

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: P196844

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196844
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13025.9 lumens
Efficiency: N/A
Efficacy: 101.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

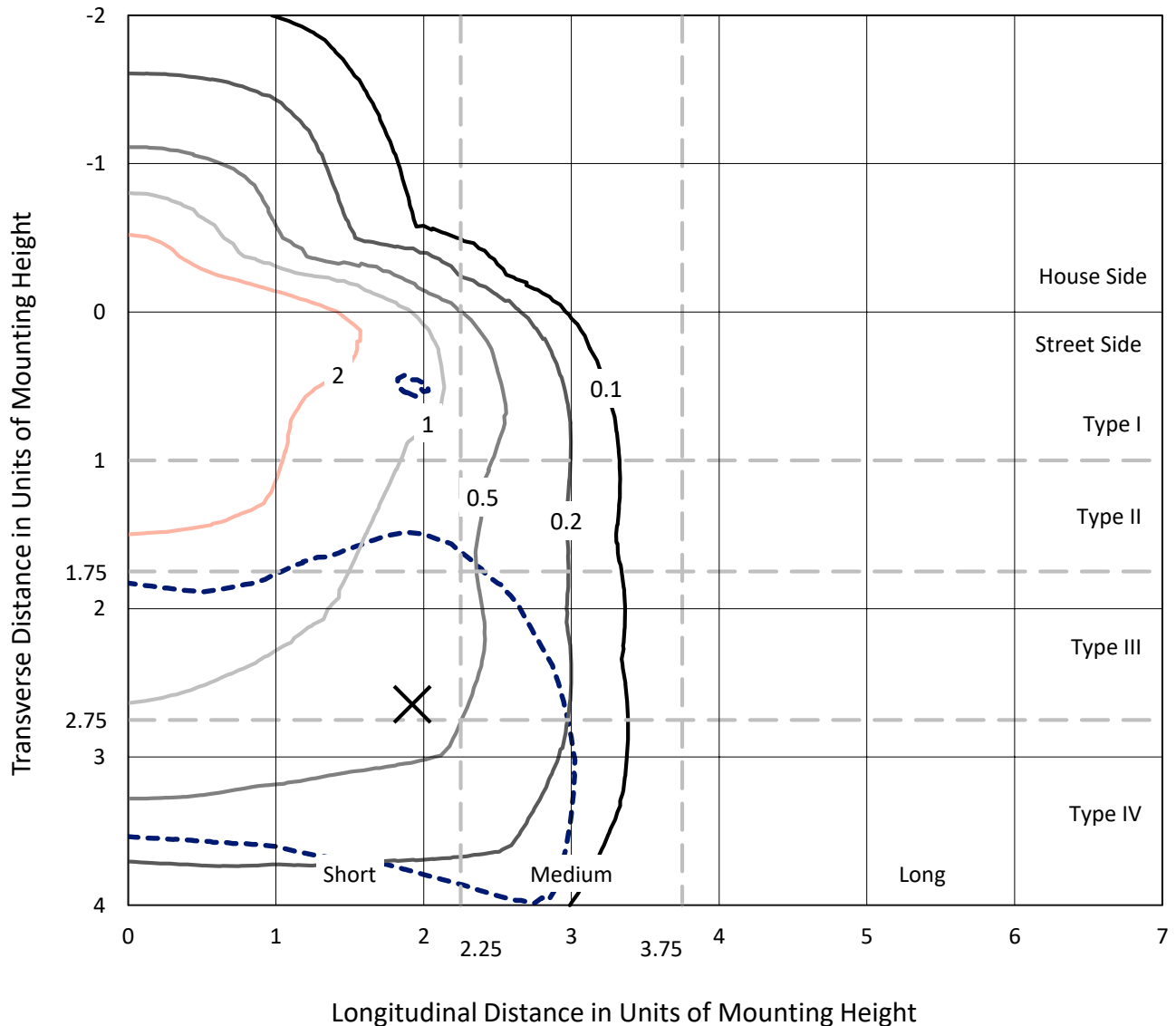
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

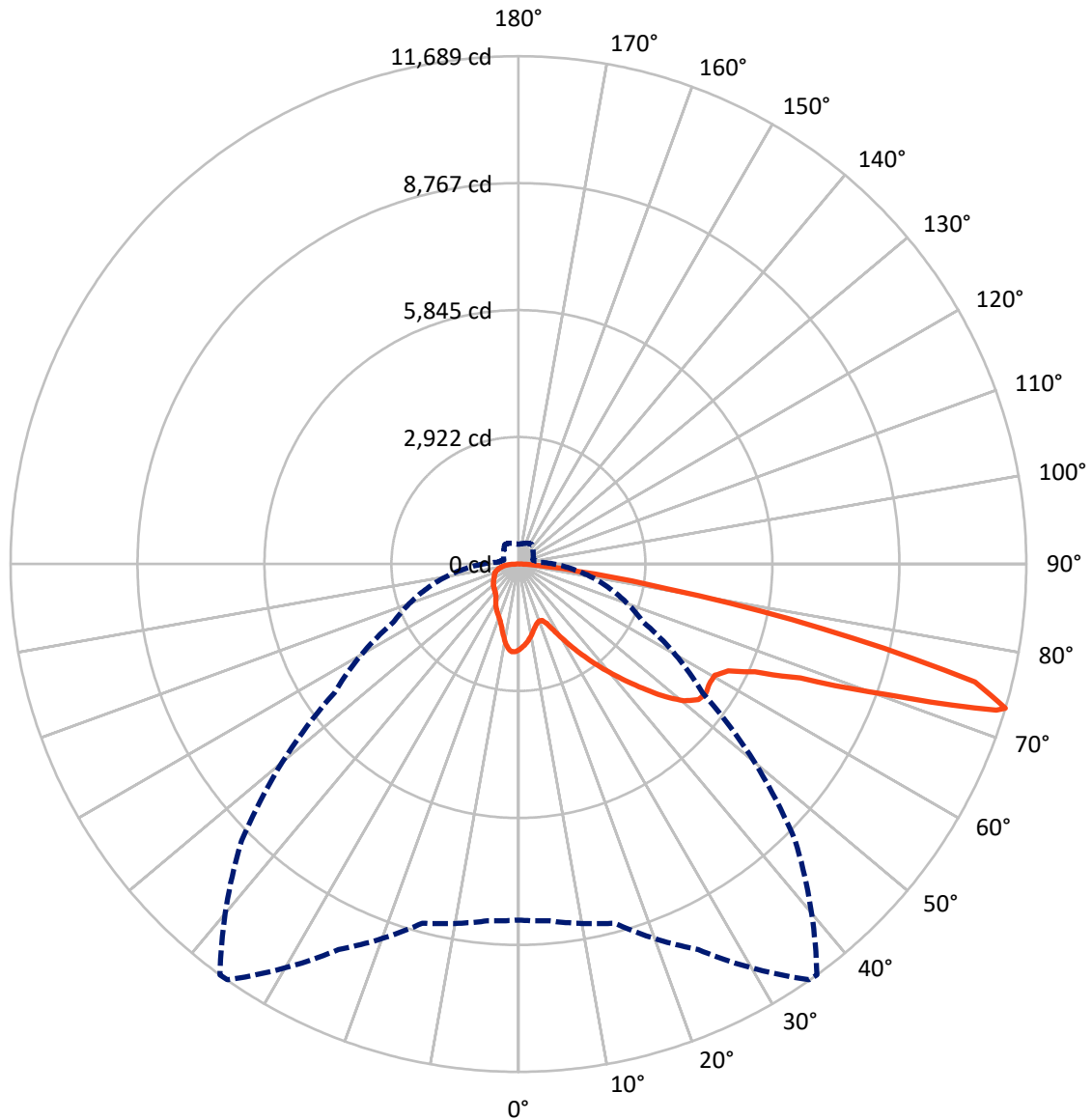
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2511.8	0.0	2511.8
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	10514.1	0.0	10514.1
	% Fixture	80.7	0.0	80.7
Total	Lumens	13025.9	0.0	13025.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.2	1.4
10°-20°	450.1	3.5
20°-30°	721.6	5.5
30°-40°	1193.6	9.2
40°-50°	1847.0	14.2
50°-60°	2472.5	19.0
60°-70°	3229.9	24.8
70°-80°	2638.3	20.3
80°-90°	293.7	2.3
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°	13025.9	100.0
0°-180°	13025.9	100.0



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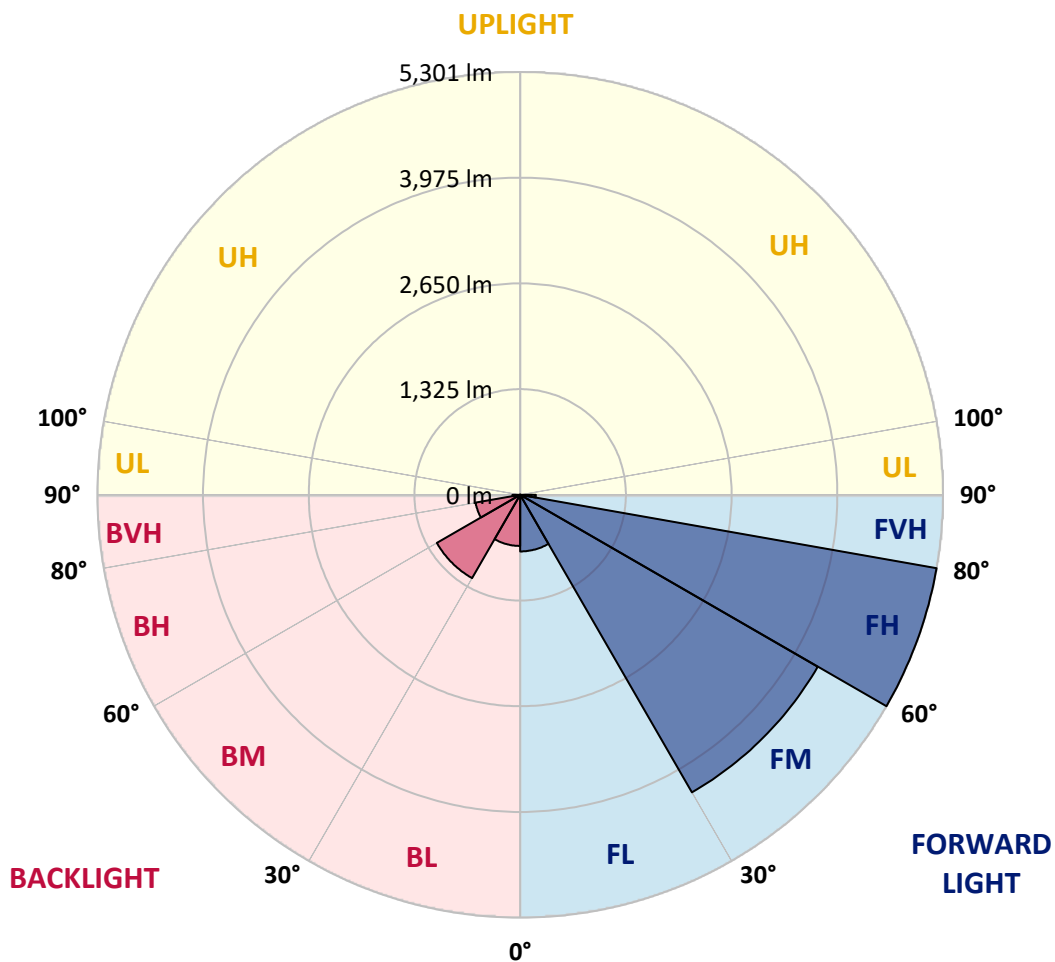
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	709.8	5.4			
FM (30°-60°)	4306.8	33.1			
FH (60°-80°)	5300.6	40.7			G3/7500
FVH (80°-90°)	196.9	1.5			G2/225
BL (0°-30°)	641.2	4.9	B2/1000		
BM (30°-60°)	1206.3	9.3	B2/2500		
BH (60°-80°)	567.6	4.4	B2/1000		G2/1000
BVH (80°-90°)	96.7	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0
2.5°	1897.8	1902.7	1903.6	1909.3	1909.3	1908.5	1911.0	1920.9	1925.9	1937.5	1947.4
