

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: P195070

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195070
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-04-D-UNV-AFL-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27423 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

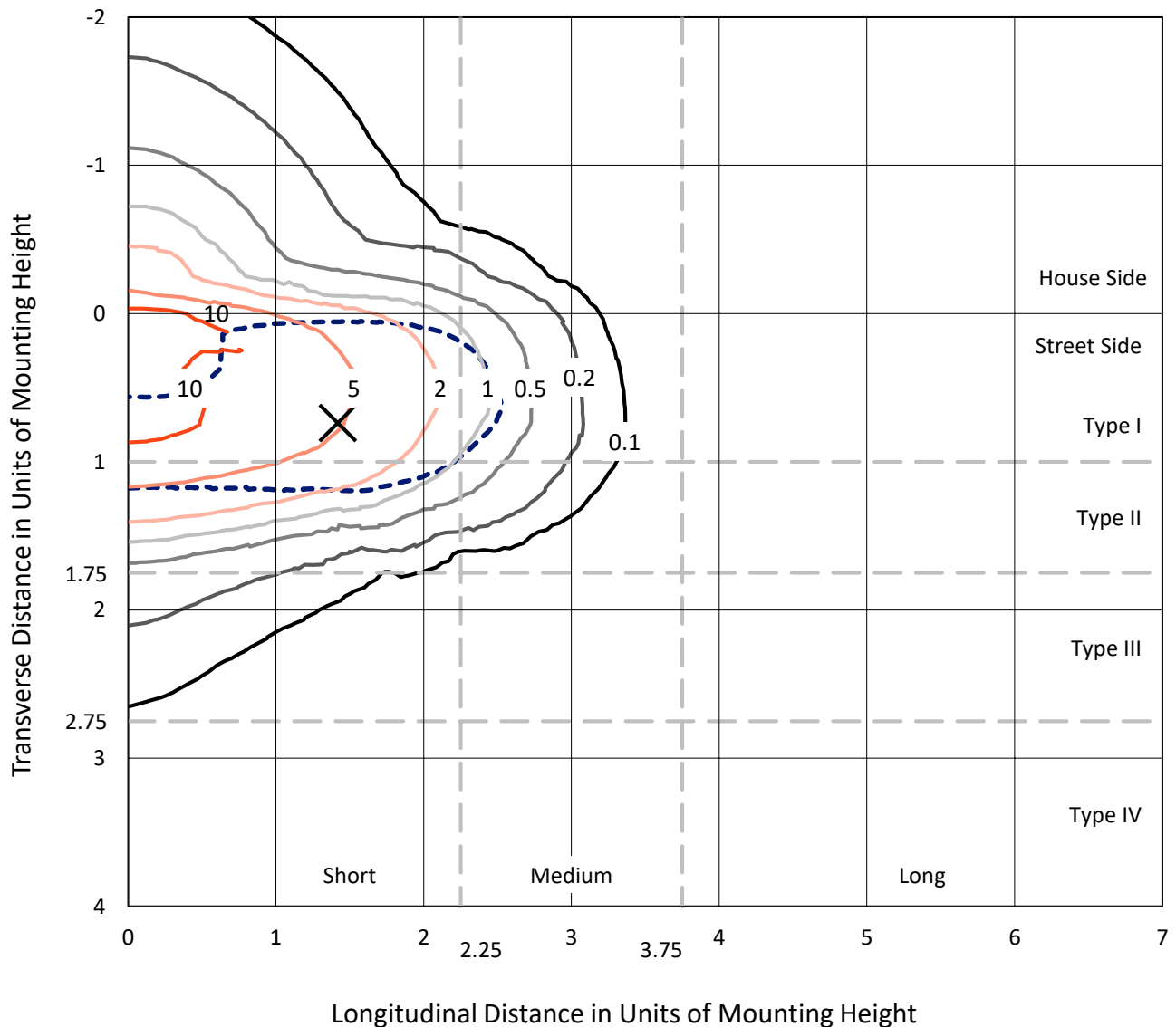
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

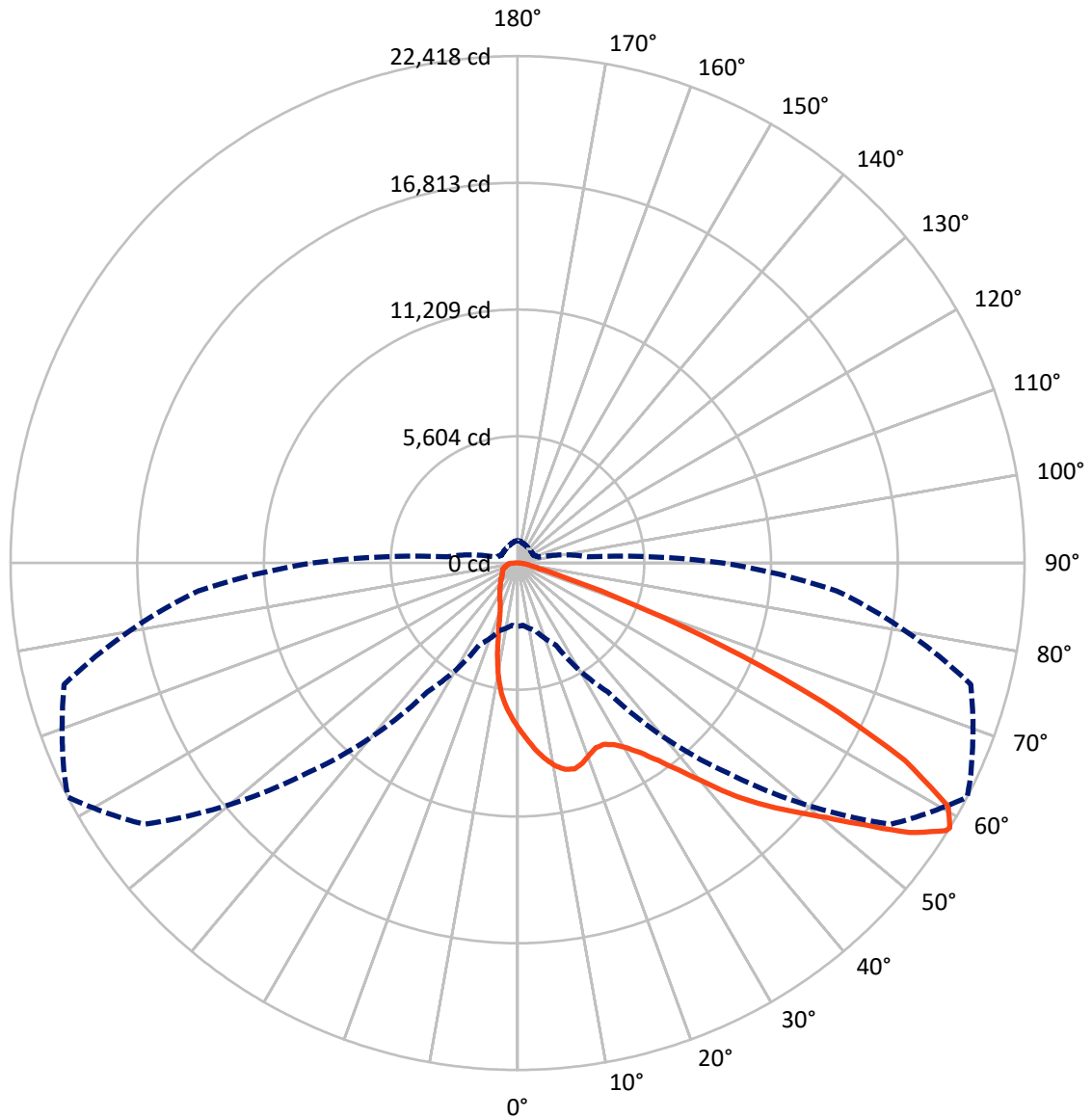
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.7 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4210.5	0.0	4210.5
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	23212.5	0.0	23212.5
	% Fixture	84.6	0.0	84.6
Total	Lumens	27423.0	0.0	27423.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	654.4	2.4
10°-20°	1651.7	6.0
20°-30°	2676.7	9.8
30°-40°	4273.6	15.6
40°-50°	6216.1	22.7
50°-60°	6504.5	23.7
60°-70°	3965.4	14.5
70°-80°	1108.9	4.0
80°-90°	371.7	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°	27423.0	100.0
0°-180°	27423.0	100.0



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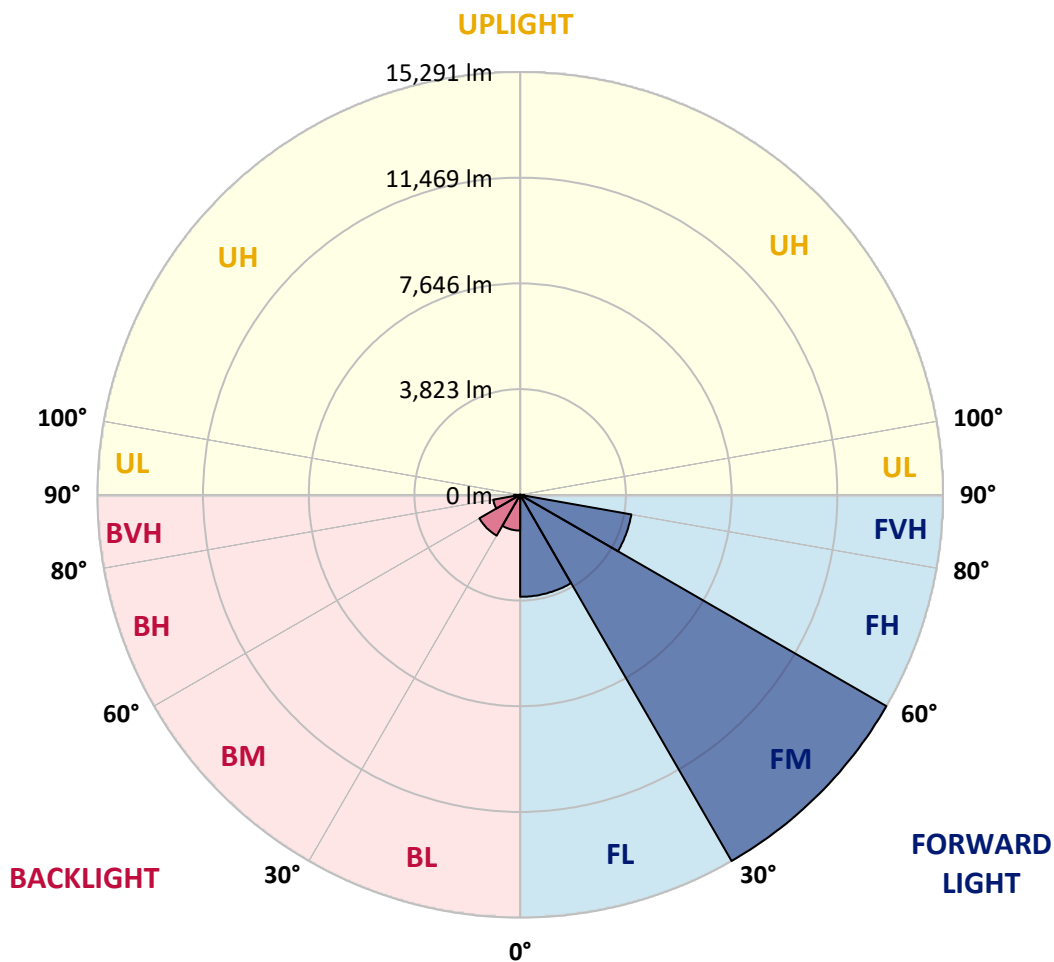
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3688.5	13.5			
FM	(30°-60°)	15291.4	55.8			
FH	(60°-80°)	4083.1	14.9			G2/5000
FVH	(80°-90°)	149.5	0.5			G2/225
BL	(0°-30°)	1294.3	4.7	B3/2500		
BM	(30°-60°)	1702.8	6.2	B2/2500		
BH	(60°-80°)	991.2	3.6	B2/1000		G2/1000
BVH	(80°-90°)	222.2	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8
