

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: P196796

Luminaire Tested: **NAV-AF-02-D-UNV-T3-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196796
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-02-D-UNV-T3-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12927.5 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

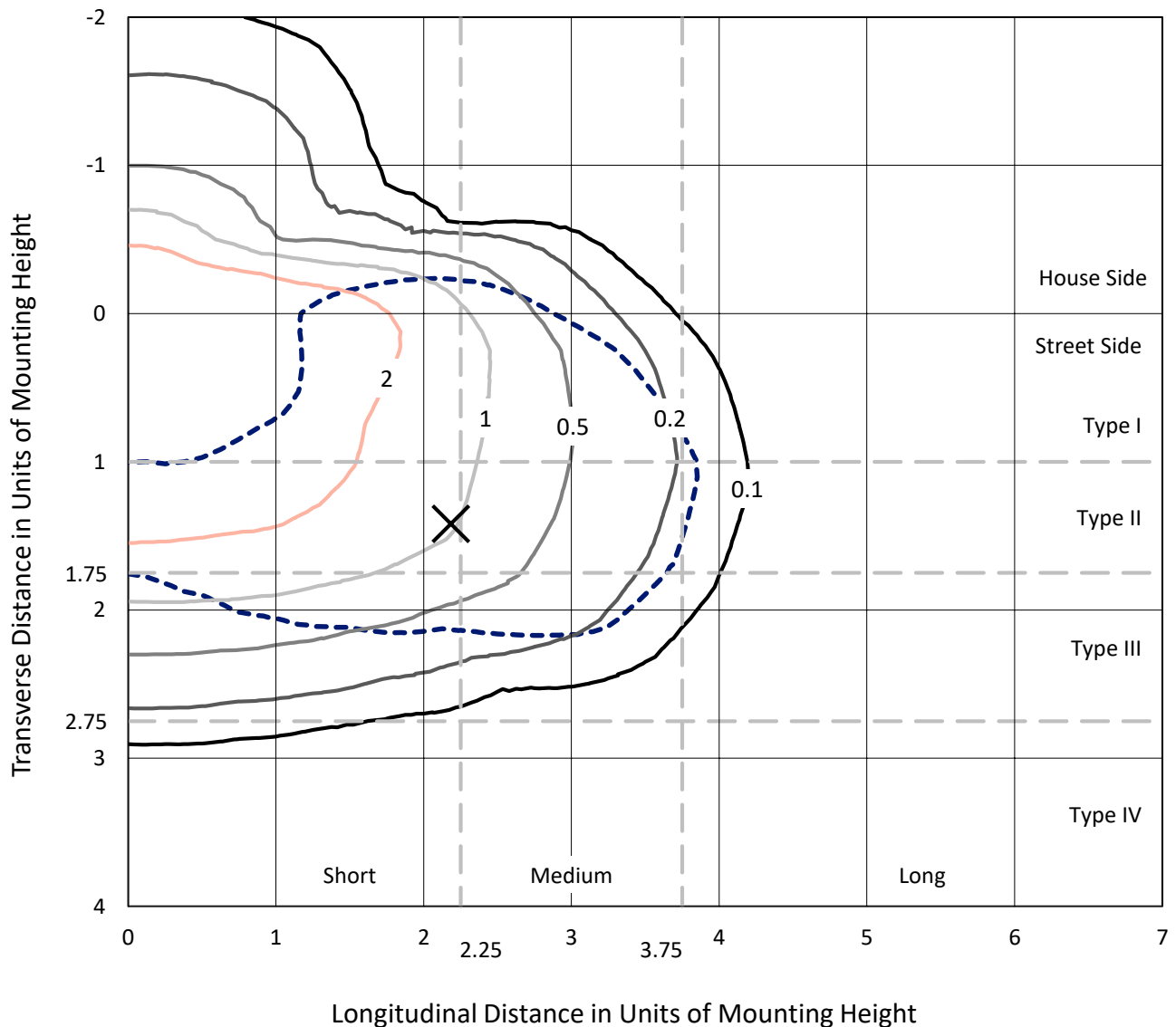
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

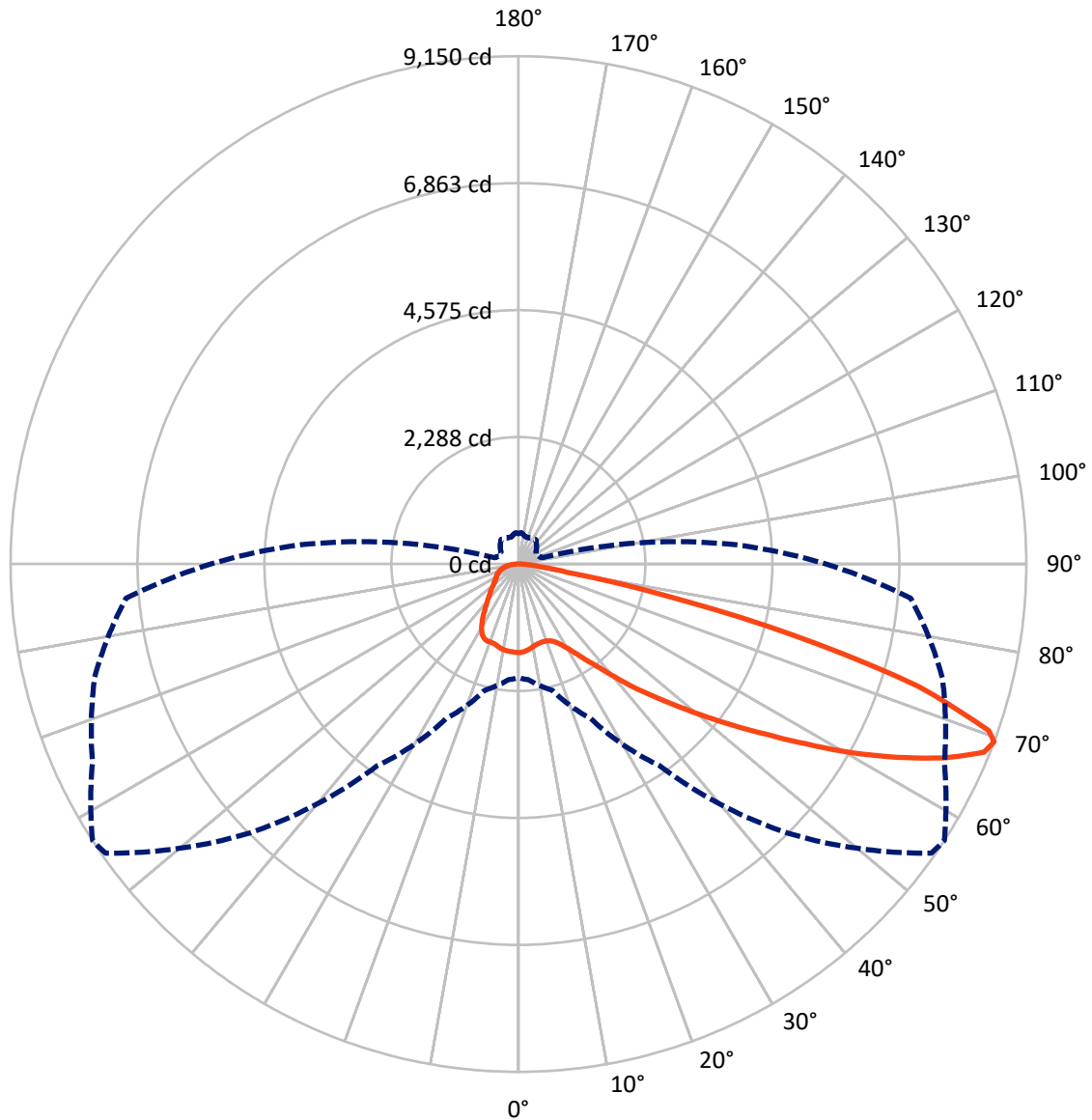
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.1 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	2852.6	0.0	2852.6
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	10074.9	0.0	10074.9
	% Fixture	77.9	0.0	77.9
Total	Lumens	12927.5	0.0	12927.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.5	1.2
10°-20°	425.2	3.3
20°-30°	707.3	5.5
30°-40°	1155.0	8.9
40°-50°	1949.3	15.1
50°-60°	3032.3	23.5
60°-70°	3612.1	27.9
70°-80°	1682.8	13.0
80°-90°	214.0	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°	12927.5	100.0
0°-180°	12927.5	100.0

Coefficient of Utilization



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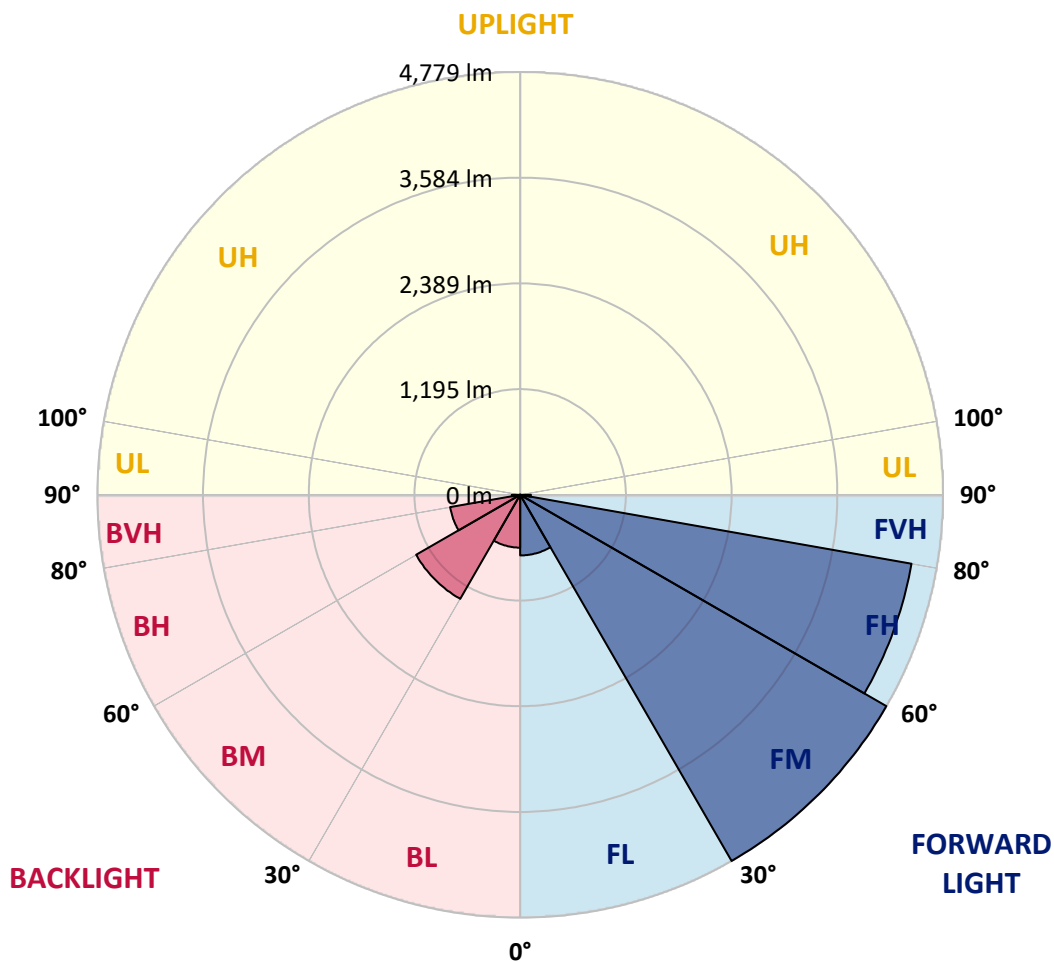
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	684.6	5.3			
FM	(30°-60°)	4778.9	37.0			
FH	(60°-80°)	4491.1	34.7			G2/5000
FVH	(80°-90°)	120.3	0.9			G2/225
BL	(0°-30°)	597.4	4.6	B2/1000		
BM	(30°-60°)	1357.7	10.5	B2/2500		
BH	(60°-80°)	803.8	6.2	B2/1000		G2/1000