5°	1804.2	1810.0	1812.5	1822.5	1834.8	1835.7	1844.8	1863.8	1882.0	1907.6	1929.2
7.5°	1699.1	1705.7	1712.3	1733.1	1751.2	1752.8	1770.3	1800.9	1824.8	1856.4	1895.2
10°	1597.3	1599.0	1605.6	1632.2	1656.1	1658.5	1683.3	1718.1	1750.5	1794.2	1838.2
12.5°	1513.7	1518.7	1517.1	1536.8	1557.6	1559.2	1592.4	1636.1	1683.3	1733.1	1785.2
15°	1484.8	1484.0	1466.6	1465.7	1474.8	1476.4	1508.8	1560.1	1613.0	1674.3	1741.3
17.5°	1504.6	1498.0	1452.5	1424.3	1418.5	1420.2	1444.2	1500.4	1556.7	1627.1	1707.4
20°	1613.9	1588.2	1481.4	1413.6	1394.5	1394.5	1408.6	1454.1	1516.2	1598.1	1699.1
22.5°	1872.9	1833.2	1605.6	1484.8	1417.7	1411.1	1400.3	1435.1	1503.7	1602.3	1733.1
25°	2199.0	2179.9	1833.2	1674.3	1536.0	1514.6	1443.4	1455.8	1529.4	1647.0	1825.7
27.5°	2501.1	2467.9	2131.9	1949.8	1754.6	1721.5	1570.8	1520.4	1590.7	1729.7	1959.8
30°	2677.4	2655.0	2439.0	2265.2	2032.7	1990.3	1774.4	1647.7	1700.0	1866.2	2150.1
32.5°	2869.3	2856.1	2746.9	2588.8	2333.9	2285.0	2037.5	1855.5	1867.1	2047.5	2379.4
35°	3055.6	3072.9	3010.8	2895.1	2658.3	2612.8	2391.0	2127.0	2073.2	2251.2	2624.4
37.5°	3279.0	3283.1	3244.2	3168.9	2999.2	2962.0	2779.1	2416.6	2297.5	2467.9	2861.1
40°	3725.0	3659.7	3507.4	3447.9	3346.9	3323.6	3115.2	2682.4	2506.1	2690.6	3084.5
42.5°	4207.6	4105.9	3867.4	3769.8	3729.2	3707.7	3394.9	2859.5	2701.3	2913.2	3303.9
45°	4596.6	4513.8	4280.4	4159.6	4164.5	4129.8	3639.0	3017.5	2913.2	3136.8	3548.8
