

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: P195665

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195665
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-05-D-UNV-SL3-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 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: 30030 lumens
Efficiency: N/A
Efficacy: 107.6 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 - G4

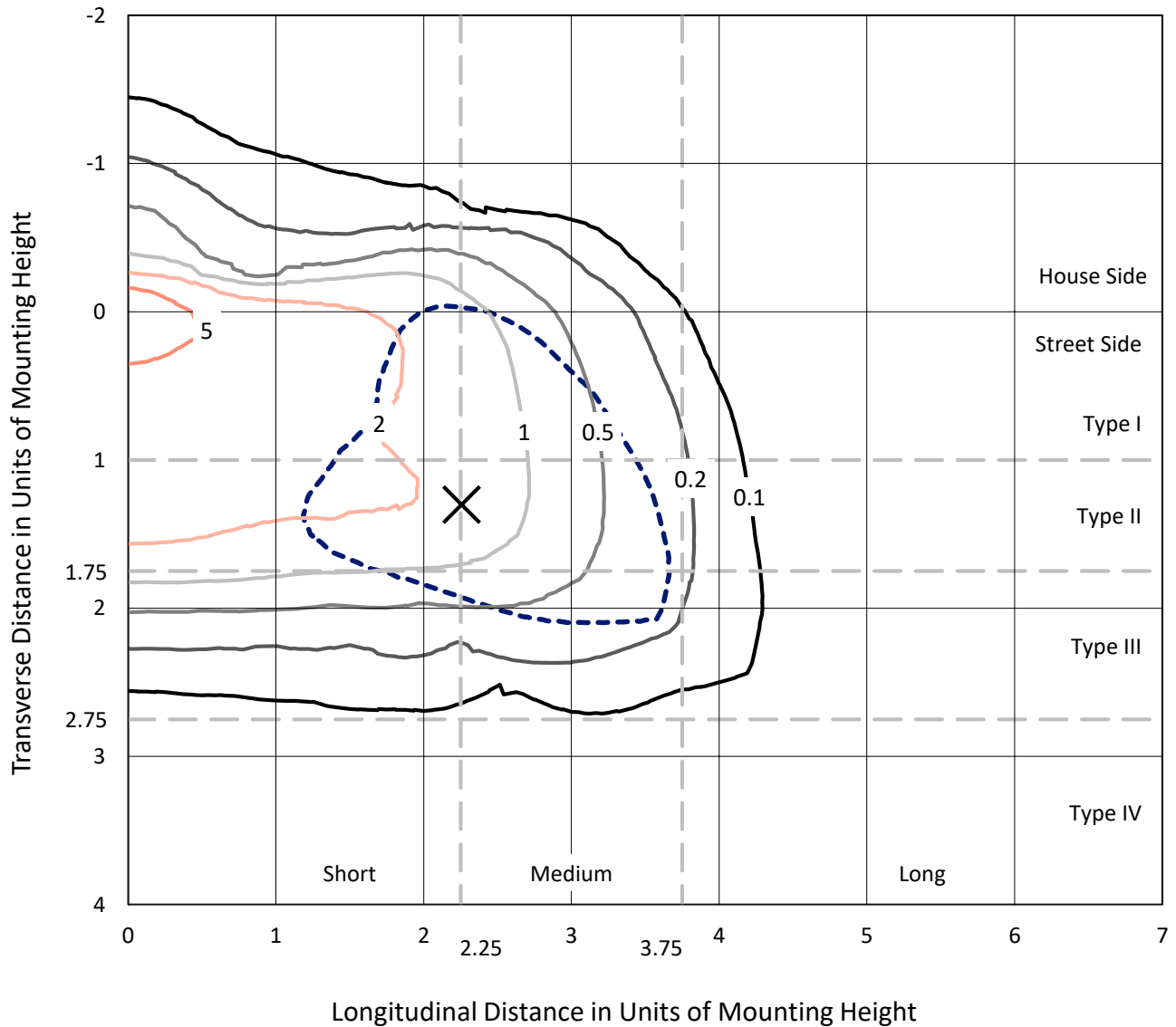
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

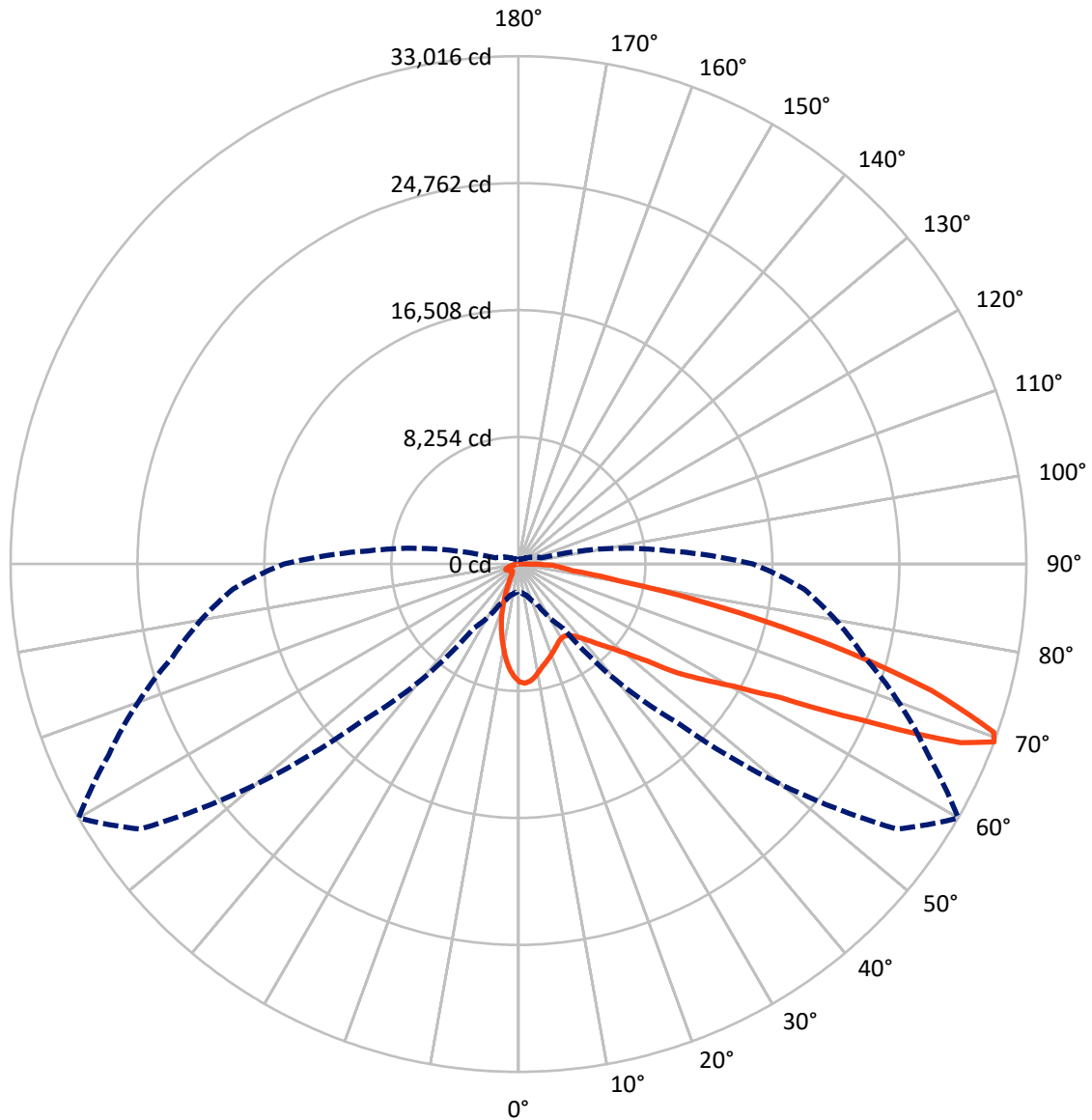
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.5 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	4283.3	0.0	4283.3
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	25746.7	0.0	25746.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	30030.0	0.0	30030.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	650.0	2.2
10°-20°	1391.8	4.6
20°-30°	1775.5	5.9
30°-40°	2443.2	8.1
40°-50°	3957.5	13.2
50°-60°	6211.2	20.7
60°-70°	8280.6	27.6
70°-80°	4605.9	15.3
80°-90°	714.4	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°	30030.0	100.0
0°-180°	30030.0	100.0



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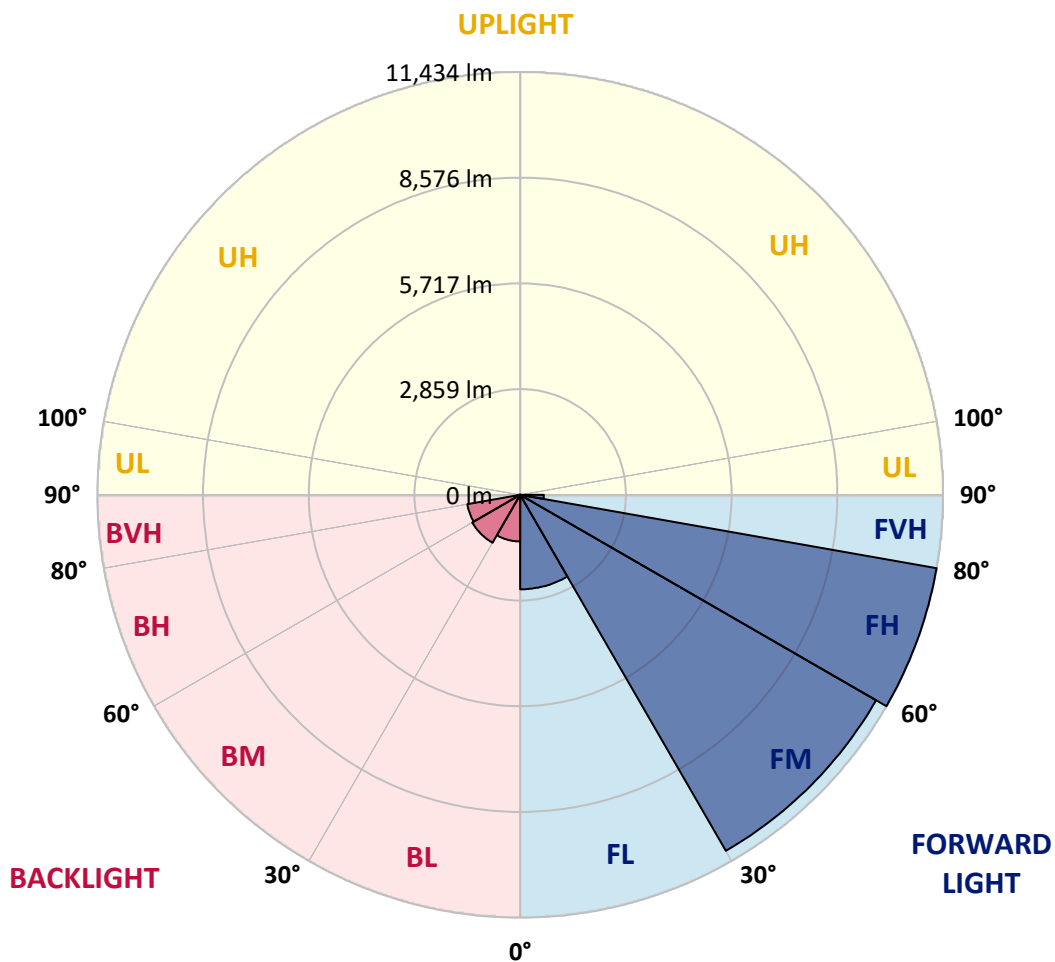
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2555.0	8.5			
FM	(30°-60°)	11115.5	37.0			
FH	(60°-80°)	11434.3	38.1			G4/12000
FVH	(80°-90°)	642.0	2.1			G4/750
BL	(0°-30°)	1262.3	4.2	B3/2500		
BM	(30°-60°)	1496.3	5.0	B2/2500		
BH	(60°-80°)	1452.2	4.8	B3/2500		G3/2500
