

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: P197096

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197096
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-SL3-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 800mA 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: 8020 lumens
Efficiency: N/A
Efficacy: 94.4 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

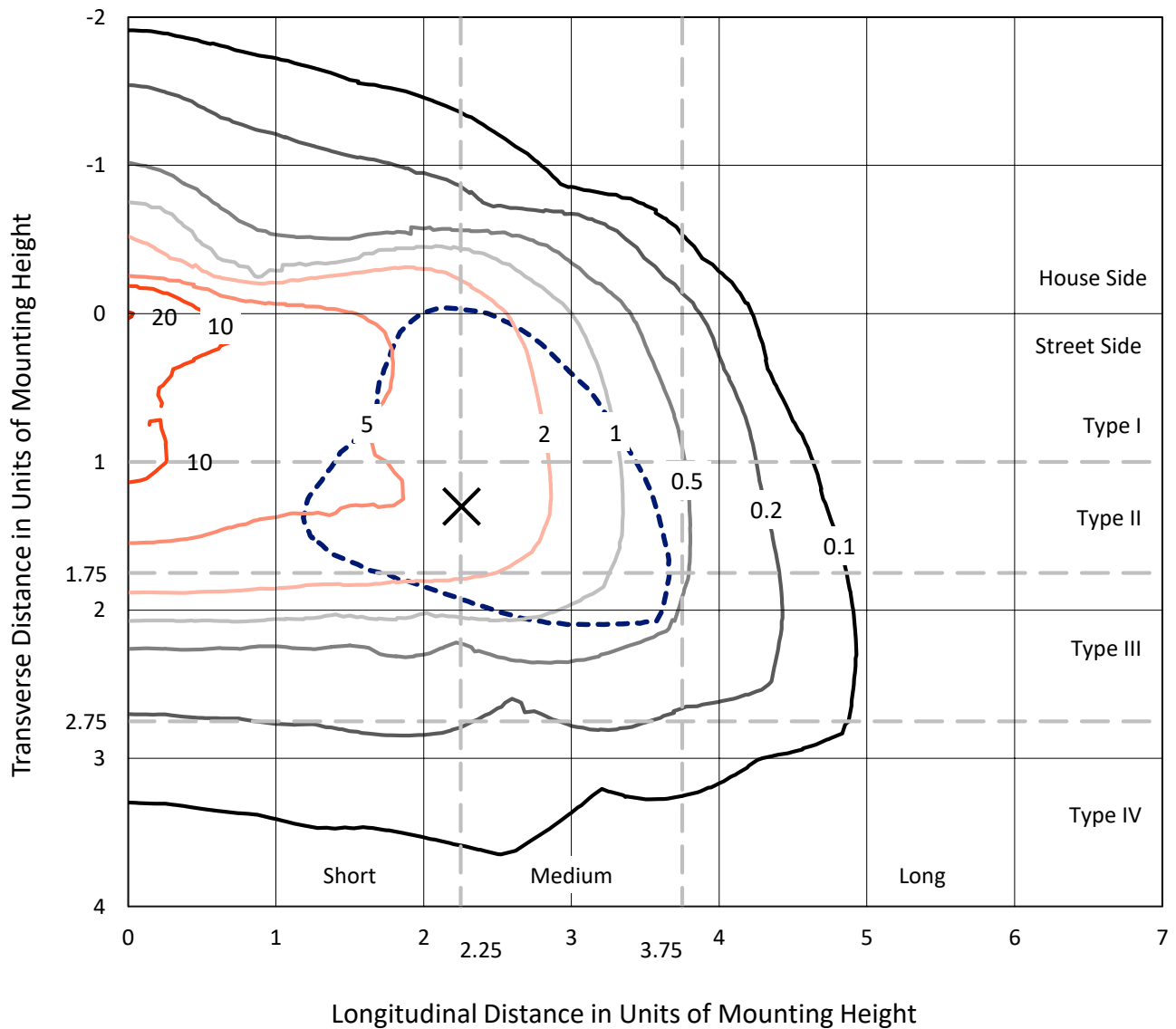
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

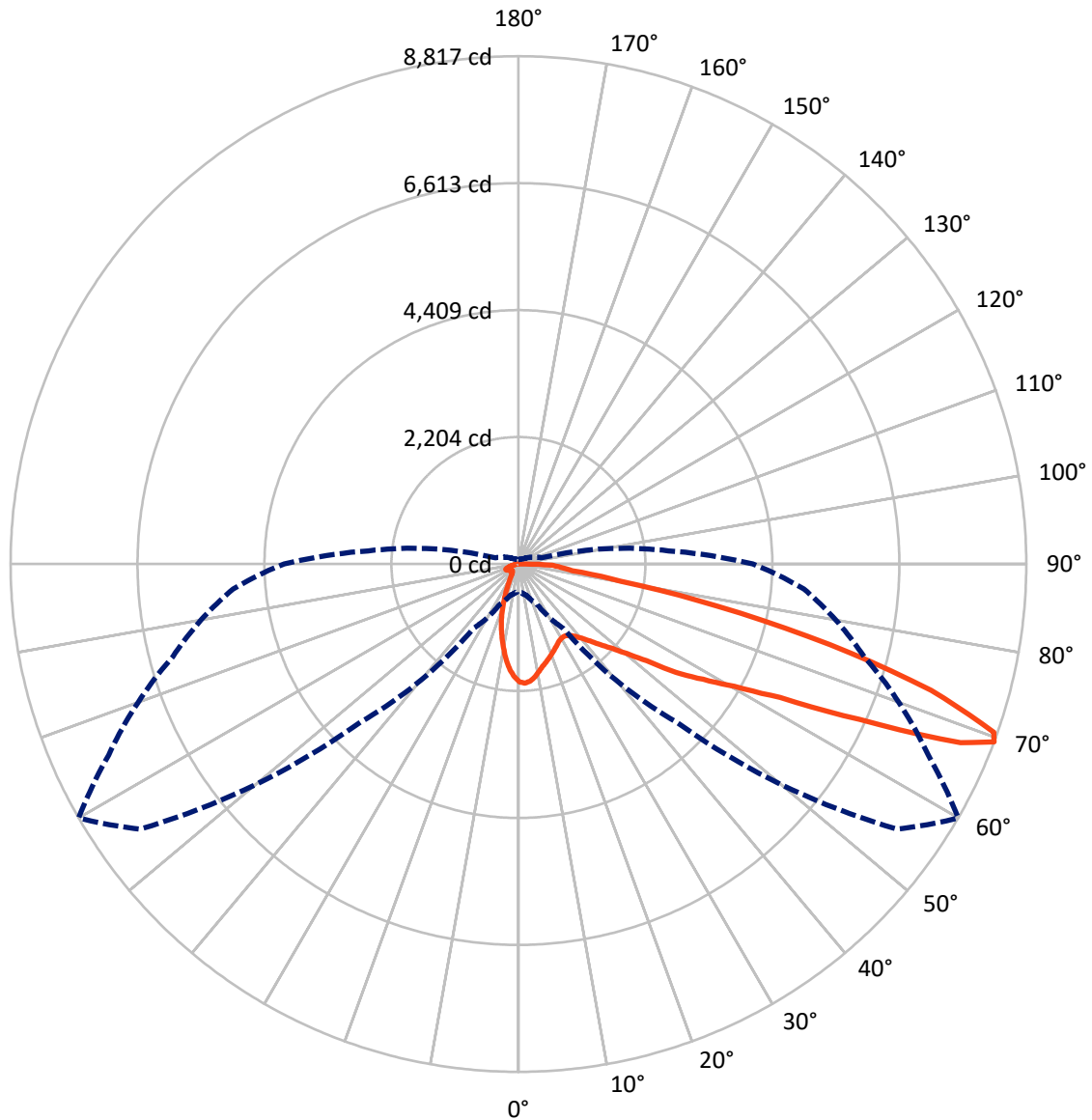
× Max cd
 - - - 1/2 Max cd



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	1143.9	0.0	1143.9
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	6876.1	0.0	6876.1
	% Fixture	85.7	0.0	85.7
Total	Lumens	8020.0	0.0	8020.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.6	2.2
10°-20°	371.7	4.6
20°-30°	474.2	5.9
30°-40°	652.5	8.1
40°-50°	1056.9	13.2
50°-60°	1658.8	20.7
60°-70°	2211.5	27.6
70°-80°	1230.1	15.3
80°-90°	190.8	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°	8020.0	100.0
0°-180°	8020.0	100.0

Coefficient of Utilization



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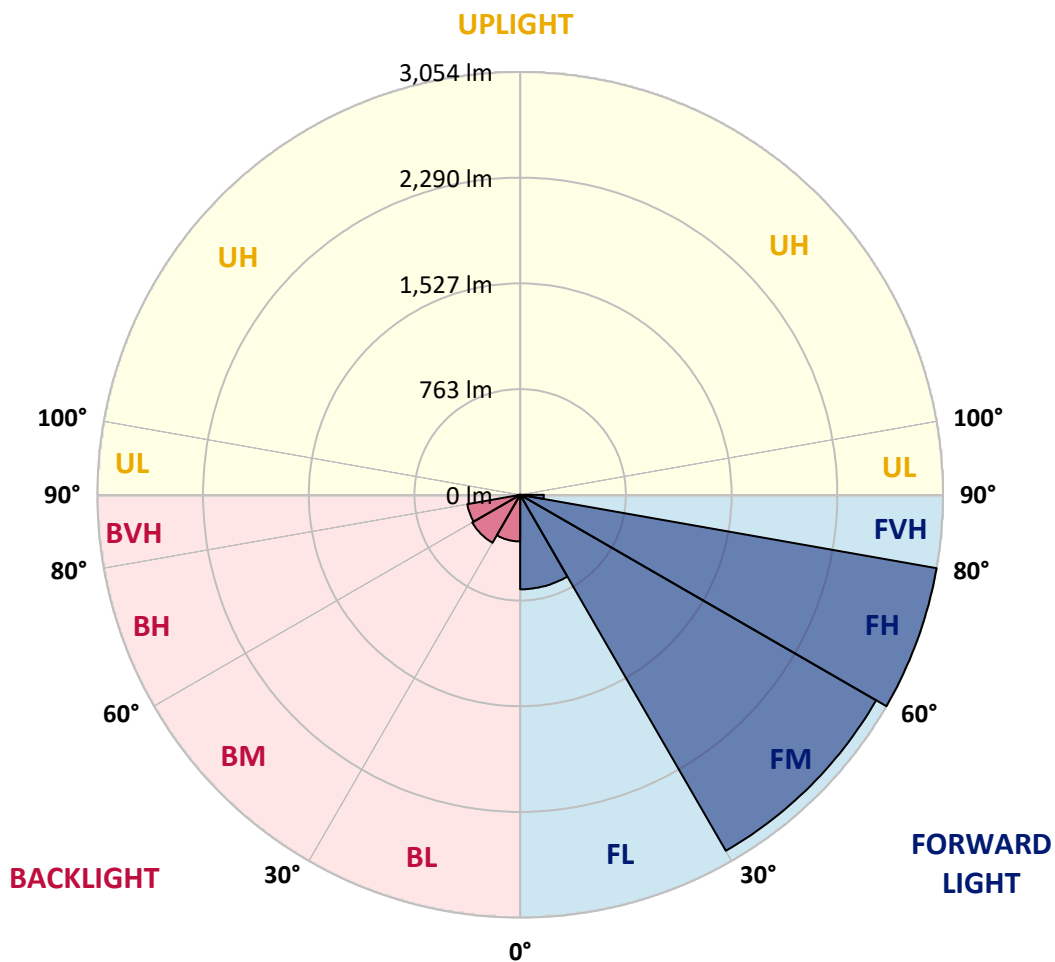
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	682.3	8.5			
FM	(30°-60°)	2968.6	37.0			
FH	(60°-80°)	3053.7	38.1			G2/5000
FVH	(80°-90°)	171.4	2.1			G2/225
BL	(0°-30°)	337.1	4.2	B1/500		
BM	(30°-60°)	399.6	5.0	B1/1000		
