

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: P196305

Luminaire Tested: **NAV-AF-03-D-UNV-T3-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196305
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-T3-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14975 lumens
Efficiency: N/A
Efficacy: 120.8 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 - G3

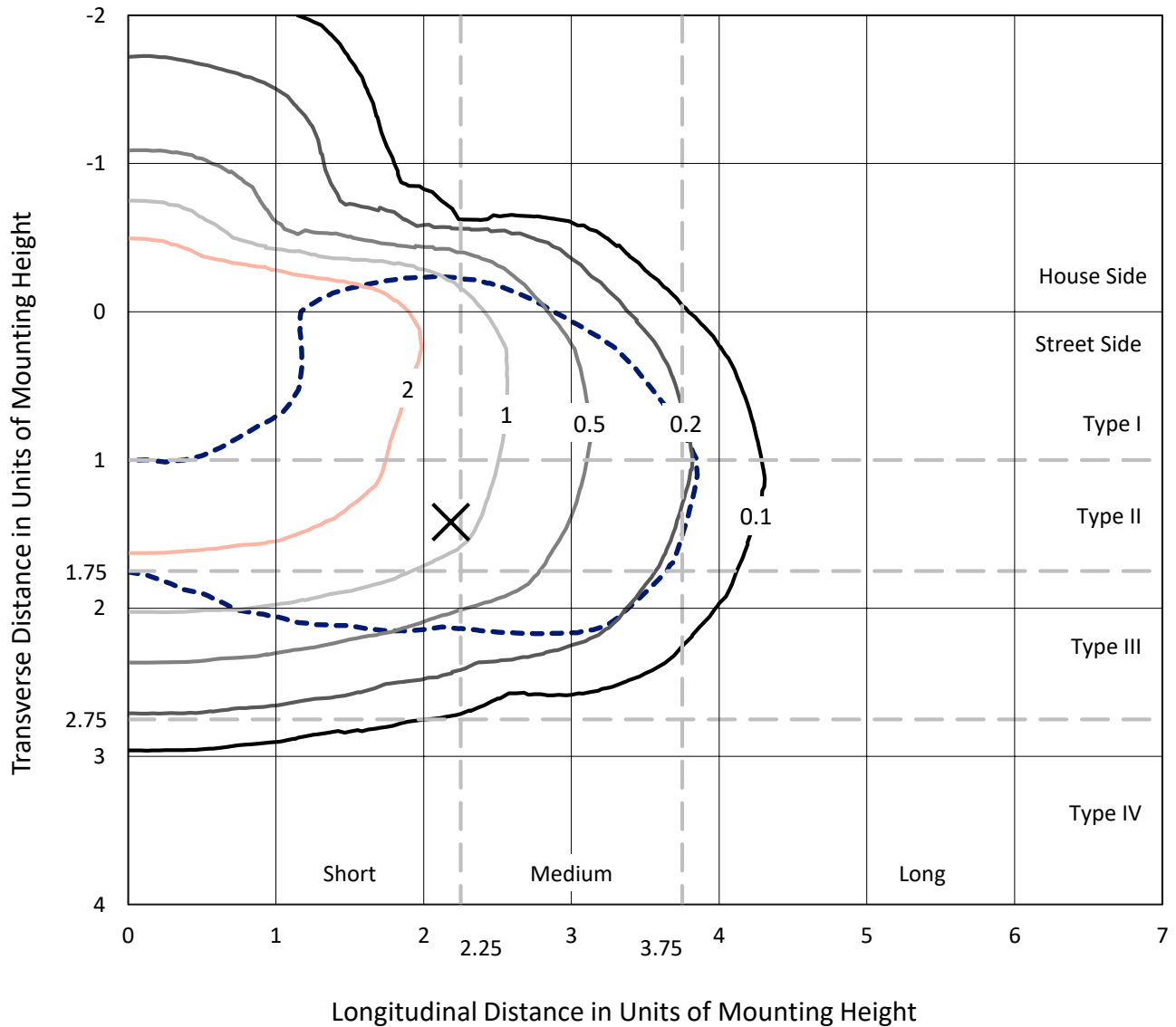
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196305
 CATALOG NUMBER: NAV-AF-03-D-UNV-T3-800

