

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: P195650

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195650
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8015 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

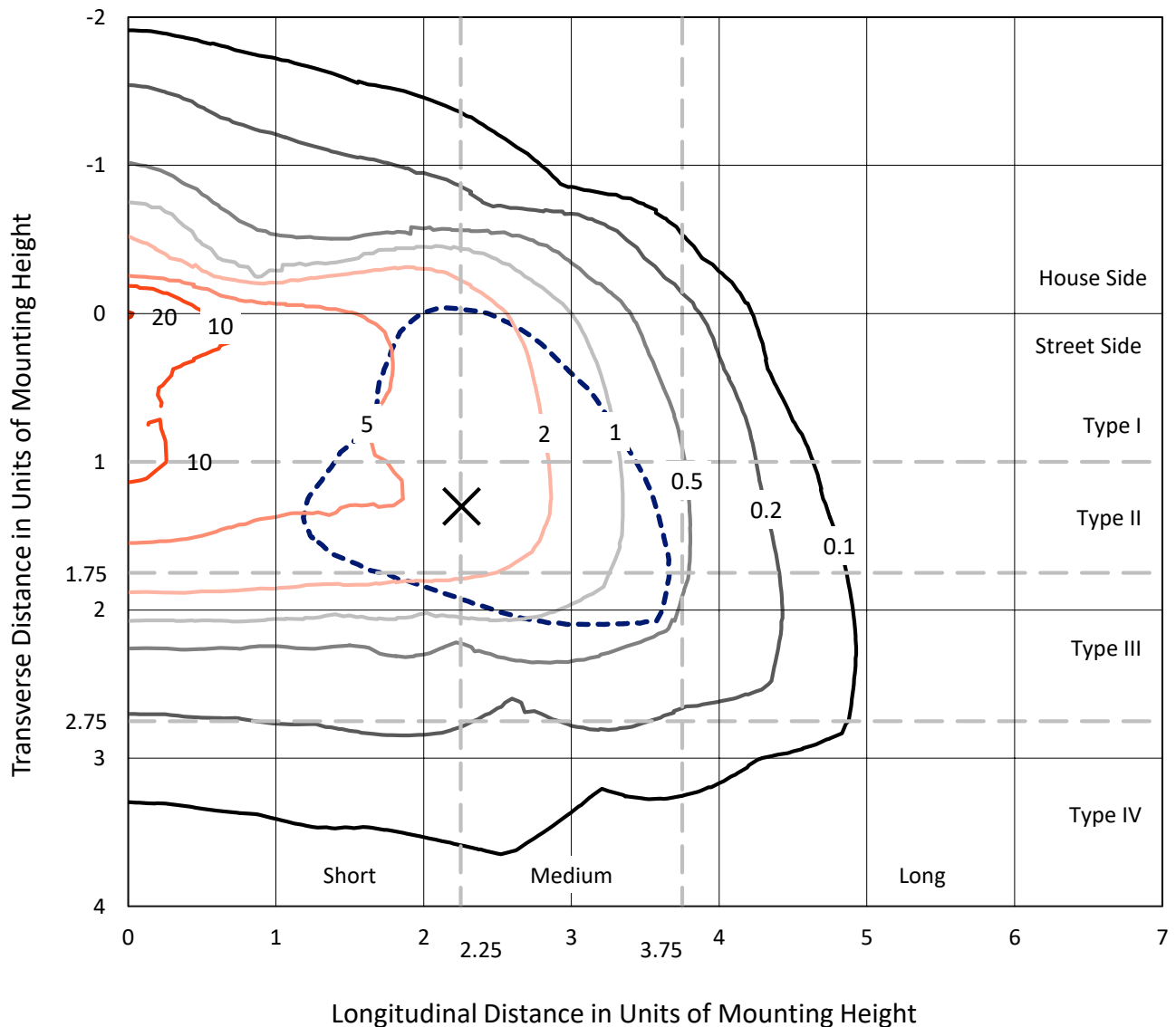
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

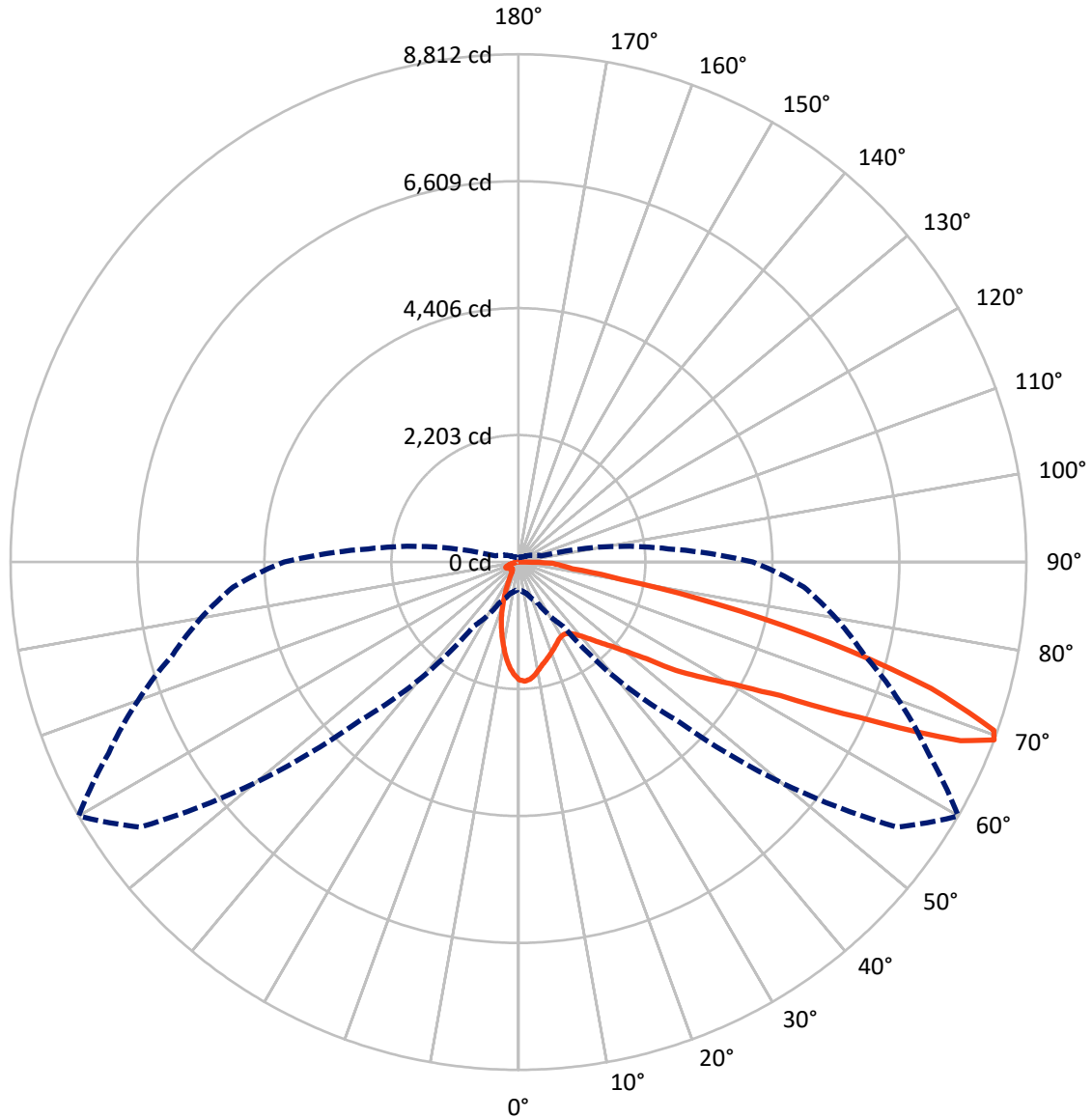
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.5 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1143.2	0.0	1143.2
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	6871.8	0.0	6871.8
	% Fixture	85.7	0.0	85.7
Total	Lumens	8015.0	0.0	8015.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.5	2.2
10°-20°	371.5	4.6
20°-30°	473.9	5.9
30°-40°	652.1	8.1
40°-50°	1056.3	13.2
50°-60°	1657.8	20.7
60°-70°	2210.1	27.6
70°-80°	1229.3	15.3
80°-90°	190.7	2.4
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°	8015.0	100.0
0°-180°	8015.0	100.0



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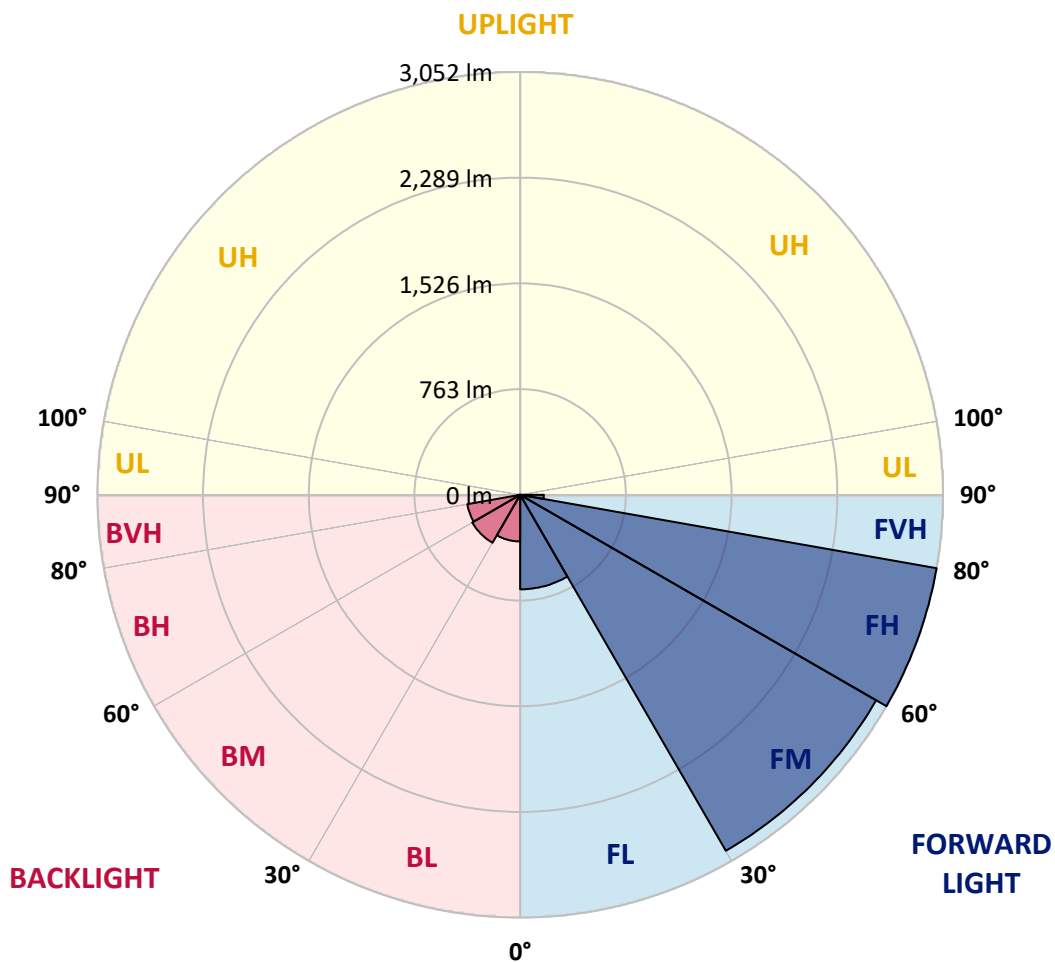
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	681.9	8.5			
FM	(30°-60°)	2966.7	37.0			
FH	(60°-80°)	3051.8	38.1			G2/5000
FVH	(80°-90°)	171.3	2.1			G2/225
BL	(0°-30°)	336.9	4.2	B1/500		
BM	(30°-60°)	399.4	5.0	B1/1000		
BH	(60°-80°)	387.6	4.8	B1/500		G1/500
BVH	(80°-90°)	19.3	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1