BH	(60°-80°)	387.8	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°	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3
2.5°	2100.8	2106.5	2106.5	2101.9	2099.3	2084.4	2075.6	2069.5	2058.7	2038.6	2020.6
5°	2025.8	2036.6	2041.2	2043.2	2056.6	2052.0	2052.5	2048.4	2039.1	2017.5	1988.2
7.5°	1887.9	1890.0	1898.2	1912.1	1944.5	1967.1	1985.6	1989.2	1987.2	1971.2	1930.1
10°	1752.2	1755.8	1765.5	1789.2	1820.0	1852.4	1892.6	1909.0	1921.4	1916.2	1864.3
12.5°	1639.5	1640.0	1650.8	1678.1	1712.6	1753.2	1807.7	1833.4	1862.7	1874.6	1816.4
15°	1531.0	1538.2	1548.5	1581.4	1624.1	1675.5	1738.3	1773.8	1812.3	1846.3	1779.4
17.5°	1448.7	1454.4	1460.6	1487.8	1537.2	1601.5	1679.1	1717.2	1768.1	1820.0	1741.4
20°	1403.5	1405.5	1400.9	1414.3	1455.9	1525.4	1615.4	1661.1	1721.8	1794.8	1702.3
22.5°	1394.2	1394.2	1377.2	1374.7	1393.2	1451.8	1549.5	1605.6	1679.6	1777.4	1667.3
25°	1437.4	1434.3	1402.4	1373.1	1366.4	1396.3	1486.8	1555.7	1643.6	1776.8	1641.1
27.5°	1519.2	1515.1	1475.5	1426.1	1383.4	1370.6	1438.4	1508.9	1615.4	1794.3	1627.7
30°	1621.0	1619.5	1579.4	1517.6	1447.2	1380.8	1419.4	1484.7	1596.3	1826.7	1627.2
32.5°	1732.6	1725.4	1700.7	1639.0	1547.5	1437.9	1430.7	1485.8	1591.2	1874.0	1639.0
35°	1851.4	1846.3	1840.1	1777.9	1675.0	1538.7	1480.6	1521.2	1616.4	1939.9	1672.4
37.5°	2002.6	1997.0	2007.2	1939.4	1826.7	1670.9	1565.0	1592.2	1667.8	2035.5	1734.7
40°	2271.6	2255.1	2226.3	2121.9	2003.6	1832.9	1686.8	1691.0	1755.8	2163.6	1834.4