BVH	(80°-90°)	72.4	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-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2
2.5°	7866.4	7887.6	7887.6	7870.2	7860.6	7804.7	7772.0	7748.9	7708.5	7633.4	7566.0
5°	7585.2	7625.7	7643.0	7650.7	7700.8	7683.4	7685.4	7670.0	7635.3	7554.4	7444.6
7.5°	7069.1	7076.8	7107.7	7159.6	7281.0	7365.7	7435.0	7448.5	7440.8	7381.1	7227.0
10°	6560.8	6574.2	6610.8	6699.4	6815.0	6936.3	7086.5	7148.1	7194.3	7175.1	6980.6
12.5°	6139.0	6141.0	6181.4	6283.5	6412.5	6564.6	6768.7	6865.0	6974.8	7019.1	6801.5
15°	5732.7	5759.7	5798.2	5921.4	6081.3	6273.8	6508.8	6641.6	6786.1	6913.2	6662.8
17.5°	5424.6	5445.8	5468.9	5571.0	5755.8	5996.5	6287.3	6429.8	6620.5	6815.0	6520.3
20°	5255.2	5262.9	5245.5	5295.6	5451.6	5711.5	6048.5	6219.9	6447.2	6720.6	6374.0
22.5°	5220.5	5220.5	5157.0	5147.3	5216.6	5436.2	5802.1	6011.9	6289.2	6655.1	6243.0
25°	5382.3	5370.7	5251.3	5141.5	5116.5	5228.2	5567.1	5825.2	6154.4	6653.2	6144.8
27.5°	5688.4	5673.0	5524.8	5339.9	5180.1	5131.9	5386.1	5649.9	6048.5	6718.7	6094.8
30°	6069.7	6063.9	5913.7	5682.7	5418.8	5170.4	5314.9	5559.4	5977.3	6840.0	6092.8
32.5°	6487.6	6460.6	6368.2	6137.1	5794.3	5384.2	5357.2	5563.3	5958.0	7017.1	6137.1
35°	6932.4	6913.2	6890.1	6657.0	6271.9	5761.6	5544.0	5696.1	6052.4	7263.6	6262.3
37.5°	7498.6	7477.4	7515.9	7261.7	6840.0	6256.5	5859.8	5961.9	6245.0	7621.8	6495.3
40°	8505.7	8444.1	8336.2	7945.3	7502.4	6863.1	6316.2	6331.6	6574.2	8101.3	6868.9
42.5°	10159.8	9961.5	9428.1	8709.8	8201.4	7567.9	6911.2	6838.1	7028.7	8734.8	7411.9