2.5°	8310.7	8305.5	8235.3	8189.0	8134.1	8007.3	7880.5	7786.2	7738.2	7554.9	7376.6
5°	8998.0	8977.4	8938.0	8888.3	8816.3	8656.9	8456.4	8283.3	8214.7	7889.1	7561.7
7.5°	8634.6	8667.2	8788.9	8926.0	9069.9	9080.2	8938.0	8732.3	8656.9	8221.6	7741.7
10°	7628.5	7614.8	7767.4	8034.7	8509.5	8979.1	9213.9	9112.8	9033.9	8536.9	7921.6
12.5°	7323.5	7320.0	7345.8	7414.3	7712.5	8357.0	9143.6	9363.0	9335.6	8871.1	8113.6
15°	7416.0	7419.5	7417.7	7426.3	7508.6	7815.4	8751.1	9447.0	9532.7	9201.9	8309.0
17.5°	7712.5	7700.5	7662.8	7621.7	7633.7	7743.4	8327.8	9303.0	9560.1	9496.7	8473.5
20°	8170.1	8170.1	8069.0	7954.2	7878.8	7902.8	8151.3	9056.2	9433.3	9746.9	8596.9
22.5°	8744.3	8752.9	8603.8	8394.7	8223.3	8158.1	8252.4	8872.8	9279.0	9978.3	8706.6
25°	9457.3	9455.6	9237.9	8938.0	8667.2	8511.2	8509.5	8881.4	9231.0	10249.1	8821.4
27.5°	10339.9	10259.4	10005.7	9579.0	9196.8	8958.5	8850.6	9097.4	9332.2	10581.6	8975.7
30°	11335.7	11253.4	10920.9	10372.5	9854.9	9507.0	9328.7	9471.0	9640.7	11004.9	9208.8
32.5°	12321.2	12340.0	11949.3	11330.6	10665.6	10175.4	9911.5	9998.9	10117.1	11522.5	9524.1
35°	13764.3	13762.6	13251.8	12478.9	11688.8	11010.1	10675.9	10722.1	10830.1	12252.6	9966.3
37.5°	14840.6	14823.5	14494.4	13810.6	12921.1	12107.0	11623.6	11630.5	11723.0	13169.6	10549.0
40°	14950.3	14946.9	14945.2	14847.5	14239.0	13471.2	12866.2	12741.1	12778.8	14143.1	11167.7
42.5°	14112.2	14237.3	14597.2	15149.1	15318.8	14916.0	14343.6	14064.2	13982.0	15260.5	11822.5
45°	12917.6	12981.0	13611.8	14852.6	15862.1	16273.4	15843.2	15253.7	15113.1	16347.1	12355.5
