

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: P196299

Luminaire Tested: **NAV-AF-03-D-UNV-T3-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196299
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-T3-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12212 lumens
Efficiency: N/A
Efficacy: 127.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 96
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

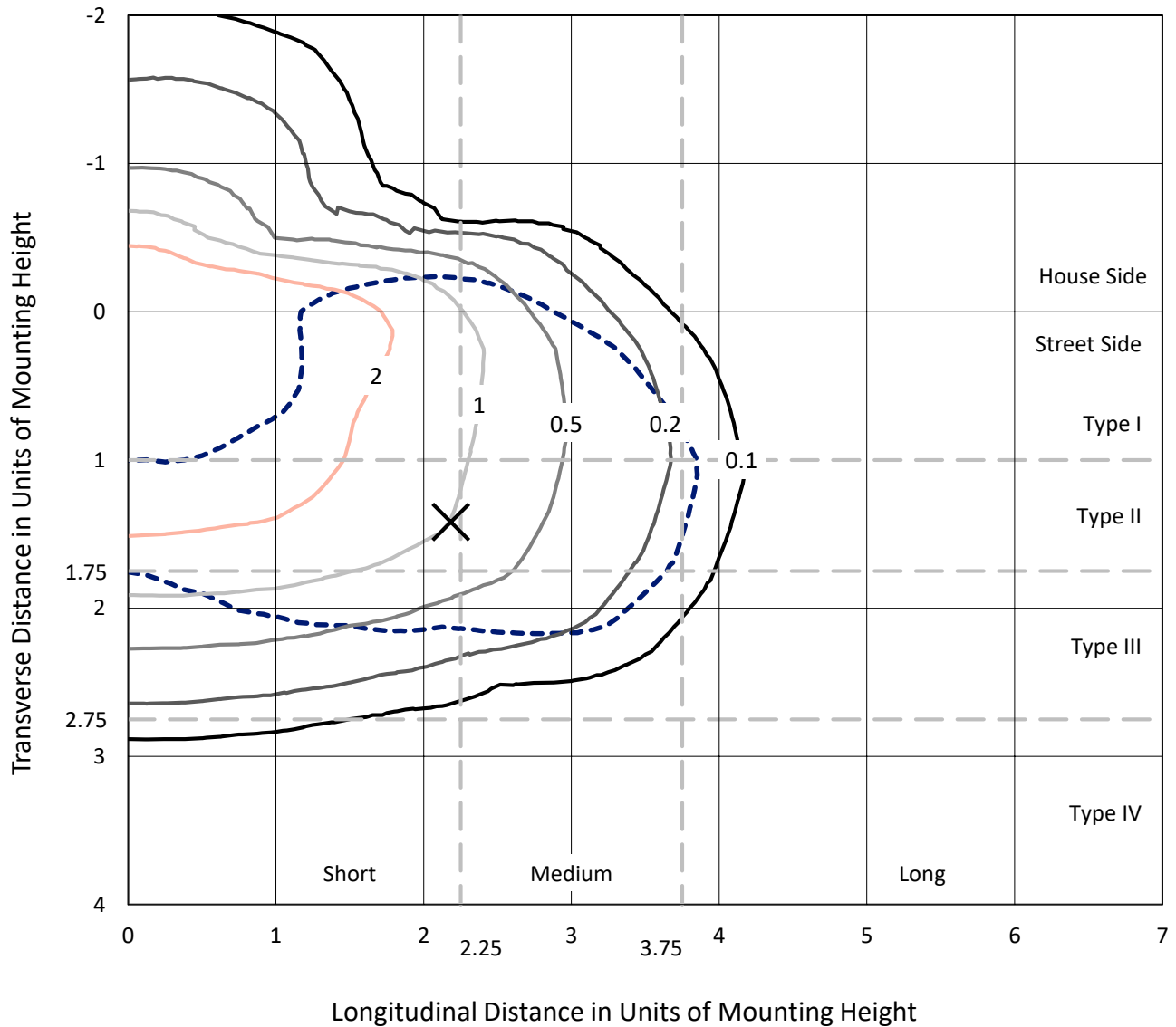


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Iso-Footcandle Lines of Horizontal Illumination

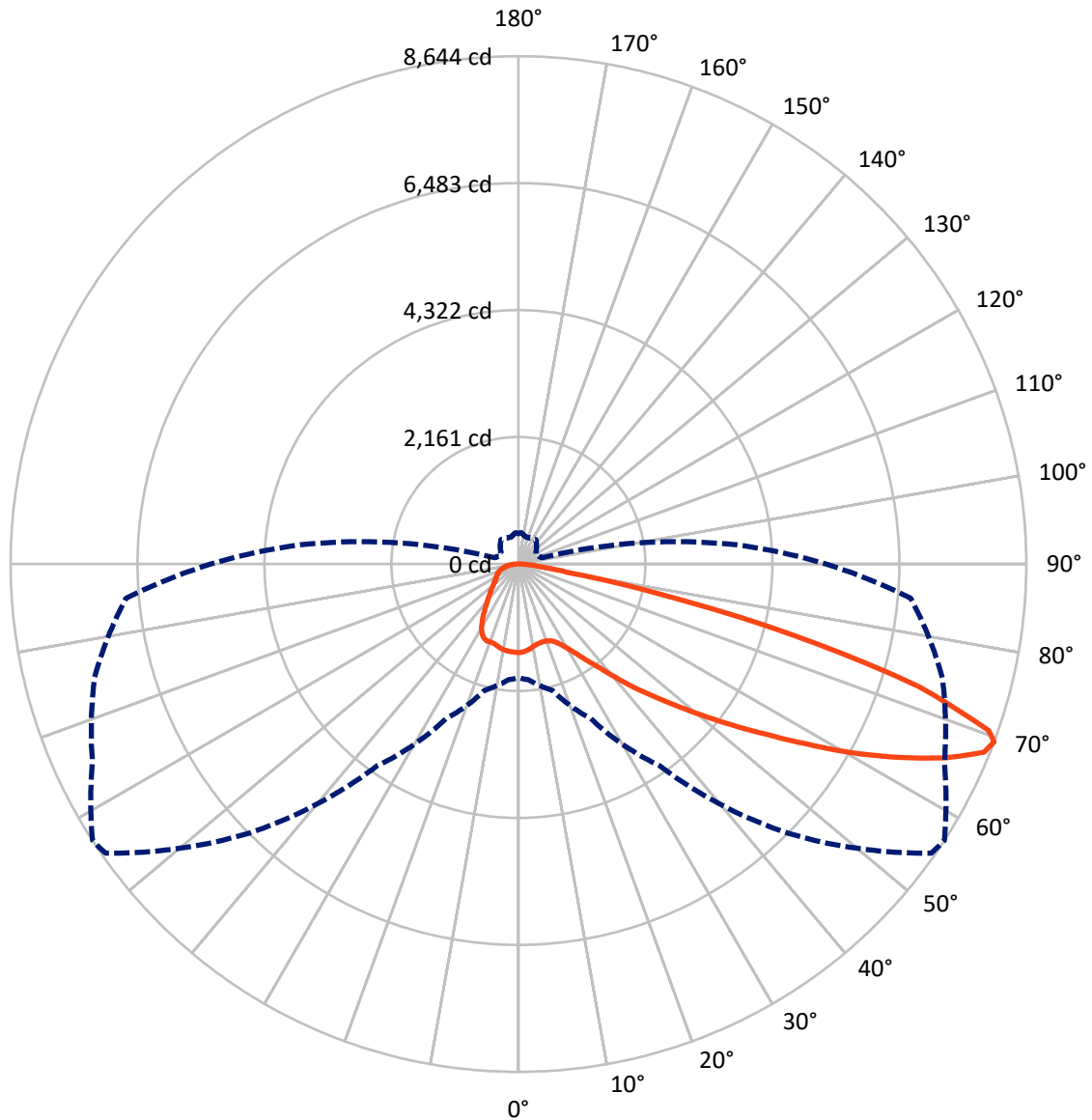
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.9 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2694.8	0.0	2694.8
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	9517.2	0.0	9517.2
	% Fixture	77.9	0.0	77.9
Total	Lumens	12212.0	0.0	12212.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.3	1.2
10°-20°	401.7	3.3
20°-30°	668.1	5.5
30°-40°	1091.0	8.9
40°-50°	1841.4	15.1
50°-60°	2864.5	23.5
60°-70°	3412.2	27.9
70°-80°	1589.6	13.0
80°-90°	202.2	1.7
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°	12212.0	100.0
0°-180°	12212.0	100.0



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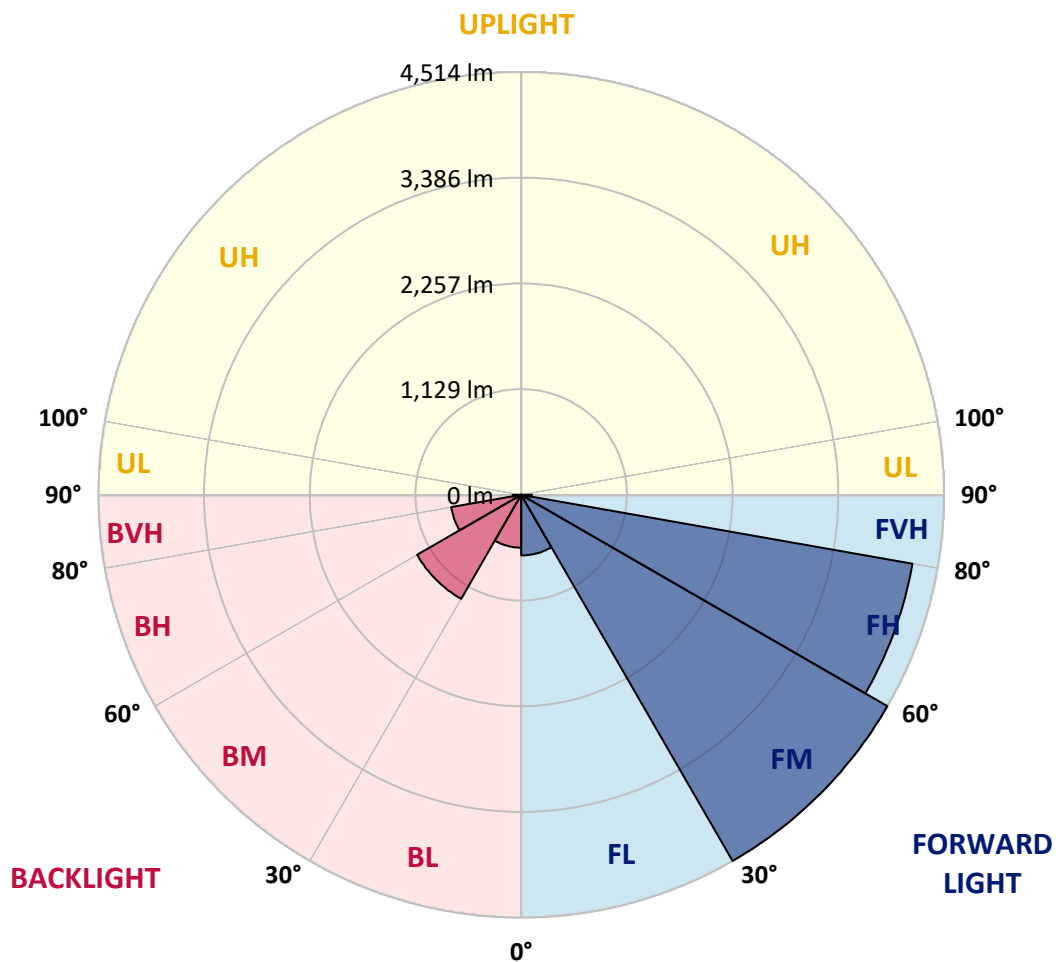
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	646.7	5.3			
FM	(30°-60°)	4514.4	37.0			
FH	(60°-80°)	4242.5	34.7			G2/5000
FVH	(80°-90°)	113.6	0.9			G2/225
BL	(0°-30°)	564.3	4.6	B2/1000		