45°	11817.9	11594.5	10693.3	9543.6	8925.5	8324.7	7646.8	7471.6	7594.9	9472.4	8110.9
47.5°	12888.5	12778.8	11762.0	10377.4	9684.2	9148.9	8488.4	8199.5	8288.1	10308.1	8973.6
50°	13202.4	13108.1	12308.9	11030.3	10400.6	10144.4	9530.2	9146.9	9162.3	11284.4	10007.7
52.5°	12967.5	12929.0	12399.4	11434.6	11059.1	11193.9	10972.5	10439.1	10312.0	12355.1	11128.5
55°	12653.6	12667.1	12463.0	11841.0	11729.3	12172.2	12859.6	12430.2	11891.0	13470.1	12295.4
57.5°	11665.7	11675.4	12210.7	12615.1	13007.9	13543.3	14328.9	14147.9	13520.1	14673.6	13602.9
60°	9393.4	9468.5	10660.5	12455.2	14469.5	16245.0	16437.5	16125.6	15253.2	16060.1	15303.3
62.5°	6711.0	6778.4	8159.1	10812.6	14298.1	19302.9	20331.2	19091.1	17604.5	18134.1	17695.0
65°	3525.9	3514.4	4583.1	7471.6	12043.2	20011.6	26466.4	24355.9	21565.6	20986.0	20005.8
67.5°	1970.0	2033.5	2447.5	3768.5	7849.0	17612.2	30385.2	31007.2	27073.0	23248.6	19905.7
69°	1821.7	1842.9	2120.2	2913.5	5116.5	14531.1	30048.2	33015.6	29395.4	23258.3	18623.2
70°	1769.7	1792.8	2045.1	2684.4	4298.1	11906.4	28821.5	32780.7	29959.6	22742.2	17456.2
72.5°	1586.8	1617.6	1862.1	2412.9	3622.2	6137.1	23215.9	28057.0	27138.5	19876.8	13535.5
75°	1353.7	1405.7	1775.5	2395.5	3431.5	3901.4	15482.4	20903.2	20198.4	14215.3	7679.6
77.5°	560.4	566.1	776.0	1754.3	3601.0	3733.9	8320.8	13240.9	11721.6	6233.4	2312.7
80°	390.9	383.2	387.1	512.2	2905.8	3758.9	4269.2	6734.1	5234.0	1644.5	1082.2
82.5°	329.3	325.4	340.8	321.6	984.0	4265.4	3570.2	3510.5	2464.9	885.8	516.1
