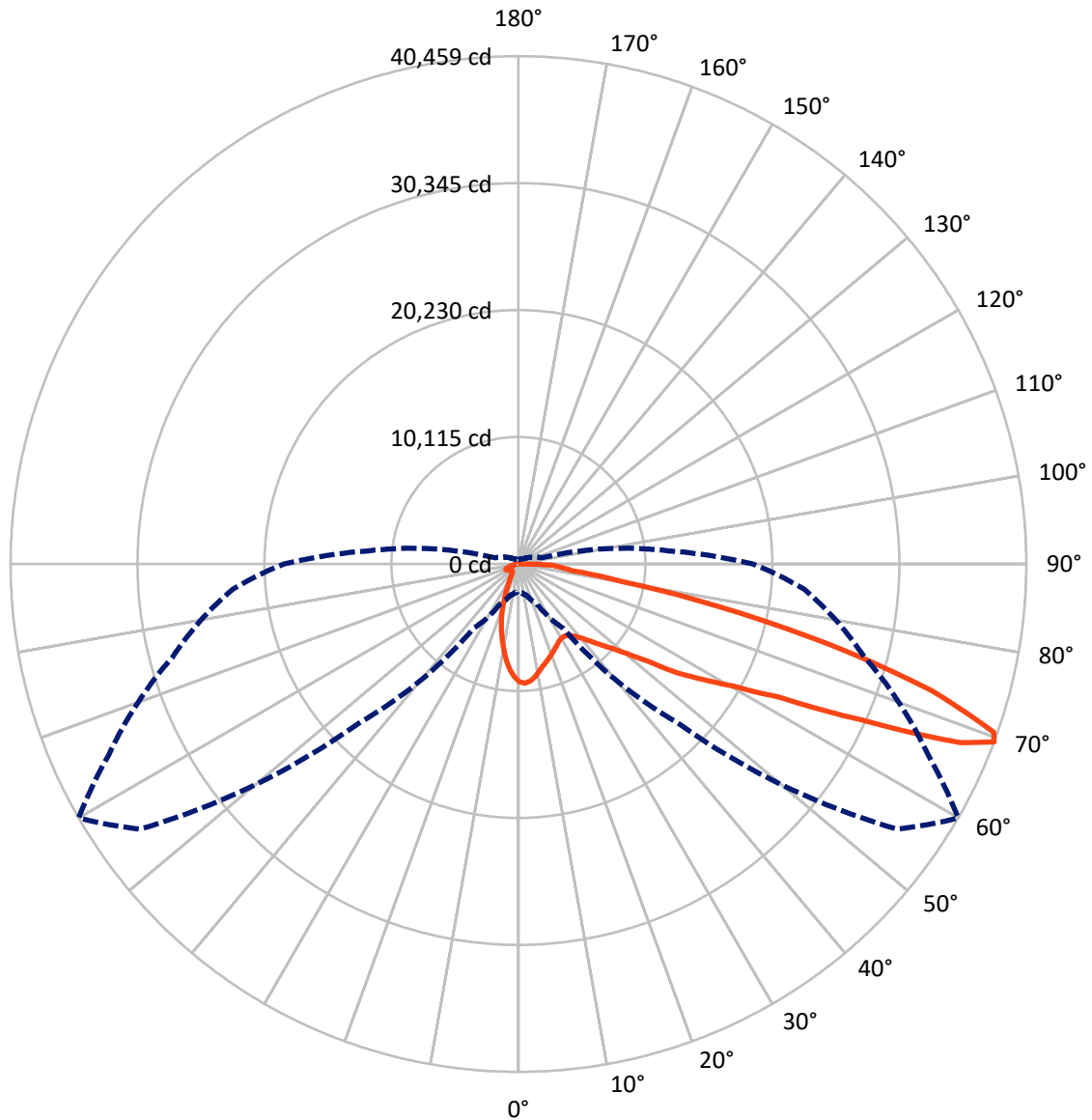
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 10.4 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	5249.0	0.0	5249.0
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	31551.7	0.0	31551.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	36800.7	0.0	36800.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	796.6	2.2
10°-20°	1705.6	4.6
20°-30°	2175.8	5.9
30°-40°	2994.0	8.1
40°-50°	4849.8	13.2
50°-60°	7611.5	20.7
60°-70°	10147.6	27.6
70°-80°	5644.4	15.3
80°-90°	875.4	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°	36800.7	100.0
0°-180°	36800.7	100.0

Coefficient of Utilization



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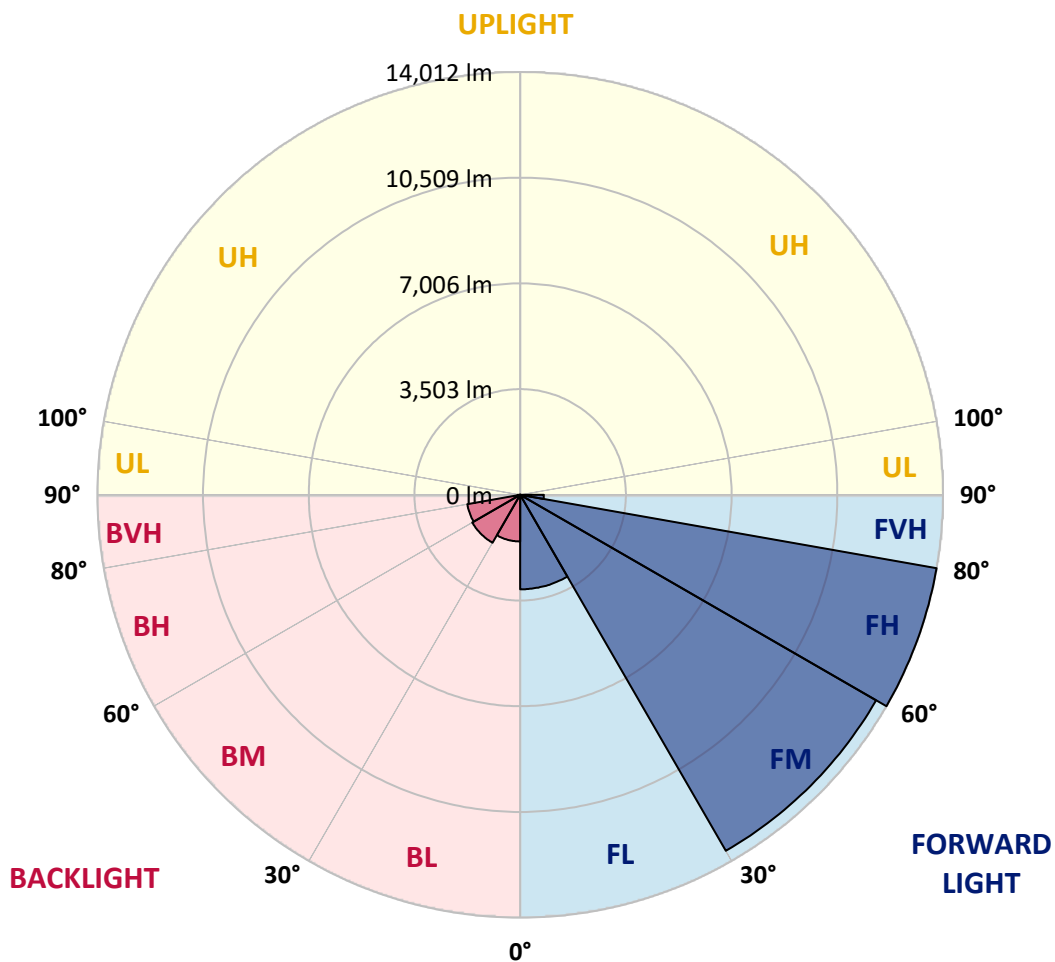
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3131.0	8.5			
FM	(30°-60°)	13621.7	37.0			
FH	(60°-80°)	14012.3	38.1			G5
FVH	(80°-90°)	786.7	2.1			G5
BL	(0°-30°)	1546.9	4.2	B3/2500		
BM	(30°-60°)	1833.7	5.0	B2/2500		
BH	(60°-80°)	1779.7	4.8	B3/2500		G3/2500
BVH	(80°-90°)	88.7	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°	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8
2.5°	9640.0	9665.9	9665.9	9644.7	9632.8	9564.4	9524.3	9496.0	9446.4	9354.4	9271.8
5°	9295.5	9345.0	9366.2	9375.7	9437.0	9415.8	9418.1	9399.3	9356.7	9257.6	9123.2
7.5°	8663.0	8672.4	8710.1	8773.8	8922.6	9026.4	9111.3	9127.9	9118.4	9045.2	8856.5
10°	8040.0	8056.5	8101.4	8209.9	8351.5	8500.1	8684.2	8759.7	8816.4	8792.8	8554.4
12.5°	7523.2	7525.5	7575.1	7700.2	7858.3	8044.7	8294.8	8412.8	8547.4	8601.6	8335.0
15°	7025.2	7058.3	7105.5	7256.5	7452.4	7688.4	7976.3	8139.1	8316.1	8471.9	8165.1
17.5°	6647.6	6673.6	6702.0	6827.0	7053.6	7348.6	7704.9	7879.5	8113.1	8351.5	7990.4
20°	6440.0	6449.4	6428.2	6489.6	6680.7	6999.3	7412.3	7622.3	7900.8	8235.9	7811.0