47.5°	12362.3	12334.9	12700.0	14052.2	15809.0	17353.2	17384.0	16417.4	16179.2	17284.6	12809.7
50°	11171.2	11135.2	11596.2	12874.8	15229.7	17889.6	18966.0	17685.7	17245.2	18175.9	13221.0
52.5°	8797.4	8763.1	9381.9	11028.9	13934.0	17689.1	20299.4	19241.9	18491.2	19034.5	13604.9
55°	5724.4	5727.8	6317.4	8015.9	11275.7	16520.2	20924.9	21039.8	20198.3	19893.2	13915.1
57.5°	3151.9	3122.7	3542.6	4586.4	7757.1	13865.4	20403.9	22335.5	21896.7	20630.2	14139.6
58°	2802.2	2767.9	3091.9	3991.7	6955.0	13116.4	20141.7	22417.8	22114.4	20751.8	14172.2
60°	1996.7	1938.4	1888.7	2250.3	4007.1	9457.3	18393.5	21884.7	22177.8	20995.2	14141.4
62.5°	1683.0	1616.2	1438.0	1424.2	1887.0	4625.8	14545.8	19219.6	20040.6	20434.8	13644.3
65°	1563.1	1496.2	1261.4	1177.4	1280.3	1996.7	8994.5	14840.6	15937.5	18486.1	12393.2
67.5°	1477.4	1398.5	1146.6	1036.9	1057.5	1194.6	3816.8	9705.8	10977.5	14415.6	9942.3
70°	1400.3	1312.8	1055.8	928.9	911.8	908.4	1491.1	5068.0	6293.4	9433.3	6660.2
72.5°	1312.8	1227.1	975.2	839.8	802.1	737.0	896.4	2094.4	2870.8	4624.1	3052.4
75°	1186.0	1115.7	886.1	766.1	701.0	598.1	661.6	1004.3	1237.4	1770.5	1417.4
77.5°	1043.8	987.2	795.2	704.4	617.0	488.5	505.6	680.4	764.4	997.5	821.0
80°	738.7	759.3	694.1	620.4	543.3	394.2	389.1	498.7	548.4	670.1	551.9
82.5°	509.0	524.5	565.6	490.2	438.8	306.8	286.2	346.2	371.9	404.5	267.4
85°	363.3	353.1	392.5	351.3	322.2	195.4	183.4	219.4	234.8	246.8	128.5
87.5°	221.1	219.4	226.2	181.7	168.0	99.4	90.8	104.5	111.4	108.0	61.7