85°	217.6	211.8	279.2	292.7	467.9	3387.3	3839.8	2759.5	1837.1	473.7	219.5
87.5°	105.9	107.8	159.8	198.3	248.4	1072.6	3678.0	2181.8	1419.2	206.0	88.6
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°	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2	7662.2
2.5°	7539.0	7481.2	7429.2	7363.8	7313.7	7271.3	7213.6	7211.6	7202.0	7215.5	7219.3
5°	7371.5	7275.2	7128.8	6965.2	6849.6	6697.5	6549.2	6499.1	6443.3	6437.5	6454.9
7.5°	7119.2	6969.0	6718.7	6468.3	6218.0	5961.9	5719.2	5596.0	5476.6	5440.0	5457.4
10°	6838.1	6647.4	6264.2	5856.0	5503.6	5122.3	4752.6	4513.8	4296.2	4203.7	4226.9
12.5°	6618.5	6375.9	5836.7	5307.2	4779.5	4232.6	3745.4	3273.6	2917.4	2757.6	2767.2
15°	6429.8	6119.8	5436.2	4731.4	4070.9	3321.8	2645.9	2099.0	1787.0	1671.5	1667.6
17.5°	6225.7	5850.2	5018.3	4196.0	3339.1	2412.9	1771.6	1448.1	1324.9	1286.3	1286.3
20°	6008.1	5572.9	4581.2	3612.6	2568.8	1685.0	1332.6	1207.4	1161.2	1149.6	1147.7
22.5°	5805.9	5301.4	4142.1	2990.6	1858.3	1278.6	1134.2	1086.1	1078.4	1088.0	1088.0
25°	5646.1	5062.6	3697.3	2335.8	1351.8	1070.7	1009.1	1003.3	1032.2	1066.8	1072.6
27.5°	5526.7	4848.8	3258.2	1706.1	1063.0	932.0	910.8	935.9	1003.3	1072.6	1086.1
30°	5443.9	4665.9	2732.5	1226.7	885.8	816.5	826.1	870.4	972.5	1078.4	1107.3
32.5°	5407.3	4517.6	2203.0	941.7	756.8	718.3	743.3	801.1	907.0	1012.9	1047.6
35°	5441.9	4409.8	1713.8	781.8	662.4	633.5	662.4	722.1	791.5	843.4	864.6
37.5°	5567.1	4371.3	1290.2	693.2	600.8	571.9	595.0	635.5	666.3	685.5	695.2
40°	5830.9	4411.7	1011.0	647.0	566.1	533.4	539.2	558.4	579.6	595.0	597.0