47.5°	4979.8	4841.6	4580.0	4562.6	4620.6	4569.3	3872.4	3175.6	3134.2	3380.1	3793.8
50°	5004.6	4878.9	4772.9	4912.0	5011.2	4947.5	4084.3	3382.4	3363.4	3674.6	4110.0
52.5°	4702.5	4684.3	4845.7	5079.9	5244.7	5187.5	4257.3	3595.1	3597.7	4042.9	4494.8
55°	4592.5	4569.3	4762.9	5050.9	5273.6	5239.6	4386.4	3835.2	3857.5	4489.8	4907.8
57.5°	4777.8	4719.9	4758.0	4996.3	5205.7	5185.9	4520.5	4101.7	4142.2	5004.6	5289.3
60°	5353.0	5234.7	5032.7	5077.4	5208.2	5196.6	4712.5	4398.8	4466.6	5540.9	5530.9
62.5°	6214.5	6080.5	5669.1	5470.6	5441.5	5419.3	5029.4	4763.8	4797.7	5928.2	5390.3
65°	7159.8	7015.7	6526.6	6201.3	6030.9	5982.8	5540.9	5204.0	4991.4	5927.5	4842.4
67.5°	8220.7	8068.5	7581.0	7270.6	7086.1	7004.2	6371.0	5559.9	4928.4	5425.9	3874.9
70°	9307.4	9162.6	8939.1	9047.5	9128.6	9003.6	7678.6	5678.3	4476.6	4254.0	2602.0
72.5°	8730.6	8719.0	8888.7	9916.5	11479.9	11504.8	8984.6	5344.0	3458.6	2528.4	1387.0
73°	8195.1	8243.9	8558.4	9788.2	11681.0	11689.3	9010.3	5170.9	3175.6	2178.3	1218.2
75°	4245.7	4576.8	5743.6	7936.8	10816.1	10855.0	7942.7	3914.6	1892.8	1209.9	821.0
77.5°	1137.2	1122.2	1850.6	3866.6	7211.0	7159.8	5018.8	1895.2	907.1	759.0	576.1
80°	389.8	394.8	629.8	1414.4	3366.0	3485.9	2178.3	826.8	596.7	528.9	408.0
82.5°	198.7	205.3	329.4	601.7	1407.8	1378.0	701.0	486.6	399.8	321.1	228.5
85°	106.0	109.3	181.3	312.1	516.5	522.3	246.6	259.8	254.0	182.0	112.5
87.5°	52.1	53.7	86.9	137.3	191.2	184.5	86.1	112.5	125.0	102.6	62.1
