

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: P195836

Luminaire Tested: **NAV-AF-02-D-UNV-T3-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195836
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-T3-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13366 lumens
Efficiency: N/A
Efficacy: 103.6 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

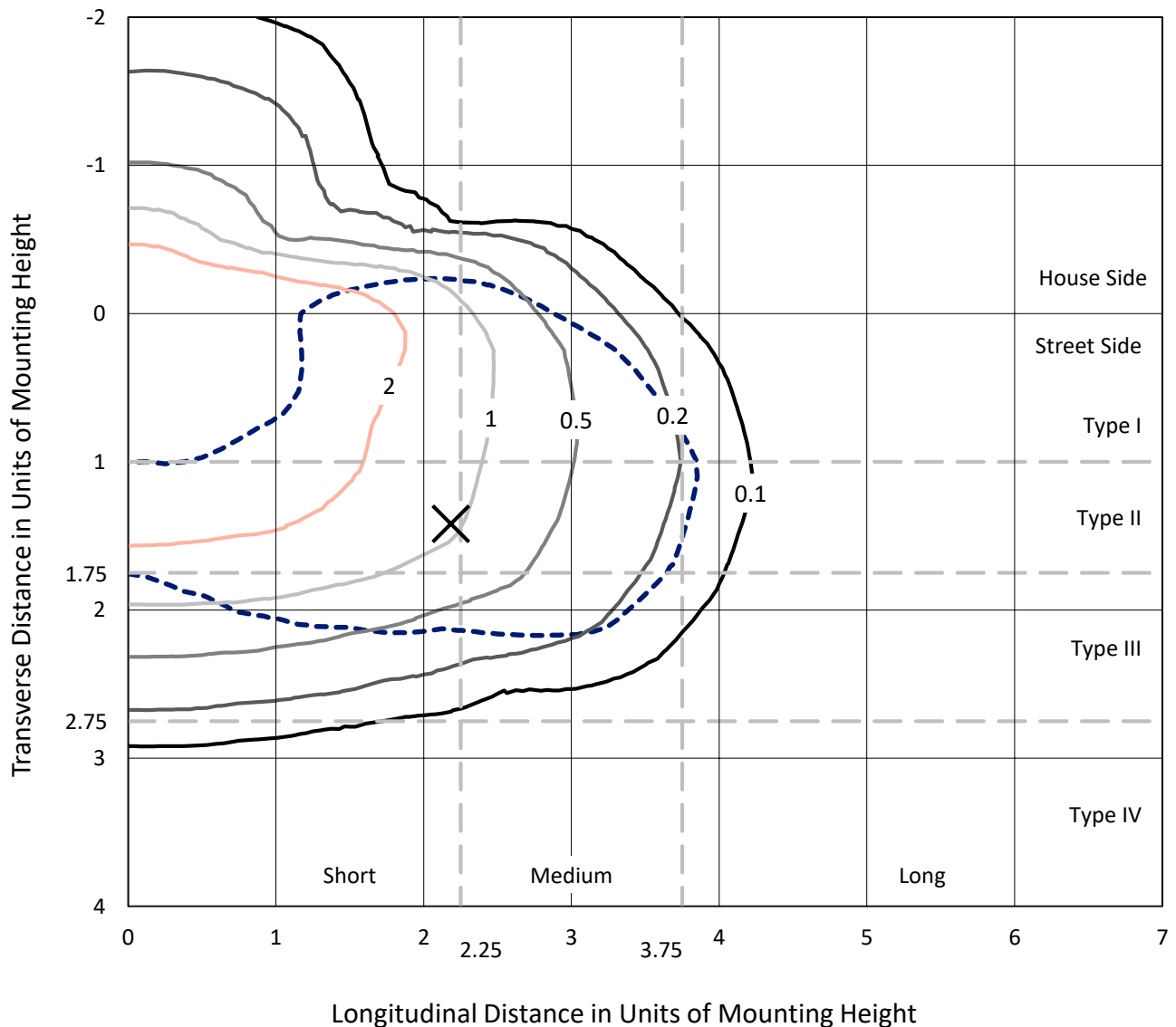


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Iso-Footcandle Lines of Horizontal Illumination

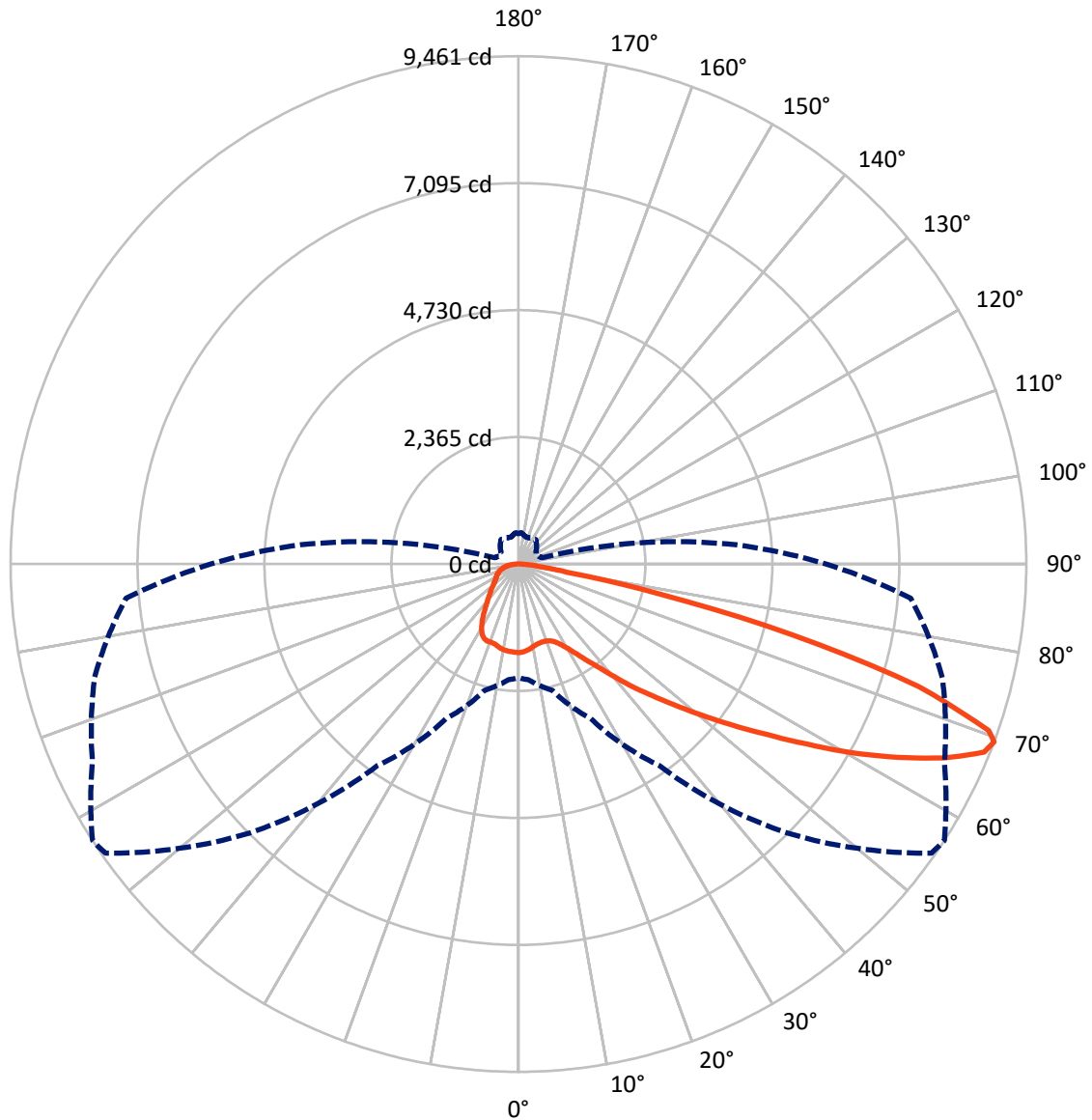
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.2 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	2949.4	0.0	2949.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	10416.6	0.0	10416.6
	% Fixture	77.9	0.0	77.9
Total	Lumens	13366.0	0.0	13366.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.6	1.2
10°-20°	439.6	3.3
20°-30°	731.3	5.5
30°-40°	1194.1	8.9
40°-50°	2015.5	15.1
50°-60°	3135.1	23.5
60°-70°	3734.6	27.9
70°-80°	1739.8	13.0
80°-90°	221.3	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°	13366.0	100.0
0°-180°	13366.0	100.0



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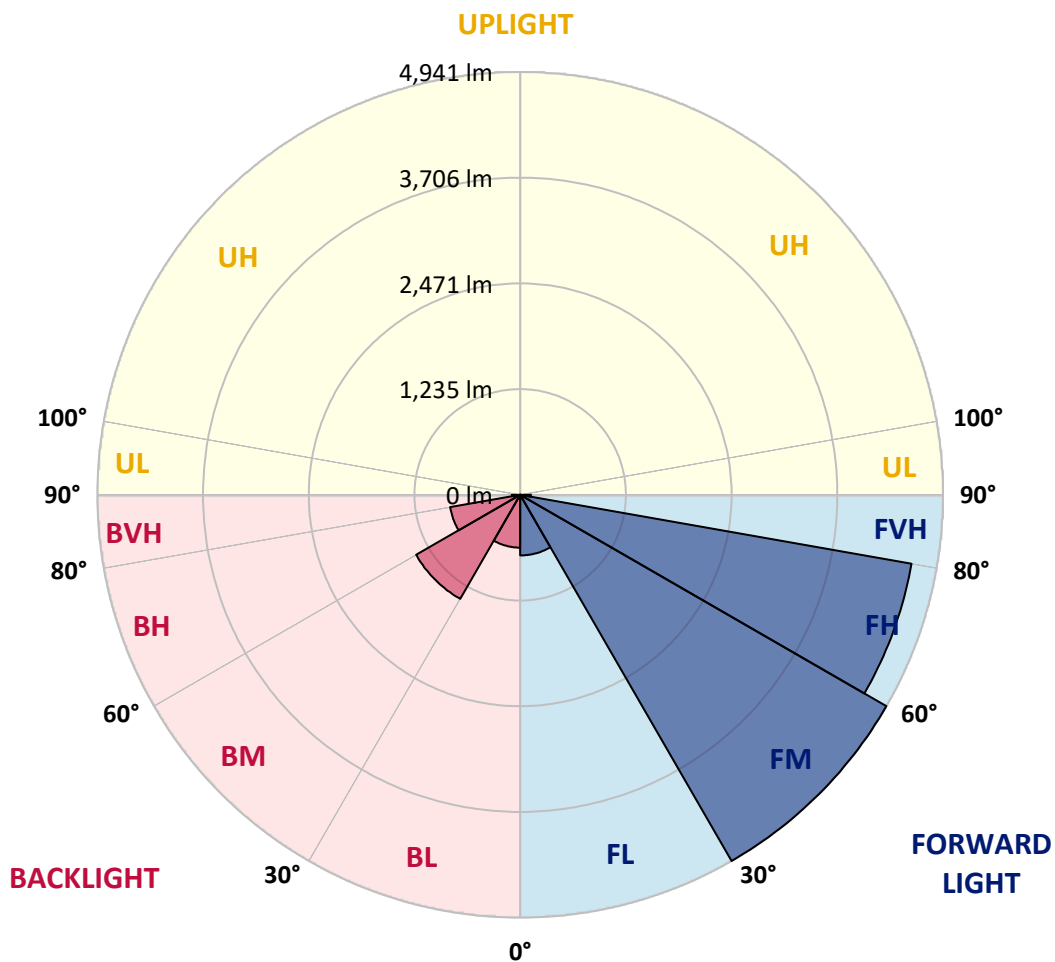
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	707.8	5.3			
FM	(30°-60°)	4941.0	37.0			
FH	(60°-80°)	4643.4	34.7			G2/5000
FVH	(80°-90°)	124.4	0.9			G2/225
BL	(0°-30°)	617.7	4.6	B2/1000		
BM	(30°-60°)	1403.7	10.5	B2/2500		
BH	(60°-80°)	831.1	6.2	B2/1000		G2/1000