42.5°	6250.7	4544.6	899.3	629.7	545.0	502.6	493.0	506.5	529.6	550.7	554.6
45°	6809.2	4766.0	887.7	635.5	535.3	477.6	458.3	471.8	502.6	537.3	543.0
47.5°	7531.3	5116.5	941.7	666.3	541.1	464.1	435.2	448.7	489.1	535.3	543.0
50°	8386.3	5601.8	1041.8	712.5	568.1	464.1	425.6	437.1	479.5	531.5	539.2
52.5°	9393.4	6277.7	1145.8	758.7	606.6	481.4	429.4	427.5	466.0	514.2	523.8
55°	10504.5	7117.3	1245.9	799.2	627.8	504.5	439.1	415.9	446.8	485.3	493.0
57.5°	11812.1	8266.9	1421.1	837.7	639.3	521.9	450.6	404.4	421.7	448.7	454.5
60°	13585.6	9955.7	1762.0	903.1	660.5	529.6	452.5	392.8	390.9	410.2	412.1
62.5°	15898.3	11933.4	2087.4	980.2	702.9	531.5	444.8	385.1	365.9	371.7	371.7
65°	17542.9	12661.3	1993.1	1045.6	741.4	529.6	437.1	379.4	346.6	337.0	337.0
67.5°	16607.0	11184.3	1692.7	1063.0	745.2	508.4	419.8	365.9	329.3	306.2	306.2
69°	15232.1	9803.6	1554.0	1032.2	714.4	483.3	400.5	352.4	317.7	290.8	290.8
70°	14111.3	8758.0	1469.3	995.6	677.8	462.2	383.2	338.9	306.2	283.1	281.1
72.5°	10535.4	5844.4	1255.5	858.8	556.5	390.9	335.1	302.3	275.4	260.0	260.0
75°	5559.4	2928.9	1028.3	700.9	429.4	312.0	275.4	254.2	238.8	236.9	234.9
77.5°	1821.7	1324.9	739.5	527.6	315.8	242.6	219.5	206.0	204.1	211.8	211.8
80°	984.0	791.5	475.6	356.2	219.5	181.0	169.5	167.5	173.3	184.9	184.9
82.5°	477.6	390.9	283.1	219.5	150.2	132.9	132.9	134.8	142.5	156.0	156.0
85°	206.0	184.9	163.7	123.2	92.4	82.8	94.4	104.0	109.8	119.4	123.2
87.5°	98.2	86.7	75.1	48.1	40.4	42.4	50.1	61.6	73.2	80.9	82.8
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)