Iso-Footcandle Lines of Horizontal Illumination

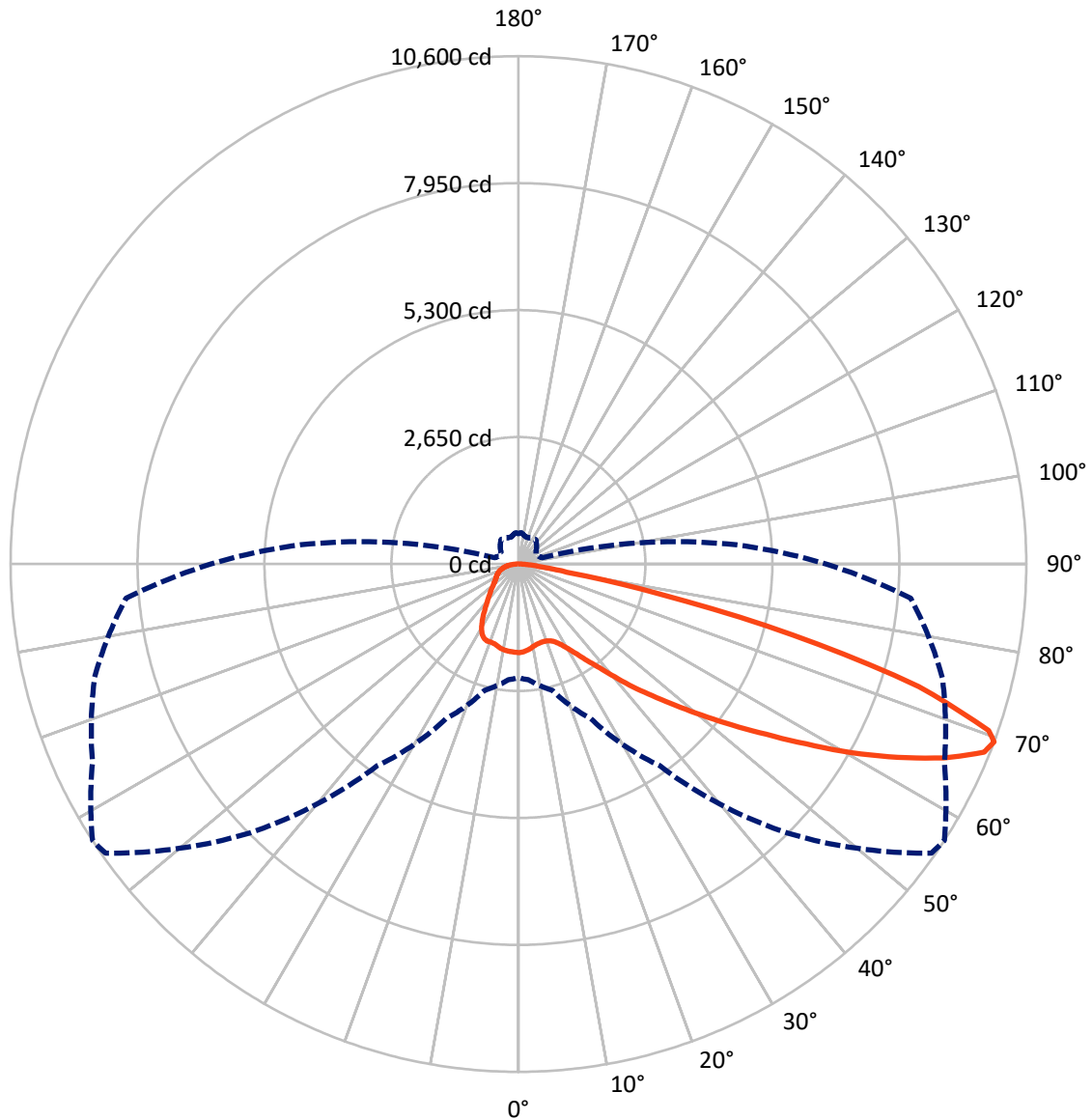
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.7 fc
 Type III - Short - Semi-Cutoff

REPORT NUMBER: P196305
CATALOG NUMBER: NAV-AF-03-D-UNV-T3-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196305

CATALOG NUMBER: NAV-AF-03-D-UNV-T3-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3304.4	0.0	3304.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	11670.5	0.0	11670.5
	% Fixture	77.9	0.0	77.9
Total	Lumens	14975.0	0.0	14975.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.2	1.2
10°-20°	492.5	3.3
20°-30°	819.3	5.5
30°-40°	1337.9	8.9
40°-50°	2258.1	15.1
50°-60°	3512.5	23.5
60°-70°	4184.2	27.9
70°-80°	1949.3	13.0
80°-90°	247.9	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°	14975.0	100.0
0°-180°	14975.0	100.0