BVH	(80°-90°)	93.7	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°	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4
2.5°	1588.2	1588.2	1592.4	1592.4	1592.4	1590.7	1585.8	1587.4	1584.0	1581.6	1577.4
5°	1556.0	1557.6	1562.5	1564.3	1566.7	1567.6	1567.6	1566.7	1567.6	1567.6	1565.0
7.5°	1511.3	1512.9	1518.7	1522.0	1529.4	1536.0	1539.4	1539.4	1543.5	1546.9	1547.6
10°	1484.0	1484.0	1487.2	1487.2	1493.0	1496.3	1507.1	1506.2	1517.8	1528.6	1533.6
12.5°	1480.7	1480.7	1479.0	1473.2	1469.9	1469.0	1479.8	1481.4	1498.8	1517.8	1527.0
15°	1491.4	1491.4	1486.5	1474.9	1462.4	1456.7	1467.4	1470.7	1489.8	1512.0	1526.2
17.5°	1526.2	1525.4	1514.6	1491.4	1469.9	1460.8	1464.1	1467.4	1484.8	1510.4	1527.8
20°	1603.2	1603.2	1580.0	1537.8	1500.4	1479.0	1474.0	1476.5	1488.8	1512.9	1535.2
22.5°	1738.0	1740.5	1699.1	1629.6	1565.9	1520.4	1500.4	1503.0	1508.8	1532.0	1556.7
25°	1936.6	1930.1	1871.3	1772.7	1673.5	1595.6	1555.1	1557.6	1557.6	1579.2	1604.8
27.5°	2146.8	2148.5	2064.1	1958.2	1827.4	1711.5	1647.0	1646.2	1645.3	1665.9	1693.3
30°	2384.4	2385.2	2287.6	2165.1	2015.3	1867.1	1770.3	1769.5	1762.1	1787.7	1823.3
32.5°	2644.3	2643.4	2530.1	2391.9	2225.5	2057.5	1931.7	1930.8	1925.0	1959.8	2002.8
35°	2932.3	2932.3	2819.8	2649.2	2469.7	2282.7	2136.9	2136.1	2139.4	2186.6	2227.1
37.5°	3279.1	3286.5	3150.8	2943.9	2747.8	2548.3	2378.6	2373.6	2348.8	2428.3	2495.3
40°	3640.7	3661.4	3520.8	3279.1	3067.2	2861.1	2674.1	2670.8	2649.2	2733.6	2842.1
42.5°	4032.2	4079.4	3923.0	3676.3	3445.4	3222.8	3034.9	3025.8	2943.0	3074.7	3244.4