2.5°	2099.5	2105.2	2105.2	2100.6	2098.0	2083.1	2074.3	2068.2	2057.4	2037.3	2019.4
5°	2024.5	2035.3	2039.9	2042.0	2055.3	2050.7	2051.2	2047.1	2037.9	2016.3	1987.0
7.5°	1886.8	1888.8	1897.0	1910.9	1943.3	1965.9	1984.4	1988.0	1985.9	1970.0	1928.9
10°	1751.1	1754.7	1764.4	1788.1	1818.9	1851.3	1891.4	1907.8	1920.2	1915.0	1863.1
12.5°	1638.5	1639.0	1649.8	1677.1	1711.5	1752.1	1806.6	1832.3	1861.6	1873.4	1815.3
15°	1530.1	1537.3	1547.5	1580.4	1623.1	1674.5	1737.2	1772.7	1811.2	1845.1	1778.3
17.5°	1447.8	1453.5	1459.7	1486.9	1536.2	1600.5	1678.1	1716.1	1767.0	1818.9	1740.3
20°	1402.6	1404.7	1400.0	1413.4	1455.0	1524.4	1614.4	1660.1	1720.7	1793.7	1701.2
22.5°	1393.3	1393.3	1376.4	1373.8	1392.3	1450.9	1548.6	1604.6	1678.6	1776.3	1666.3
25°	1436.5	1433.4	1401.6	1372.3	1365.6	1395.4	1485.9	1554.7	1642.6	1775.7	1640.1
27.5°	1518.2	1514.1	1474.6	1425.2	1382.6	1369.7	1437.6	1508.0	1614.4	1793.2	1626.7
30°	1620.0	1618.5	1578.4	1516.7	1446.3	1380.0	1418.5	1483.8	1595.3	1825.6	1626.2
32.5°	1731.5	1724.3	1699.7	1638.0	1546.5	1437.0	1429.8	1484.8	1590.2	1872.9	1638.0
35°	1850.3	1845.1	1839.0	1776.8	1674.0	1537.8	1479.7	1520.3	1615.4	1938.7	1671.4
37.5°	2001.4	1995.7	2006.0	1938.1	1825.6	1669.9	1564.0	1591.2	1666.8	2034.3	1733.6
40°	2270.2	2253.7	2224.9	2120.6	2002.4	1831.8	1685.8	1689.9	1754.7	2162.2	1833.3
42.5°	2711.7	2658.7	2516.4	2324.6	2189.0	2019.9	1844.6	1825.1	1876.0	2331.3	1978.2