BM	(30°-60°)	1282.5	10.5	B2/2500		
BH	(60°-80°)	759.3	6.2	B2/1000		G2/1000
BVH	(80°-90°)	88.5	0.7			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0
2.5°	1500.3	1500.3	1504.2	1504.2	1504.2	1502.6	1498.0	1499.5	1496.4	1494.0	1490.1
5°	1469.8	1471.4	1476.1	1477.7	1480.0	1480.7	1480.7	1480.0	1480.7	1480.7	1478.4
7.5°	1427.6	1429.2	1434.6	1437.8	1444.8	1451.1	1454.2	1454.2	1458.1	1461.2	1462.0
10°	1401.9	1401.9	1404.9	1404.9	1410.4	1413.5	1423.7	1422.9	1433.9	1444.0	1448.7
12.5°	1398.7	1398.7	1397.1	1391.6	1388.6	1387.7	1397.9	1399.5	1415.9	1433.9	1442.5
15°	1408.8	1408.8	1404.1	1393.2	1381.5	1376.0	1386.2	1389.3	1407.3	1428.3	1441.6
17.5°	1441.6	1440.9	1430.7	1408.8	1388.6	1380.0	1383.0	1386.2	1402.6	1426.8	1443.3
20°	1514.4	1514.4	1492.5	1452.6	1417.4	1397.1	1392.4	1394.8	1406.5	1429.2	1450.2
22.5°	1641.8	1644.2	1605.1	1539.4	1479.2	1436.2	1417.4	1419.8	1425.3	1447.2	1470.6
25°	1829.4	1823.2	1767.7	1674.7	1580.9	1507.3	1469.1	1471.4	1471.4	1491.7	1515.9
27.5°	2028.0	2029.6	1949.8	1849.8	1726.2	1616.8	1555.8	1555.0	1554.3	1573.8	1599.6
30°	2252.4	2253.2	2161.0	2045.3	1903.7	1763.8	1672.3	1671.5	1664.4	1688.7	1722.3
32.5°	2497.9	2497.1	2390.0	2259.5	2102.3	1943.6	1824.7	1824.0	1818.5	1851.3	1892.0
35°	2769.9	2769.9	2663.7	2502.6	2332.9	2156.3	2018.7	2017.9	2021.0	2065.5	2103.9
37.5°	3097.6	3104.6	2976.4	2780.9	2595.6	2407.2	2246.9	2242.2	2218.8	2293.9	2357.2
40°	3439.3	3458.8	3325.8	3097.6	2897.4	2702.7	2526.1	2522.9	2502.6	2582.3	2684.7