BVH	(80°-90°)	96.9	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°	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5
2.5°	1642.1	1642.1	1646.4	1646.4	1646.4	1644.7	1639.5	1641.2	1637.8	1635.2	1631.0
5°	1608.7	1610.4	1615.6	1617.3	1619.8	1620.7	1620.7	1619.8	1620.7	1620.7	1618.1
7.5°	1562.5	1564.2	1570.2	1573.6	1581.3	1588.2	1591.6	1591.6	1595.9	1599.3	1600.2
10°	1534.3	1534.3	1537.7	1537.7	1543.7	1547.1	1558.2	1557.4	1569.4	1580.5	1585.6
12.5°	1530.8	1530.8	1529.1	1523.1	1519.7	1518.9	1530.0	1531.7	1549.7	1569.4	1578.8
15°	1542.0	1542.0	1536.8	1524.9	1512.0	1506.0	1517.2	1520.6	1540.3	1563.4	1577.9
17.5°	1577.9	1577.1	1565.9	1542.0	1519.7	1510.3	1513.7	1517.2	1535.1	1561.7	1579.6
20°	1657.5	1657.5	1633.5	1589.9	1551.4	1529.1	1524.0	1526.6	1539.4	1564.2	1587.3
22.5°	1797.0	1799.5	1756.8	1684.9	1619.0	1571.9	1551.4	1553.9	1559.9	1583.9	1609.6
25°	2002.3	1995.5	1934.7	1832.9	1730.2	1649.8	1607.9	1610.4	1610.4	1632.7	1659.2
27.5°	2219.7	2221.4	2134.1	2024.6	1889.4	1769.6	1702.8	1702.0	1701.1	1722.5	1750.8
30°	2465.3	2466.1	2365.2	2238.5	2083.6	1930.5	1830.3	1829.5	1821.8	1848.3	1885.1
32.5°	2734.0	2733.1	2615.9	2473.0	2301.0	2127.3	1997.2	1996.3	1990.4	2026.3	2070.8
35°	3031.7	3031.7	2915.4	2739.1	2553.4	2360.0	2209.4	2208.6	2212.0	2260.8	2302.7
37.5°	3390.3	3398.0	3257.6	3043.7	2840.9	2634.7	2459.3	2454.1	2428.5	2510.6	2579.9
40°	3764.2	3785.6	3640.1	3390.3	3171.2	2958.2	2764.8	2761.3	2739.1	2826.4	2938.5