REPORT NUMBER: P196305

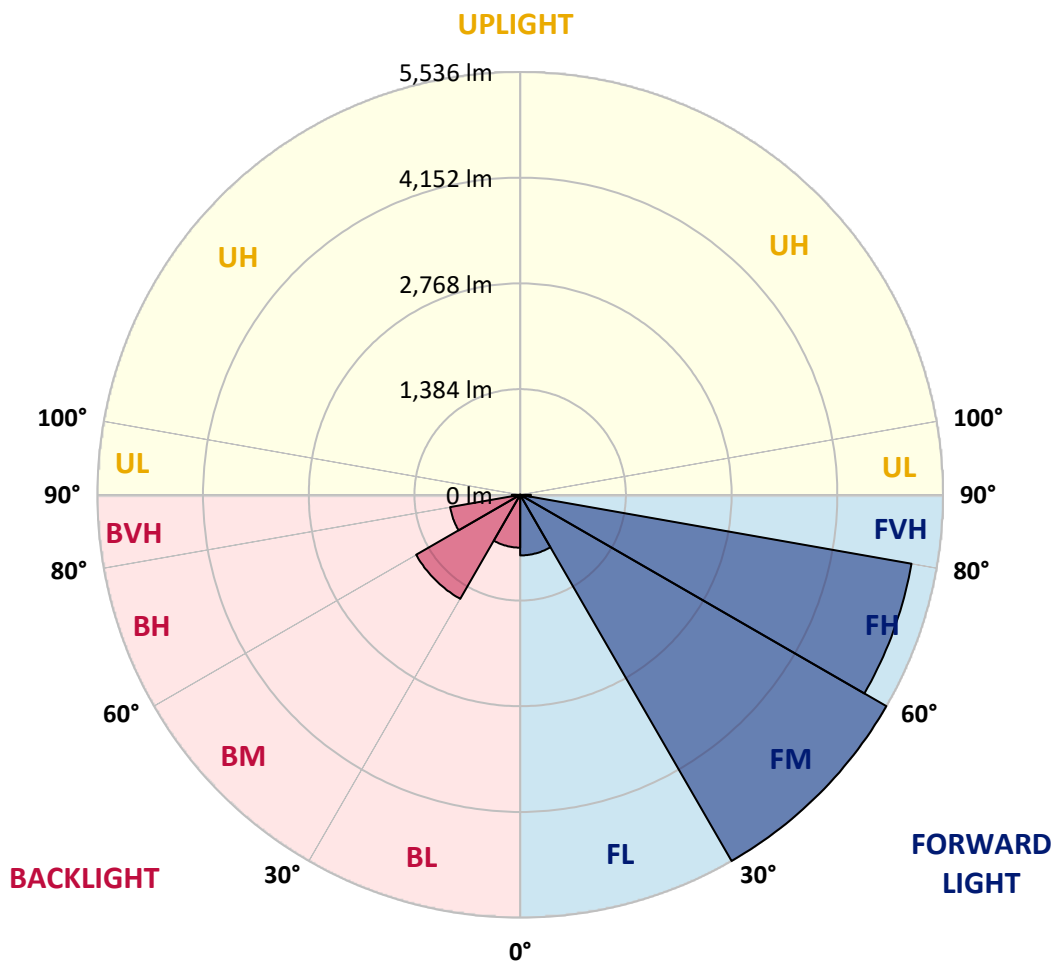
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	793.0	5.3			
FM	(30°-60°)	5535.8	37.0			
FH	(60°-80°)	5202.3	34.7			G3/7500
FVH	(80°-90°)	139.4	0.9			G2/225
BL	(0°-30°)	692.0	4.6	B2/1000		
BM	(30°-60°)	1572.7	10.5	B2/2500		
BH	(60°-80°)	931.2	6.2	B2/1000		G2/1000
BVH	(80°-90°)	108.6	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Short