42.5°	2713.4	2660.4	2517.9	2326.1	2190.3	2021.1	1845.8	1826.2	1877.1	2332.8	1979.5
45°	3156.1	3096.5	2855.8	2548.8	2383.7	2223.2	2042.2	1995.4	2028.3	2529.8	2166.2
47.5°	3442.1	3412.8	3141.2	2771.5	2586.3	2443.4	2267.0	2189.8	2213.5	2753.0	2396.6
50°	3525.9	3500.7	3287.3	2945.8	2777.6	2709.2	2545.2	2442.8	2447.0	3013.7	2672.7
52.5°	3463.2	3452.9	3311.5	3053.8	2953.5	2989.5	2930.4	2787.9	2754.0	3299.6	2972.0
55°	3379.3	3382.9	3328.4	3162.3	3132.5	3250.8	3434.4	3319.7	3175.7	3597.4	3283.7
57.5°	3115.5	3118.1	3261.1	3369.1	3474.0	3616.9	3826.8	3778.4	3610.8	3918.8	3632.9
60°	2508.7	2528.7	2847.1	3326.4	3864.3	4338.5	4389.9	4306.6	4073.6	4289.1	4087.0
62.5°	1792.3	1810.3	2179.0	2887.7	3818.5	5155.2	5429.8	5098.6	4701.6	4843.0	4725.7
65°	941.7	938.6	1224.0	1995.4	3216.3	5344.4	7068.3	6504.6	5759.4	5604.6	5342.9
67.5°	526.1	543.1	653.7	1006.5	2096.2	4703.6	8114.9	8281.0	7230.3	6208.9	5316.1
69°	486.5	492.2	566.2	778.1	1366.4	3880.8	8024.9	8817.4	7850.5	6211.5	4973.6
70°	472.6	478.8	546.2	716.9	1147.9	3179.8	7697.3	8754.6	8001.2	6073.7	4662.0
72.5°	423.8	432.0	497.3	644.4	967.4	1639.0	6200.2	7493.1	7247.8	5308.4	3614.9
75°	361.5	375.4	474.2	639.8	916.5	1041.9	4134.8	5582.5	5394.3	3796.4	2051.0
77.5°	149.7	151.2	207.3	468.5	961.7	997.2	2222.2	3536.2	3130.4	1664.7	617.7
80°	104.4	102.3	103.4	136.8	776.1	1003.9	1140.2	1798.4	1397.8	439.2	289.0
82.5°	87.9	86.9	91.0	85.9	262.8	1139.1	953.5	937.5	658.3	236.6	137.8