42.5°	4169.0	4217.7	4056.0	3801.0	3562.3	3332.1	3137.8	3128.4	3042.9	3178.9	3354.3
45°	4699.5	4731.2	4496.7	4265.7	4040.6	3777.9	3546.9	3496.4	3410.8	3585.4	3813.0
47.5°	5060.6	5045.2	4898.9	4744.0	4599.4	4347.8	3992.7	3928.5	3824.1	4055.2	4305.9
50°	5284.8	5295.9	5213.8	5206.1	5198.4	5023.0	4495.8	4418.8	4298.2	4572.0	4864.7
52.5°	5432.8	5382.3	5396.9	5571.5	5782.8	5699.0	5064.9	4979.3	4855.2	5129.1	5459.4
55°	5371.2	5304.5	5438.8	5782.8	6280.0	6298.8	5689.5	5601.4	5495.3	5721.2	6174.7
57.5°	5116.2	5149.6	5361.8	5840.1	6619.7	6836.2	6407.5	6317.6	6108.8	6338.2	6854.2
60°	4757.7	4825.3	5149.6	5749.4	6857.6	7254.6	7195.6	7135.7	6776.3	6938.9	7567.8
62.5°	4372.6	4439.4	4838.1	5594.6	6750.6	7625.1	7969.1	7932.3	7513.0	7517.3	8020.5
65°	3803.6	3831.0	4238.3	5171.8	6453.7	7959.7	8743.5	8711.0	8217.3	8011.1	8147.1
67.5°	2872.6	2906.8	3241.4	4082.5	5550.1	7778.3	9362.2	9357.1	8640.9	8194.2	7845.9
69°	2121.3	2163.2	2436.2	3169.5	4589.1	7086.9	9391.3	9460.6	8755.5	8175.4	7336.8
70°	1552.2	1600.2	1852.6	2515.8	3822.4	6323.6	9142.3	9291.2	8711.9	8056.4	6939.7
72.5°	659.7	676.0	800.1	1135.5	1939.0	3813.0	7488.2	7801.4	7868.2	7218.7	5421.7
75°	413.3	418.4	467.2	582.7	862.5	1577.1	4849.2	5276.2	5874.4	5600.6	3629.9
77.5°	311.5	315.8	344.0	401.3	535.7	588.7	2249.6	2682.6	3364.6	3294.4	1806.4
80°	238.7	241.3	260.1	291.8	377.4	368.8	729.9	917.3	1404.2	1239.1	639.2
82.5°	187.4	188.3	204.5	210.5	263.6	248.2	366.2	408.2	567.3	471.5	312.3
85°	166.0	168.6	184.8	154.0	168.6	149.7	201.1	218.2	301.2	284.1	118.1