22.5°	6397.5	6397.5	6319.7	6307.8	6392.8	6661.9	7110.2	7367.4	7707.2	8155.6	7650.6
25°	6595.8	6581.6	6435.3	6300.8	6270.1	6406.9	6822.3	7138.6	7542.0	8153.2	7530.2
27.5°	6971.0	6952.1	6770.4	6543.8	6347.9	6289.0	6600.5	6923.7	7412.3	8233.5	7468.9
30°	7438.2	7431.1	7247.1	6963.8	6640.6	6336.2	6513.1	6812.9	7324.9	8382.2	7466.5
32.5°	7950.3	7917.2	7804.0	7520.8	7100.7	6598.1	6565.1	6817.6	7301.3	8599.2	7520.8
35°	8495.4	8471.9	8443.5	8157.9	7686.0	7060.6	6794.0	6980.4	7417.0	8901.3	7674.2
37.5°	9189.2	9163.3	9210.4	8899.0	8382.2	7667.1	7181.0	7306.0	7653.0	9340.3	7959.8
40°	10423.5	10347.9	10215.7	9736.7	9194.0	8410.5	7740.3	7759.2	8056.5	9927.8	8417.6
42.5°	12450.5	12207.5	11553.8	10673.6	10050.6	9274.2	8469.4	8379.8	8613.5	10704.3	9083.0
45°	14482.3	14208.6	13104.2	11695.4	10937.9	10201.6	9370.9	9156.2	9307.2	11608.0	9939.6
47.5°	15794.4	15659.9	14413.9	12717.2	11867.7	11211.6	10402.2	10048.2	10156.8	12632.2	10996.8
50°	16179.1	16063.4	15084.1	13517.2	12745.5	12431.6	11678.8	11209.3	11228.1	13828.7	12264.1
52.5°	15891.1	15844.0	15195.0	14012.7	13552.6	13717.8	13446.4	12792.7	12636.9	15140.7	13637.5
55°	15506.5	15523.1	15272.9	14510.7	14373.8	14916.6	15759.0	15232.8	14572.0	16507.1	15067.6
57.5°	14295.9	14307.7	14963.7	15459.3	15940.7	16596.8	17559.6	17337.8	16568.4	17981.9	16669.9
60°	11511.3	11603.3	13064.1	15263.4	17731.8	19907.6	20143.6	19761.3	18692.3	19681.1	18753.7
62.5°	8224.0	8306.7	9998.6	13250.5	17521.8	23655.0	24915.2	23395.5	21573.6	22222.6	21684.6
65°	4320.8	4306.7	5616.4	9156.2	14758.4	24523.5	32433.7	29847.2	26427.8	25717.5	24516.3
67.5°	2414.2	2492.0	2999.4	4618.2	9618.7	21583.1	37235.9	37998.1	33177.0	28490.3	24393.7
69°	2232.4	2258.4	2598.2	3570.4	6270.1	17807.3	36823.0	40459.4	36023.0	28502.2	22822.0