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°	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0	1973.0
2.5°	1959.8	1959.8	1970.6	1988.7	2001.9	2014.4	2022.7	2035.9	2043.3	2042.6	2041.7
5°	1946.6	1954.8	1976.4	1998.7	2013.6	2023.5	2023.5	2029.3	2029.3	2026.9	2023.5
7.5°	1916.0	1929.9	1961.4	1981.3	1985.5	1974.8	1953.2	1936.6	1916.0	1905.2	1901.0
10°	1867.1	1885.3	1925.0	1934.1	1912.6	1874.6	1822.5	1777.7	1738.0	1719.7	1714.0
12.5°	1819.0	1843.1	1880.4	1866.2	1815.1	1740.5	1660.2	1599.0	1554.3	1536.8	1531.0
15°	1779.4	1808.4	1837.3	1793.5	1704.1	1600.6	1512.0	1455.0	1421.0	1407.8	1404.4
17.5°	1752.8	1786.8	1796.8	1714.9	1590.7	1474.8	1396.3	1358.9	1344.1	1338.2	1336.6
20°	1754.6	1792.6	1768.6	1638.7	1481.4	1364.7	1312.6	1301.9	1301.9	1301.9	1301.1
22.5°	1800.0	1833.2	1757.0	1567.6	1376.3	1272.0	1249.7	1258.7	1265.4	1265.4	1264.5
25°	1894.4	1912.6	1765.3	1498.8	1277.9	1191.8	1192.6	1209.9	1215.7	1215.7	1214.1
27.5°	2038.4	2023.5	1780.2	1422.7	1181.0	1119.0	1130.5	1146.2	1150.4	1147.9	1147.1
30°	2218.8	2159.3	1792.6	1333.3	1090.0	1051.1	1061.0	1070.0	1066.8	1061.0	1060.2
32.5°	2420.7	2297.5	1785.2	1233.1	1009.7	980.7	986.5	991.5	986.5	972.4	972.4
35°	2621.0	2422.4	1744.7	1124.0	945.9	912.9	912.0	927.7	926.9	910.3	911.2
37.5°	2796.5	2520.9	1665.9	1023.8	891.3	863.2	866.5	876.5	881.4	859.1	856.6
40°	2949.7	2588.8	1555.1	938.5	847.6	849.2	839.9	824.4	818.5	808.6	806.9
42.5°	3093.6	2636.0	1437.6	867.3	825.1	844.1	813.6	776.3	760.6	769.7	775.5