87.5°	84.7	89.0	154.9	131.8	84.7	71.0	88.1	95.0	122.4	132.6	57.3
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°	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5	1651.5
2.5°	1631.8	1632.7	1635.2	1639.5	1646.4	1654.9	1665.2	1675.5	1681.4	1685.7	1684.0
5°	1618.1	1619.0	1624.1	1631.8	1640.4	1653.2	1670.3	1683.2	1692.6	1698.6	1697.7
7.5°	1601.0	1603.6	1613.8	1622.4	1634.4	1644.7	1658.3	1670.3	1679.7	1685.7	1684.9
10°	1588.2	1590.7	1603.6	1614.7	1625.0	1626.7	1624.1	1620.7	1619.8	1624.1	1622.4
12.5°	1582.2	1587.3	1599.3	1607.0	1602.7	1586.5	1567.6	1559.9	1557.4	1565.9	1566.8
15°	1583.9	1588.2	1598.4	1593.3	1570.2	1542.8	1532.6	1538.5	1543.7	1548.8	1549.7
17.5°	1588.2	1590.7	1593.3	1574.5	1542.0	1524.0	1520.6	1514.6	1499.2	1490.6	1489.8
20°	1595.9	1599.3	1595.0	1565.1	1536.0	1512.0	1470.9	1434.2	1399.1	1380.2	1372.5
22.5°	1622.4	1625.0	1612.1	1583.0	1538.5	1460.7	1377.7	1314.4	1260.4	1231.4	1220.2
25°	1674.6	1678.9	1660.9	1624.1	1507.7	1371.7	1254.5	1168.9	1101.3	1066.2	1056.8
27.5°	1766.2	1770.4	1750.8	1654.9	1435.9	1252.7	1110.7	1026.0	967.8	937.8	933.6
30°	1903.1	1909.1	1891.1	1654.1	1326.3	1101.3	970.4	920.7	887.4	866.8	866.0
32.5°	2093.0	2115.3	2041.7	1625.0	1191.1	948.1	864.3	847.1	830.9	817.2	817.2
35°	2334.3	2386.5	2190.6	1564.2	1042.2	843.7	805.2	789.0	768.4	753.9	752.2
37.5°	2622.7	2704.0	2296.7	1456.4	913.9	793.2	769.3	742.7	710.2	682.0	675.1
40°	3018.9	3037.7	2348.9	1281.0	818.0	765.9	735.9	702.5	661.5	629.8	626.4