42.5°	3809.1	3853.6	3705.8	3472.8	3254.7	3044.4	2866.9	2858.3	2780.2	2904.5	3064.8
45°	4293.7	4322.7	4108.5	3897.3	3691.7	3451.7	3240.6	3194.5	3116.3	3275.8	3483.8
47.5°	4623.6	4609.6	4475.9	4334.4	4202.3	3972.4	3647.9	3589.3	3494.0	3705.0	3934.1
50°	4828.5	4838.7	4763.6	4756.6	4749.6	4589.3	4107.7	4037.3	3927.1	4177.2	4444.6
52.5°	4963.8	4917.6	4930.9	5090.4	5283.5	5206.9	4627.6	4549.4	4436.0	4686.2	4988.0
55°	4907.5	4846.5	4969.3	5283.5	5737.7	5754.9	5198.3	5117.8	5020.8	5227.3	5641.6
57.5°	4674.5	4705.0	4898.9	5335.9	6048.2	6245.9	5854.2	5772.2	5581.4	5790.9	6262.4
60°	4346.9	4408.7	4705.0	5253.1	6265.5	6628.2	6574.3	6519.6	6191.2	6339.7	6914.4
62.5°	3995.1	4056.1	4420.4	5111.5	6167.8	6966.8	7281.1	7247.5	6864.4	6868.3	7328.0
65°	3475.2	3500.2	3872.4	4725.3	5896.5	7272.5	7988.6	7958.9	7507.8	7319.4	7443.7
67.5°	2624.6	2655.9	2961.5	3730.1	5070.9	7106.7	8553.9	8549.2	7894.8	7486.7	7168.5
69°	1938.1	1976.4	2225.8	2895.9	4192.9	6475.0	8580.4	8643.8	7999.6	7469.5	6703.3
70°	1418.2	1462.0	1692.7	2298.6	3492.4	5777.6	8352.9	8489.0	7959.7	7360.8	6340.6
72.5°	602.8	617.7	731.0	1037.5	1771.6	3483.8	6841.7	7127.8	7188.8	6595.4	4953.6
75°	377.6	382.3	426.9	532.4	788.1	1440.9	4430.6	4820.7	5367.2	5117.0	3316.5
77.5°	284.6	288.5	314.3	366.6	489.4	537.9	2055.4	2451.0	3074.1	3010.0	1650.4
80°	218.1	220.4	237.6	266.6	344.7	337.0	666.9	838.1	1283.0	1132.1	584.0
82.5°	171.2	172.0	186.9	192.3	240.8	226.7	334.6	373.0	518.3	430.8	285.4
85°	151.7	154.1	168.9	140.8	154.1	136.8	183.7	199.4	275.2	259.5	107.9