85°	58.1	56.6	74.6	78.2	125.0	904.6	1025.5	737.0	490.6	126.5	58.6
87.5°	28.3	28.8	42.7	53.0	66.3	286.5	982.3	582.7	379.0	55.0	23.7
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°	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3	2046.3
2.5°	2013.4	1998.0	1984.1	1966.6	1953.2	1941.9	1926.5	1926.0	1923.4	1927.0	1928.0
5°	1968.7	1943.0	1903.9	1860.2	1829.3	1788.7	1749.1	1735.7	1720.8	1719.2	1723.9
7.5°	1901.3	1861.2	1794.3	1727.5	1660.6	1592.2	1527.4	1494.5	1462.6	1452.8	1457.5
10°	1826.2	1775.3	1673.0	1563.9	1469.8	1368.0	1269.2	1205.5	1147.4	1122.7	1128.8
12.5°	1767.6	1702.8	1558.8	1417.4	1276.4	1130.4	1000.3	874.3	779.1	736.5	739.0
15°	1717.2	1634.4	1451.8	1263.6	1087.2	887.1	706.6	560.6	477.3	446.4	445.4
17.5°	1662.7	1562.4	1340.2	1120.6	891.8	644.4	473.1	386.7	353.8	343.5	343.5
20°	1604.6	1488.3	1223.5	964.8	686.1	450.0	355.9	322.5	310.1	307.0	306.5
22.5°	1550.6	1415.8	1106.2	798.7	496.3	341.5	302.9	290.1	288.0	290.6	290.6
25°	1507.9	1352.0	987.4	623.8	361.0	285.9	269.5	267.9	275.7	284.9	286.5
27.5°	1476.0	1295.0	870.2	455.7	283.9	248.9	243.3	249.9	267.9	286.5	290.1
30°	1453.9	1246.1	729.8	327.6	236.6	218.1	220.6	232.5	259.7	288.0	295.7
32.5°	1444.1	1206.5	588.3	251.5	202.1	191.8	198.5	213.9	242.2	270.5	279.8
35°	1453.4	1177.7	457.7	208.8	176.9	169.2	176.9	192.9	211.4	225.3	230.9
37.5°	1486.8	1167.4	344.6	185.1	160.5	152.7	158.9	169.7	177.9	183.1	185.7
40°	1557.2	1178.2	270.0	172.8	151.2	142.5	144.0	149.1	154.8	158.9	159.4