42.5°	3416.8	3355.2	2338.6	1092.7	763.3	741.0	701.7	664.9	628.1	601.6	601.6
45°	3869.5	3632.4	2260.8	903.6	713.7	712.8	670.0	634.9	606.7	587.0	582.7
47.5°	4302.5	3881.5	2126.4	764.1	662.3	684.6	649.5	621.2	595.6	576.7	573.3
50°	4827.9	4169.8	1983.5	666.6	612.7	659.7	640.9	626.4	601.6	569.0	565.6
52.5°	5349.8	4507.0	1873.1	593.0	569.0	640.1	646.1	647.8	624.7	561.3	557.1
55°	5910.3	4867.2	1756.8	535.7	533.1	630.7	658.0	656.3	645.2	563.1	556.2
57.5°	6443.4	5229.2	1583.0	495.4	504.9	621.2	660.6	633.2	613.5	571.6	560.5
60°	6885.0	5528.7	1328.0	467.2	480.9	602.4	643.5	602.4	569.0	569.9	559.6
62.5°	7099.7	5612.5	1015.7	434.7	461.2	571.6	618.7	579.3	548.5	573.3	567.3
65°	6936.3	5373.8	723.9	404.7	437.3	535.7	604.1	559.6	538.2	590.4	583.6
67.5°	6349.3	4723.5	525.4	378.2	414.2	498.9	576.7	541.7	528.0	603.3	587.9
69°	5725.5	4078.3	455.2	362.8	397.9	479.2	558.8	532.2	520.3	585.3	563.1
70°	5206.9	3581.1	420.1	353.4	384.2	468.1	545.1	526.3	512.6	563.9	537.4
72.5°	3733.4	2314.7	353.4	325.2	348.3	443.3	515.1	504.0	483.5	509.1	492.0
75°	2255.6	1208.2	300.4	296.1	310.6	409.0	480.0	466.4	445.8	448.4	439.8
77.5°	1036.3	557.9	251.6	261.8	271.3	366.2	437.3	421.9	403.0	396.2	397.0
80°	454.4	326.0	210.5	223.3	228.5	329.4	391.1	373.9	353.4	390.2	362.0
82.5°	245.6	189.1	164.3	172.9	187.4	286.7	339.7	317.5	297.8	346.6	279.8
85°	99.3	96.7	111.2	119.8	130.1	206.2	284.1	261.0	237.0	212.2	207.1
87.5°	42.8	46.2	54.8	58.2	69.3	128.4	190.8	166.9	167.7	143.8	141.2
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)