45°	3154.2	3094.6	2854.0	2547.2	2382.2	2221.9	2040.9	1994.2	2027.1	2528.2	2164.8
47.5°	3439.9	3410.6	3139.3	2769.7	2584.7	2441.8	2265.5	2188.4	2212.1	2751.2	2395.1
50°	3523.7	3498.5	3285.2	2944.0	2775.9	2707.5	2543.6	2441.3	2445.4	3011.8	2671.1
52.5°	3461.0	3450.7	3309.4	3051.9	2951.7	2987.7	2928.6	2786.2	2752.3	3297.6	2970.2
55°	3377.2	3380.8	3326.4	3160.3	3130.5	3248.8	3432.2	3317.6	3173.7	3595.2	3281.6
57.5°	3113.6	3116.1	3259.0	3367.0	3471.8	3614.7	3824.4	3776.1	3608.5	3916.4	3630.6
60°	2507.1	2527.1	2845.3	3324.3	3861.9	4335.8	4387.2	4303.9	4071.1	4286.4	4084.5
62.5°	1791.2	1809.1	2177.7	2885.9	3816.2	5151.9	5426.4	5095.4	4698.6	4840.0	4722.8
65°	941.1	938.0	1223.2	1994.2	3214.3	5341.1	7063.9	6500.6	5755.9	5601.2	5339.5
67.5°	525.8	542.7	653.2	1005.8	2094.9	4700.7	8109.8	8275.8	7225.8	6205.1	5312.8
69°	486.2	491.9	565.9	777.6	1365.6	3878.4	8019.9	8811.9	7845.6	6207.6	4970.5
70°	472.3	478.5	545.8	716.5	1147.2	3177.8	7692.5	8749.2	7996.2	6069.9	4659.1
72.5°	423.5	431.7	497.0	644.0	966.8	1638.0	6196.3	7488.4	7243.3	5305.1	3612.6
75°	361.3	375.2	473.9	639.4	915.9	1041.3	4132.3	5579.1	5390.9	3794.1	2049.7
77.5°	149.6	151.1	207.1	468.2	961.1	996.6	2220.8	3534.0	3128.5	1663.7	617.3
80°	104.3	102.3	103.3	136.7	775.6	1003.3	1139.5	1797.3	1396.9	438.9	288.8
82.5°	87.9	86.9	91.0	85.8	262.6	1138.4	952.9	937.0	657.9	236.4	137.7
85°	58.1	56.5	74.5	78.1	124.9	904.1	1024.8	736.5	490.3	126.4	58.6