REPORT NUMBER: P196305

CATALOG NUMBER: NAV-AF-03-D-UNV-T3-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3
2.5°	1839.8	1839.8	1844.6	1844.6	1844.6	1842.6	1836.9	1838.8	1835.0	1832.1	1827.3
5°	1802.3	1804.3	1810.0	1812.0	1814.8	1815.8	1815.8	1814.8	1815.8	1815.8	1812.9
7.5°	1750.6	1752.5	1759.3	1763.1	1771.6	1779.3	1783.2	1783.2	1788.0	1791.8	1792.8
10°	1719.0	1719.0	1722.8	1722.8	1729.5	1733.4	1745.8	1744.8	1758.2	1770.7	1776.5
12.5°	1715.1	1715.1	1713.2	1706.5	1702.7	1701.7	1714.2	1716.1	1736.3	1758.2	1768.8
15°	1727.6	1727.6	1721.8	1708.4	1694.0	1687.4	1699.8	1703.6	1725.7	1751.6	1767.9
17.5°	1767.9	1766.9	1754.5	1727.6	1702.7	1692.2	1696.0	1699.8	1719.9	1749.7	1769.8
20°	1857.1	1857.1	1830.2	1781.3	1738.1	1713.2	1707.4	1710.4	1724.7	1752.5	1778.4
22.5°	2013.3	2016.1	1968.3	1887.7	1813.9	1761.1	1738.1	1741.1	1747.7	1774.6	1803.4
25°	2243.3	2235.7	2167.6	2053.6	1938.5	1848.4	1801.4	1804.3	1804.3	1829.2	1858.9
27.5°	2486.9	2488.8	2391.0	2268.3	2116.8	1982.6	1907.8	1906.9	1905.9	1929.9	1961.5
30°	2762.1	2763.0	2649.9	2508.0	2334.5	2162.8	2050.7	2049.7	2041.1	2070.8	2112.0
32.5°	3063.0	3062.1	2930.8	2770.7	2577.9	2383.4	2237.6	2236.7	2229.9	2270.2	2320.1
35°	3396.7	3396.7	3266.3	3068.9	2860.8	2644.1	2475.3	2474.4	2478.3	2532.9	2579.9
37.5°	3798.4	3807.0	3649.8	3410.1	3182.9	2951.8	2755.3	2749.6	2720.8	2812.8	2890.6
40°	4217.3	4241.4	4078.3	3798.4	3553.0	3314.3	3097.6	3093.7	3068.9	3166.6	3292.2
42.5°	4670.8	4725.4	4544.3	4258.5	3991.1	3733.2	3515.6	3505.0	3409.2	3561.6	3758.1
45°	5265.2	5300.7	5038.0	4779.1	4527.0	4232.7	3973.9	3917.3	3821.4	4017.0	4272.0
47.5°	5669.8	5652.5	5488.6	5315.0	5153.0	4871.2	4473.4	4401.5	4284.4	4543.3	4824.2
50°	5920.9	5933.4	5841.4	5832.8	5824.2	5627.6	5037.0	4950.8	4815.5	5122.3	5450.3
52.5°	6086.9	6030.3	6046.6	6242.1	6479.0	6385.0	5674.6	5578.8	5439.7	5746.5	6116.5
55°	6017.8	5943.0	6093.5	6479.0	7036.0	7057.0	6374.4	6275.7	6156.8	6409.9	6918.0
57.5°	5732.1	5769.5	6007.3	6543.2	7416.6	7659.1	7178.8	7078.1	6844.3	7101.1	7679.3
60°	5330.4	5406.2	5769.5	6441.5	7683.1	8128.0	8061.8	7994.7	7592.0	7774.1	8478.8
62.5°	4899.0	4973.8	5420.5	6268.0	7563.3	8543.1	8928.4	8887.2	8417.5	8422.3	8986.0
65°	4261.4	4292.1	4748.4	5794.4	7230.5	8917.9	9796.1	9759.7	9206.5	8975.4	9127.9
67.5°	3218.4	3256.8	3631.6	4574.0	6218.2	8714.6	10489.2	10483.5	9681.0	9180.6	8790.4
69°	2376.6	2423.6	2729.4	3551.1	5141.6	7940.0	10521.8	10599.5	9809.5	9159.5	8219.9
70°	1739.1	1792.8	2075.6	2818.6	4282.6	7084.9	10242.8	10409.6	9760.6	9026.2	7775.1
72.5°	739.2	757.4	896.4	1272.2	2172.4	4272.0	8389.6	8740.5	8815.3	8087.7	6074.4
75°	463.1	468.8	523.4	652.8	966.4	1766.9	5433.0	5911.4	6581.6	6274.8	4066.8
77.5°	348.9	353.7	385.4	449.6	600.2	659.6	2520.4	3005.5	3769.7	3691.0	2023.8
80°	267.5	270.4	291.4	326.9	422.8	413.2	817.7	1027.8	1573.2	1388.2	716.2
82.5°	209.9	210.9	229.1	235.9	295.3	278.0	410.3	457.3	635.7	528.3	350.0
85°	186.0	188.8	207.0	172.6	188.8	167.8	225.3	244.5	337.5	318.2	132.3
87.5°	94.9	99.7	173.5	147.6	94.9	79.6	98.7	106.4	137.1	148.6	64.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196305