45°	4545.3	4576.0	4349.2	4125.7	3908.1	3653.9	3430.5	3381.7	3299.0	3467.8	3687.9
47.5°	4894.6	4879.7	4738.1	4588.4	4448.5	4205.2	3861.8	3799.6	3698.7	3922.2	4164.6
50°	5111.4	5122.2	5042.8	5035.3	5027.9	4858.2	4348.4	4273.9	4157.2	4422.0	4705.0
52.5°	5254.6	5205.7	5219.9	5388.6	5593.1	5512.0	4898.7	4815.9	4696.0	4960.8	5280.3
55°	5195.1	5130.5	5260.4	5593.1	6073.9	6092.2	5503.0	5417.6	5315.0	5533.6	5972.2
57.5°	4948.4	4980.7	5185.9	5648.6	6402.6	6612.0	6197.3	6110.5	5908.4	6130.2	6629.3
60°	4601.7	4667.0	4980.7	5560.9	6632.6	7016.6	6959.5	6901.6	6554.0	6711.2	7319.6
62.5°	4229.2	4293.8	4679.5	5411.1	6529.3	7375.0	7707.7	7672.0	7266.7	7270.7	7757.4
65°	3678.9	3705.3	4099.3	5002.2	6242.0	7698.6	8456.7	8425.3	7947.7	7748.2	7879.9
67.5°	2778.4	2811.5	3135.0	3948.6	5368.0	7523.1	9055.1	9050.2	8357.5	7925.3	7588.5
69°	2051.7	2092.2	2356.2	3065.5	4438.5	6854.4	9083.3	9150.3	8468.3	7907.2	7096.1
70°	1501.3	1547.6	1791.9	2433.2	3697.0	6116.3	8842.4	8986.3	8426.1	7792.2	6712.2
72.5°	638.1	653.8	773.9	1098.3	1875.4	3687.9	7242.6	7545.6	7610.0	6981.8	5243.9
75°	399.8	404.7	451.9	563.7	834.3	1525.4	4690.2	5103.2	5681.7	5416.8	3510.8
77.5°	301.2	305.4	332.7	388.2	518.1	569.5	2175.8	2594.6	3254.3	3186.3	1747.2
80°	230.9	233.4	251.7	282.2	365.0	356.7	706.0	887.1	1358.1	1198.3	618.2
82.5°	181.3	182.0	197.8	203.5	254.9	240.1	354.2	394.8	548.7	456.0	302.1
85°	160.6	163.1	178.7	148.9	163.1	144.9	194.5	211.1	291.2	274.8	114.1