70°	2168.7	2197.0	2506.1	3289.6	5267.2	14590.9	35319.7	40171.6	36714.4	27869.7	21391.9
72.5°	1944.5	1982.3	2282.0	2956.8	4438.9	7520.8	28450.2	34382.9	33257.3	24358.3	16587.4
75°	1658.9	1722.6	2175.8	2935.7	4205.2	4781.1	18973.1	25616.0	24752.3	17420.3	9411.0
77.5°	686.7	693.8	951.0	2149.8	4412.9	4575.8	10196.9	16226.3	14364.4	7638.8	2834.2
80°	479.0	469.6	474.3	627.7	3561.0	4606.4	5231.8	8252.3	6414.0	2015.3	1326.3
82.5°	403.6	398.8	417.7	394.1	1205.9	5227.1	4375.2	4302.0	3020.6	1085.6	632.4
85°	266.7	259.6	342.2	358.6	573.5	4150.9	4705.5	3381.7	2251.3	580.5	269.0
87.5°	129.8	132.2	195.9	243.1	304.4	1314.4	4507.3	2673.7	1739.2	252.5	108.5
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°	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8	9389.8
2.5°	9238.8	9168.0	9104.3	9024.1	8962.7	8910.7	8839.9	8837.6	8825.8	8842.3	8847.0
5°	9033.5	8915.4	8736.1	8535.5	8393.9	8207.5	8025.8	7964.5	7896.1	7889.0	7910.2
7.5°	8724.3	8540.3	8233.5	7926.7	7620.0	7306.0	7008.7	6857.7	6711.4	6666.6	6687.7
10°	8379.8	8146.2	7676.5	7176.3	6744.4	6277.1	5824.1	5531.5	5264.8	5151.6	5179.8
12.5°	8110.8	7813.4	7152.7	6503.7	5857.1	5187.0	4589.9	4011.7	3575.1	3379.3	3391.1
15°	7879.5	7499.6	6661.9	5798.1	4988.7	4070.7	3242.4	2572.2	2189.9	2048.4	2043.7
17.5°	7629.4	7169.1	6149.8	5142.1	4092.0	2956.8	2171.0	1774.6	1623.5	1576.4	1576.4
20°	7362.7	6829.4	5614.1	4427.0	3148.0	2064.8	1633.0	1479.6	1423.0	1408.8	1406.5
22.5°	7114.9	6496.7	5076.0	3664.8	2277.3	1567.0	1390.0	1331.0	1321.6	1333.3	1333.3
25°	6919.0	6204.0	4530.9	2862.5	1656.6	1312.0	1236.5	1229.5	1264.9	1307.3	1314.4
27.5°	6772.8	5942.1	3992.9	2090.8	1302.6	1142.1	1116.2	1146.9	1229.5	1314.4	1331.0
30°	6671.3	5717.9	3348.6	1503.2	1085.6	1000.5	1012.4	1066.6	1191.7	1321.6	1356.9
32.5°	6626.5	5536.2	2699.7	1154.0	927.4	880.2	910.9	981.7	1111.4	1241.2	1283.8