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3	1850.3
2.5°	1828.2	1829.2	1832.1	1836.9	1844.6	1854.1	1865.7	1877.1	1883.9	1888.7	1886.7
5°	1812.9	1813.9	1819.6	1828.2	1837.8	1852.3	1871.4	1885.8	1896.3	1903.0	1902.1
7.5°	1793.7	1796.6	1808.2	1817.7	1831.1	1842.6	1858.0	1871.4	1881.9	1888.7	1887.7
10°	1779.3	1782.3	1796.6	1809.1	1820.5	1822.5	1819.6	1815.8	1814.8	1819.6	1817.7
12.5°	1772.7	1778.4	1791.8	1800.5	1795.7	1777.5	1756.3	1747.7	1744.8	1754.5	1755.4
15°	1774.6	1779.3	1790.9	1785.2	1759.3	1728.6	1717.0	1723.8	1729.5	1735.2	1736.3
17.5°	1779.3	1782.3	1785.2	1764.0	1727.6	1707.4	1703.6	1696.9	1679.7	1670.1	1669.1
20°	1788.0	1791.8	1787.0	1753.4	1720.9	1694.0	1648.0	1606.7	1567.5	1546.4	1537.8
22.5°	1817.7	1820.5	1806.2	1773.6	1723.8	1636.5	1543.5	1472.5	1412.2	1379.6	1367.1
25°	1876.2	1881.0	1860.8	1819.6	1689.2	1536.8	1405.4	1309.6	1233.9	1194.5	1184.0
27.5°	1978.8	1983.6	1961.5	1854.1	1608.7	1403.6	1244.4	1149.5	1084.3	1050.8	1046.0
30°	2132.1	2138.9	2118.7	1853.2	1486.0	1233.9	1087.2	1031.5	994.2	971.2	970.2
32.5°	2345.0	2370.0	2287.5	1820.5	1334.5	1062.2	968.3	949.1	930.9	915.5	915.5
35°	2615.4	2673.8	2454.3	1752.5	1167.7	945.3	902.1	883.9	860.9	844.7	842.7
37.5°	2938.4	3029.5	2573.1	1631.7	1023.9	888.7	861.8	832.2	795.8	764.0	756.4
40°	3382.3	3403.5	2631.6	1435.2	916.6	858.1	824.5	787.1	741.1	705.6	701.7
42.5°	3828.1	3759.1	2620.2	1224.3	855.2	830.2	786.1	744.9	703.7	673.9	673.9
45°	4335.3	4069.7	2532.9	1012.4	799.5	798.6	750.6	711.4	679.8	657.7	652.8
47.5°	4820.3	4348.7	2382.4	856.1	742.0	767.0	727.6	696.0	667.3	646.2	642.3
50°	5409.1	4671.8	2222.3	746.9	686.4	739.2	718.1	701.7	673.9	637.5	633.7
52.5°	5993.9	5049.5	2098.6	664.4	637.5	717.1	723.8	725.8	699.9	628.9	624.1
55°	6621.8	5453.1	1968.3	600.2	597.3	706.6	737.2	735.3	722.8	630.9	623.2
57.5°	7219.1	5858.6	1773.6	555.1	565.6	696.0	740.1	709.4	687.4	640.4	628.0
60°	7713.8	6194.2	1487.9	523.4	538.8	674.9	721.0	674.9	637.5	638.5	627.0
62.5°	7954.4	6288.2	1138.0	487.0	516.7	640.4	693.2	649.1	614.5	642.3	635.7
65°	7771.3	6020.7	811.1	453.5	489.9	600.2	676.9	627.0	603.0	661.5	653.9
67.5°	7113.6	5292.0	588.6	423.7	464.0	558.9	646.2	606.8	591.6	675.9	658.7
69°	6414.7	4569.2	510.0	406.5	445.8	536.8	626.0	596.3	582.9	655.7	630.9
70°	5833.7	4012.2	470.8	396.0	430.5	524.4	610.7	589.6	574.3	631.8	602.1
72.5°	4182.8	2593.3	396.0	364.3	390.2	496.6	577.1	564.7	541.7	570.4	551.3
75°	2527.2	1353.7	336.6	331.7	348.0	458.3	537.9	522.5	499.5	502.4	492.8
77.5°	1160.9	625.1	281.8	293.4	303.9	410.3	489.9	472.6	451.5	443.9	444.9
80°	509.1	365.3	235.9	250.2	255.9	369.1	438.1	419.0	396.0	437.2	405.5
82.5°	275.2	211.9	184.0	193.6	209.9	321.2	380.6	355.7	333.6	388.3	313.5
85°	111.2	108.3	124.6	134.2	145.8	231.1	318.2	292.4	265.6	237.7	232.0
87.5°	48.0	51.8	61.4	65.2	77.6	143.8	213.8	187.0	187.9	161.0	158.1
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)