87.5°	28.3	28.8	42.7	52.9	66.3	286.3	981.7	582.3	378.8	55.0	23.6
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°	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1	2045.1
2.5°	2012.2	1996.7	1982.9	1965.4	1952.0	1940.7	1925.3	1924.8	1922.2	1925.8	1926.8
5°	1967.4	1941.7	1902.7	1859.0	1828.2	1787.6	1748.0	1734.6	1719.7	1718.2	1722.8
7.5°	1900.1	1860.0	1793.2	1726.4	1659.6	1591.2	1526.5	1493.6	1461.7	1451.9	1456.6
10°	1825.1	1774.2	1671.9	1563.0	1468.9	1367.1	1268.5	1204.7	1146.6	1122.0	1128.1
12.5°	1766.5	1701.7	1557.8	1416.5	1275.7	1129.7	999.7	873.7	778.7	736.0	738.6
15°	1716.1	1633.4	1450.9	1262.8	1086.5	886.6	706.2	560.2	477.0	446.1	445.1
17.5°	1661.6	1561.4	1339.4	1119.9	891.2	644.0	472.8	386.5	353.6	343.3	343.3
20°	1603.6	1487.4	1222.7	964.2	685.6	449.7	355.7	322.3	309.9	306.8	306.3
22.5°	1549.6	1414.9	1105.5	798.2	496.0	341.3	302.7	289.9	287.8	290.4	290.4
25°	1506.9	1351.2	986.8	623.4	360.8	285.8	269.3	267.8	275.5	284.7	286.3
27.5°	1475.1	1294.2	869.6	455.4	283.7	248.8	243.1	249.8	267.8	286.3	289.9
30°	1453.0	1245.3	729.3	327.4	236.4	217.9	220.5	232.3	259.6	287.8	295.5
32.5°	1443.2	1205.8	588.0	251.3	202.0	191.7	198.4	213.8	242.1	270.3	279.6
35°	1452.5	1177.0	457.4	208.7	176.8	169.1	176.8	192.7	211.2	225.1	230.8
37.5°	1485.9	1166.7	344.4	185.0	160.4	152.6	158.8	169.6	177.8	183.0	185.5
40°	1556.3	1177.5	269.8	172.7	151.1	142.4	143.9	149.0	154.7	158.8	159.3