87.5°	82.0	86.1	149.8	127.5	82.0	68.8	85.2	91.9	118.3	128.3	55.5
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°	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4	1597.4
2.5°	1578.2	1579.2	1581.6	1585.8	1592.4	1600.6	1610.6	1620.6	1626.4	1630.4	1628.7
5°	1565.0	1565.9	1570.8	1578.2	1586.6	1599.0	1615.5	1628.0	1637.0	1642.8	1642.0
7.5°	1548.5	1550.9	1560.9	1569.2	1580.8	1590.7	1603.9	1615.5	1624.6	1630.4	1629.6
10°	1536.0	1538.6	1550.9	1561.8	1571.7	1573.4	1570.8	1567.6	1566.7	1570.8	1569.2
12.5°	1530.2	1535.2	1546.9	1554.3	1550.2	1534.4	1516.2	1508.8	1506.2	1514.6	1515.4
15°	1532.0	1536.0	1546.0	1541.0	1518.7	1492.3	1482.3	1488.1	1493.0	1498.1	1498.8
17.5°	1536.0	1538.6	1541.0	1522.8	1491.4	1474.0	1470.7	1464.9	1450.0	1441.7	1440.9
20°	1543.5	1546.9	1542.7	1513.8	1485.6	1462.4	1422.7	1387.1	1353.1	1334.9	1327.5
22.5°	1569.2	1571.7	1559.2	1531.2	1488.1	1412.7	1332.5	1271.2	1219.2	1190.9	1180.2
25°	1619.7	1623.8	1606.4	1570.8	1458.3	1326.7	1213.4	1130.5	1065.2	1031.2	1022.1
27.5°	1708.3	1712.4	1693.3	1600.6	1388.8	1211.6	1074.2	992.3	936.1	907.1	902.9
30°	1840.7	1846.5	1829.1	1599.8	1282.8	1065.2	938.5	890.6	858.2	838.3	837.6
32.5°	2024.3	2045.9	1974.8	1571.7	1152.0	917.0	836.0	819.3	803.6	790.4	790.4
35°	2257.8	2308.2	2118.7	1512.9	1008.0	816.0	778.8	763.0	743.2	729.2	727.4
37.5°	2536.7	2615.3	2221.3	1408.7	883.9	767.2	744.0	718.4	686.9	659.6	653.1
40°	2919.9	2938.1	2271.8	1239.0	791.2	740.8	711.8	679.5	639.7	609.1	605.9