35°	6668.9	5404.0	2100.2	958.1	811.8	776.4	811.8	885.0	969.9	1033.6	1059.6
37.5°	6822.3	5356.9	1581.1	849.6	736.3	700.8	729.2	778.8	816.5	840.1	851.9
40°	7145.6	5406.4	1238.9	792.9	693.8	653.7	660.7	684.4	710.3	729.2	731.5
42.5°	7660.1	5569.3	1102.0	771.7	667.9	615.9	604.2	620.6	649.0	674.9	679.6
45°	8344.4	5840.6	1087.9	778.8	656.0	585.2	561.6	578.2	615.9	658.4	665.4
47.5°	9229.4	6270.1	1154.0	816.5	663.1	568.8	533.4	549.8	599.4	656.0	665.4
50°	10277.1	6864.8	1276.6	873.2	696.1	568.8	521.5	535.7	587.6	651.3	660.7
52.5°	11511.3	7693.1	1404.1	929.8	743.4	589.9	526.2	523.9	571.1	630.0	641.9
55°	12872.9	8722.0	1526.9	979.4	769.3	618.3	538.1	509.7	547.5	594.6	604.2
57.5°	14475.3	10130.8	1741.6	1026.5	783.5	639.5	552.2	495.5	516.8	549.8	556.9
60°	16648.6	12200.3	2159.2	1106.7	809.5	649.0	554.5	481.4	479.0	502.7	505.0
62.5°	19482.8	14623.9	2558.1	1201.1	861.3	651.3	545.1	472.0	448.4	455.4	455.4
65°	21498.1	15515.9	2442.4	1281.3	908.6	649.0	535.7	464.9	424.7	413.0	413.0
67.5°	20351.3	13705.9	2074.3	1302.6	913.3	623.0	514.4	448.4	403.6	375.2	375.2
69°	18666.3	12013.9	1904.4	1264.9	875.5	592.3	490.8	431.9	389.3	356.3	356.3
70°	17292.9	10732.6	1800.6	1220.1	830.6	566.4	469.6	415.3	375.2	346.9	344.5
72.5°	12910.7	7162.1	1538.6	1052.5	682.0	479.0	410.6	370.5	337.5	318.5	318.5
75°	6812.9	3589.3	1260.2	859.0	526.2	382.3	337.5	311.5	292.7	290.2	287.9
77.5°	2232.4	1623.5	906.1	646.6	387.0	297.4	269.0	252.5	250.1	259.6	259.6
80°	1205.9	969.9	582.9	436.6	269.0	221.8	207.7	205.3	212.4	226.6	226.6
82.5°	585.2	479.0	346.9	269.0	184.0	162.9	162.9	165.2	174.6	191.2	191.2
85°	252.5	226.6	200.6	151.0	113.2	101.5	115.6	127.5	134.5	146.3	151.0
87.5°	120.4	106.2	92.1	59.0	49.5	52.0	61.4	75.5	89.7	99.1	101.5
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)