42.5°	1668.3	1212.9	240.0	168.1	145.5	134.1	131.6	135.2	141.3	147.0	148.0
45°	1817.4	1272.1	236.9	169.6	142.9	127.5	122.3	125.9	134.1	143.4	144.9
47.5°	2010.1	1365.6	251.3	177.8	144.4	123.9	116.2	119.8	130.5	142.9	144.9
50°	2238.3	1495.1	278.1	190.2	151.6	123.9	113.6	116.7	128.0	141.9	143.9
52.5°	2507.1	1675.5	305.8	202.5	161.9	128.5	114.6	114.1	124.4	137.2	139.8
55°	2803.7	1899.6	332.5	213.3	167.6	134.7	117.2	111.0	119.2	129.5	131.6
57.5°	3152.6	2206.4	379.3	223.6	170.6	139.3	120.3	107.9	112.6	119.8	121.3
60°	3626.0	2657.2	470.3	241.0	176.3	141.3	120.8	104.8	104.3	109.5	110.0
62.5°	4243.3	3185.0	557.1	261.6	187.6	141.9	118.7	102.8	97.7	99.2	99.2
65°	4682.2	3379.3	532.0	279.1	197.9	141.3	116.7	101.3	92.5	89.9	89.9
67.5°	4432.4	2985.1	451.8	283.7	198.9	135.7	112.0	97.7	87.9	81.7	81.7
69°	4065.4	2616.6	414.8	275.5	190.7	129.0	106.9	94.1	84.8	77.6	77.6
70°	3766.3	2337.5	392.2	265.7	180.9	123.4	102.3	90.5	81.7	75.6	75.0
72.5°	2811.9	1559.9	335.1	229.2	148.5	104.3	89.4	80.7	73.5	69.4	69.4
75°	1483.8	781.7	274.5	187.1	114.6	83.3	73.5	67.8	63.7	63.2	62.7
77.5°	486.2	353.6	197.4	140.8	84.3	64.8	58.6	55.0	54.5	56.5	56.5
80°	262.6	211.2	126.9	95.1	58.6	48.3	45.2	44.7	46.3	49.3	49.3
82.5°	127.5	104.3	75.6	58.6	40.1	35.5	35.5	36.0	38.0	41.6	41.6
85°	55.0	49.3	43.7	32.9	24.7	22.1	25.2	27.8	29.3	31.9	32.9
87.5°	26.2	23.1	20.0	12.8	10.8	11.3	13.4	16.4	19.5	21.6	22.1
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)