42.5°	3304.8	3245.1	2261.8	1056.9	738.3	716.7	678.6	643.1	607.5	581.8	581.8
45°	3742.5	3513.3	2186.6	874.0	690.2	689.4	648.0	614.1	586.8	567.7	563.7
47.5°	4161.3	3754.1	2056.7	739.0	640.6	662.1	628.1	600.8	576.1	557.8	554.5
50°	4669.5	4033.1	1918.5	644.7	592.6	638.1	619.9	605.9	581.8	550.3	547.1
52.5°	5174.3	4359.1	1811.6	573.5	550.3	619.1	624.9	626.5	604.2	542.9	538.7
55°	5716.5	4707.6	1699.1	518.1	515.6	610.0	636.4	634.8	624.0	544.5	538.0
57.5°	6232.0	5057.6	1531.2	479.2	488.3	600.8	638.9	612.4	593.4	552.9	542.2
60°	6659.2	5347.3	1284.5	451.9	465.1	582.7	622.3	582.7	550.3	551.2	541.3
62.5°	6866.8	5428.4	982.4	420.4	446.1	552.9	598.4	560.3	530.6	554.5	548.7
65°	6708.7	5197.5	700.2	391.4	423.0	518.1	584.3	541.3	520.6	571.1	564.5
67.5°	6141.0	4568.5	508.2	365.8	400.6	482.5	557.8	523.9	510.7	583.5	568.5
69°	5537.7	3944.5	440.4	350.9	384.8	463.5	540.4	514.8	503.2	566.1	544.5
70°	5036.1	3463.6	406.3	341.8	371.6	452.7	527.1	509.0	495.7	545.4	519.7
72.5°	3610.9	2238.7	341.8	314.4	336.8	428.8	498.2	487.6	467.6	492.4	476.0
75°	2181.6	1168.6	290.5	286.4	300.5	395.6	464.4	451.0	431.2	433.6	425.4
77.5°	1002.2	539.6	243.3	253.3	262.3	354.2	423.0	408.0	389.8	383.2	384.0
80°	439.4	315.3	203.5	216.0	221.0	318.6	378.2	361.6	341.8	377.4	350.0
82.5°	237.5	182.9	158.9	167.1	181.3	277.3	328.6	307.0	288.0	335.2	270.6
85°	96.0	93.5	107.6	115.9	125.7	199.5	274.8	252.4	229.2	205.3	200.3
87.5°	41.4	44.7	53.0	56.3	67.0	124.1	184.5	161.3	162.2	139.1	136.6
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)