87.5°	77.4	81.3	141.5	120.4	77.4	64.9	80.5	86.7	111.8	121.2	52.4
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°	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0	1509.0
2.5°	1491.0	1491.7	1494.0	1498.0	1504.2	1512.0	1521.4	1530.8	1536.3	1540.2	1538.6
5°	1478.4	1479.2	1483.9	1491.0	1498.7	1510.5	1526.1	1537.8	1546.4	1551.9	1551.1
7.5°	1462.8	1465.2	1474.5	1482.4	1493.3	1502.6	1515.2	1526.1	1534.7	1540.2	1539.4
10°	1451.1	1453.4	1465.2	1475.3	1484.7	1486.2	1483.9	1480.7	1480.0	1483.9	1482.4
12.5°	1445.5	1450.2	1461.2	1468.2	1464.4	1449.5	1432.3	1425.3	1422.9	1430.7	1431.5
15°	1447.2	1451.1	1460.5	1455.8	1434.6	1409.6	1400.2	1405.7	1410.4	1415.0	1415.9
17.5°	1451.1	1453.4	1455.8	1438.6	1408.8	1392.4	1389.3	1383.8	1369.7	1362.0	1361.1
20°	1458.1	1461.2	1457.3	1430.0	1403.4	1381.5	1344.0	1310.3	1278.3	1261.1	1254.0
22.5°	1482.4	1484.7	1472.9	1446.4	1405.7	1334.5	1258.7	1200.8	1151.6	1125.0	1114.9
25°	1530.0	1533.9	1517.5	1483.9	1377.6	1253.2	1146.1	1068.0	1006.2	974.2	965.6
27.5°	1613.7	1617.6	1599.6	1512.0	1311.9	1144.6	1014.8	937.4	884.2	856.8	852.9
30°	1738.8	1744.2	1727.9	1511.2	1211.8	1006.2	886.6	841.3	810.8	792.0	791.2
32.5°	1912.3	1932.7	1865.5	1484.7	1088.3	866.2	789.6	774.0	759.1	746.7	746.7
35°	2132.9	2180.5	2001.5	1429.2	952.3	770.9	735.7	720.9	702.1	688.8	687.2
37.5°	2396.3	2470.5	2098.4	1330.7	834.9	724.8	702.9	678.6	649.0	623.1	616.8
40°	2758.3	2775.5	2146.0	1170.4	747.4	699.7	672.4	641.9	604.4	575.4	572.3