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°	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8	7321.8
2.5°	7309.8	7225.8	7042.4	6895.0	6735.6	6613.9	6492.2	6423.7	6348.3	6305.4	6300.3
5°	7390.3	7218.9	6828.2	6464.8	6091.2	5755.3	5426.2	5182.8	4984.0	4870.9	4864.0
7.5°	7479.4	7210.4	6607.1	5978.1	5313.1	4651.5	4067.1	3654.0	3388.4	3265.0	3256.4
10°	7548.0	7174.4	6338.0	5359.4	4305.3	3431.2	2899.9	2656.5	2576.0	2555.4	2552.0
12.5°	7630.3	7148.7	5998.6	4565.8	3290.7	2612.0	2450.9	2435.4	2452.6	2462.9	2464.6
15°	7707.4	7099.0	5541.0	3686.6	2576.0	2334.3	2337.8	2370.3	2404.6	2420.0	2421.7
17.5°	7743.4	6977.3	4939.4	2905.1	2253.8	2209.2	2248.6	2291.5	2322.3	2334.3	2334.3
20°	7743.4	6781.9	4241.9	2353.2	2085.8	2094.4	2142.4	2174.9	2181.8	2171.5	2166.4
22.5°	7710.8	6540.2	3563.2	2053.2	1948.7	1981.3	2019.0	1996.7	1916.1	1854.4	1842.4
25°	7681.7	6254.0	2910.2	1869.9	1828.7	1871.6	1856.1	1703.6	1580.2	1516.8	1506.5
27.5°	7633.7	5907.8	2365.2	1719.0	1712.2	1746.5	1593.9	1446.5	1384.8	1350.5	1343.7
30°	7621.7	5532.5	1979.5	1585.4	1597.4	1549.4	1374.5	1326.6	1312.8	1294.0	1285.4
32.5°	7661.1	5157.1	1737.9	1475.7	1487.7	1330.0	1263.1	1270.0	1268.3	1244.3	1235.7
35°	7769.1	4792.1	1583.6	1376.3	1342.0	1191.2	1199.7	1220.3	1220.3	1191.2	1180.9
37.5°	7957.6	4452.7	1485.9	1292.3	1174.0	1119.2	1141.5	1168.9	1168.9	1148.3	1139.7
40°	8158.1	4121.9	1412.2	1225.4	1067.8	1069.5	1091.8	1112.3	1120.9	1124.3	1117.5
42.5°	8339.8	3779.1	1333.4	1153.5	1019.8	1031.8	1042.0	1057.5	1093.5	1117.5	1114.0