45°	3235.1	2689.0	1324.2	808.6	797.0	829.3	787.1	745.7	727.4	731.6	737.4
47.5°	3408.2	2762.6	1187.6	745.7	754.0	802.0	770.5	725.8	698.5	682.0	677.0
50°	3635.7	2869.3	1010.5	677.9	708.4	772.1	756.4	696.8	667.0	633.9	625.7
52.5°	3920.4	2970.3	831.8	623.3	671.2	746.5	733.2	672.1	635.6	595.9	589.2
55°	4204.3	2984.4	677.9	576.1	629.0	711.8	705.2	652.2	600.8	568.5	561.9
57.5°	4402.9	2851.1	574.3	536.3	588.5	668.6	679.5	628.1	571.9	547.1	542.9
60°	4406.2	2532.5	511.5	509.8	557.8	631.5	653.1	600.1	553.7	537.1	533.8
62.5°	4056.1	2040.9	470.9	489.9	535.5	600.8	633.1	584.3	549.6	542.9	539.6
65°	3399.8	1507.9	438.6	471.8	514.8	575.1	616.6	579.3	547.9	545.4	542.9
67.5°	2510.1	1033.7	411.4	448.6	491.5	548.7	600.8	571.9	538.0	547.9	544.5
70°	1579.2	690.2	385.6	422.1	461.0	518.1	580.1	558.7	525.5	519.7	509.0
72.5°	891.3	499.1	355.1	388.2	421.3	477.6	552.0	536.3	497.3	474.1	463.5
73°	805.2	472.5	347.6	379.9	412.1	469.3	545.4	529.7	489.2	463.5	453.5
75°	589.2	386.4	313.7	346.0	374.1	431.1	513.9	496.6	452.7	422.1	415.5
77.5°	427.1	297.9	269.8	298.9	323.6	378.2	466.7	446.9	403.9	387.4	380.7
80°	307.9	225.9	223.4	251.7	273.1	328.6	416.3	395.6	354.2	403.0	392.2
82.5°	183.8	144.9	163.9	195.3	217.7	275.6	361.6	337.7	297.9	301.2	256.5
85°	87.7	82.0	101.8	128.3	144.0	188.7	301.2	282.2	238.4	195.3	191.2
87.5°	38.9	37.2	48.8	57.2	76.9	113.4	206.1	182.9	172.9	103.5	81.1
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)