42.5°	1669.4	1213.7	240.2	168.2	145.5	134.2	131.7	135.3	141.4	147.1	148.1
45°	1818.5	1272.8	237.1	169.7	143.0	127.5	122.4	126.0	134.2	143.5	145.0
47.5°	2011.4	1366.4	251.5	177.9	144.5	123.9	116.2	119.8	130.6	143.0	145.0
50°	2239.7	1496.0	278.2	190.3	151.7	123.9	113.7	116.7	128.1	141.9	144.0
52.5°	2508.7	1676.6	306.0	202.6	162.0	128.6	114.7	114.2	124.5	137.3	139.9
55°	2805.4	1900.8	332.7	213.4	167.7	134.7	117.3	111.1	119.3	129.6	131.7
57.5°	3154.6	2207.8	379.5	223.7	170.7	139.4	120.3	108.0	112.6	119.8	121.4
60°	3628.3	2658.8	470.6	241.2	176.4	141.4	120.9	104.9	104.4	109.5	110.1
62.5°	4245.9	3187.0	557.5	261.8	187.7	141.9	118.8	102.9	97.7	99.3	99.3
65°	4685.1	3381.4	532.3	279.3	198.0	141.4	116.7	101.3	92.6	90.0	90.0
67.5°	4435.2	2987.0	452.1	283.9	199.0	135.8	112.1	97.7	87.9	81.8	81.8
69°	4068.0	2618.2	415.0	275.7	190.8	129.1	107.0	94.1	84.9	77.7	77.7
70°	3768.7	2339.0	392.4	265.9	181.0	123.4	102.3	90.5	81.8	75.6	75.1
72.5°	2813.6	1560.8	335.3	229.4	148.6	104.4	89.5	80.7	73.5	69.4	69.4
75°	1484.7	782.2	274.6	187.2	114.7	83.3	73.5	67.9	63.8	63.3	62.7
77.5°	486.5	353.8	197.5	140.9	84.3	64.8	58.6	55.0	54.5	56.6	56.6
80°	262.8	211.4	127.0	95.1	58.6	48.3	45.3	44.7	46.3	49.4	49.4
82.5°	127.5	104.4	75.6	58.6	40.1	35.5	35.5	36.0	38.1	41.7	41.7
85°	55.0	49.4	43.7	32.9	24.7	22.1	25.2	27.8	29.3	31.9	32.9
87.5°	26.2	23.1	20.1	12.9	10.8	11.3	13.4	16.5	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)