45°	8446.1	3434.6	1247.7	1064.3	987.2	992.3	988.9	1016.3	1059.2	1095.2	1095.2
47.5°	8543.8	3151.9	1177.4	975.2	954.6	954.6	944.4	971.8	1011.2	1054.0	1057.5
50°	8636.3	2968.5	1127.7	906.7	913.5	908.4	904.9	930.6	983.8	1035.2	1043.8
52.5°	8730.6	2906.8	1083.2	856.9	870.7	863.8	867.2	903.2	963.2	1016.3	1024.9
55°	8862.6	2946.2	1036.9	822.7	829.5	827.8	841.5	882.7	935.8	988.9	992.3
57.5°	9025.4	3090.2	997.5	797.0	790.1	800.4	822.7	862.1	913.5	976.9	982.1
58°	9057.9	3124.4	990.6	790.1	781.5	797.0	819.2	856.9	910.1	976.9	982.1
60°	9107.6	3246.1	973.5	776.4	752.4	779.8	807.2	845.0	903.2	985.5	995.8
62.5°	8867.7	3270.1	968.4	761.0	721.5	755.8	788.4	831.2	896.4	1014.6	1036.9
65°	8036.5	3023.3	932.4	735.3	695.8	737.0	771.3	821.0	916.9	1102.0	1112.3
67.5°	6451.1	2510.9	845.0	695.8	666.7	714.7	757.5	821.0	925.5	1115.7	1122.6
70°	4435.6	1887.0	735.3	653.0	632.4	687.3	752.4	839.8	896.4	1055.8	1035.2
72.5°	2317.2	1312.8	644.4	603.3	591.3	663.3	802.1	821.0	862.1	985.5	964.9
75°	1167.2	892.9	567.3	546.7	545.0	654.7	898.1	790.1	826.1	927.2	971.8
77.5°	689.0	699.3	505.6	493.6	502.2	639.3	899.8	759.3	785.0	853.5	901.5
80°	471.3	577.6	457.6	454.2	461.0	587.9	829.5	721.5	737.0	807.2	858.7
82.5°	265.7	318.8	401.1	423.3	419.9	481.6	716.4	656.4	675.3	954.6	1009.5
85°	128.5	192.0	335.9	395.9	358.2	320.5	582.7	582.7	587.9	683.8	692.4
87.5°	48.0	85.7	226.2	313.6	250.2	192.0	395.9	413.0	459.3	473.0	483.3
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)