42.5°	3121.8	3065.5	2136.7	998.4	697.3	677.1	641.1	607.4	573.9	549.6	549.6
45°	3535.4	3318.9	2065.5	825.6	652.0	651.2	612.1	580.1	554.3	536.3	532.4
47.5°	3931.0	3546.4	1942.8	698.2	605.2	625.4	593.4	567.6	544.1	526.9	523.9
50°	4411.1	3809.8	1812.3	609.1	559.8	602.8	585.5	572.3	549.6	519.9	516.8
52.5°	4888.0	4117.9	1711.4	541.8	519.9	584.8	590.2	591.9	570.7	512.9	508.9
55°	5400.1	4447.0	1605.1	489.4	487.0	576.2	601.2	599.7	589.5	514.4	508.2
57.5°	5887.1	4777.7	1446.4	452.7	461.2	567.6	603.5	578.6	560.6	522.2	512.1
60°	6290.5	5051.3	1213.4	426.9	439.4	550.4	587.9	550.4	519.9	520.7	511.3
62.5°	6486.7	5128.0	928.0	397.2	421.4	522.2	565.3	529.3	501.1	523.9	518.3
65°	6337.4	4909.9	661.4	369.8	399.5	489.4	552.0	511.3	491.7	539.5	533.2
67.5°	5801.1	4315.6	480.1	345.6	378.4	455.8	526.9	494.9	482.4	551.2	537.2
69°	5231.2	3726.1	415.9	331.5	363.6	437.8	510.6	486.3	475.4	534.8	514.4
70°	4757.3	3271.9	383.9	322.8	351.1	427.7	498.0	480.8	468.3	515.3	491.0
72.5°	3411.0	2114.8	322.8	297.1	318.2	405.0	470.7	460.5	441.7	465.1	449.6
75°	2060.8	1104.0	274.5	270.5	283.8	373.7	438.6	426.1	407.3	409.7	401.8
77.5°	946.7	509.7	229.9	239.3	247.9	334.6	399.5	385.4	368.3	362.0	362.7
80°	415.1	297.9	192.3	204.1	208.8	301.0	357.3	341.7	322.8	356.5	330.7
82.5°	224.3	172.8	150.1	157.9	171.2	261.9	310.4	290.0	272.1	316.6	255.6
85°	90.7	88.4	101.7	109.5	118.9	188.4	259.5	238.4	216.6	193.8	189.2
87.5°	39.1	42.2	50.0	53.2	63.3	117.2	174.3	152.4	153.2	131.3	129.0
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)