

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: P195608

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195608
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9648 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G2

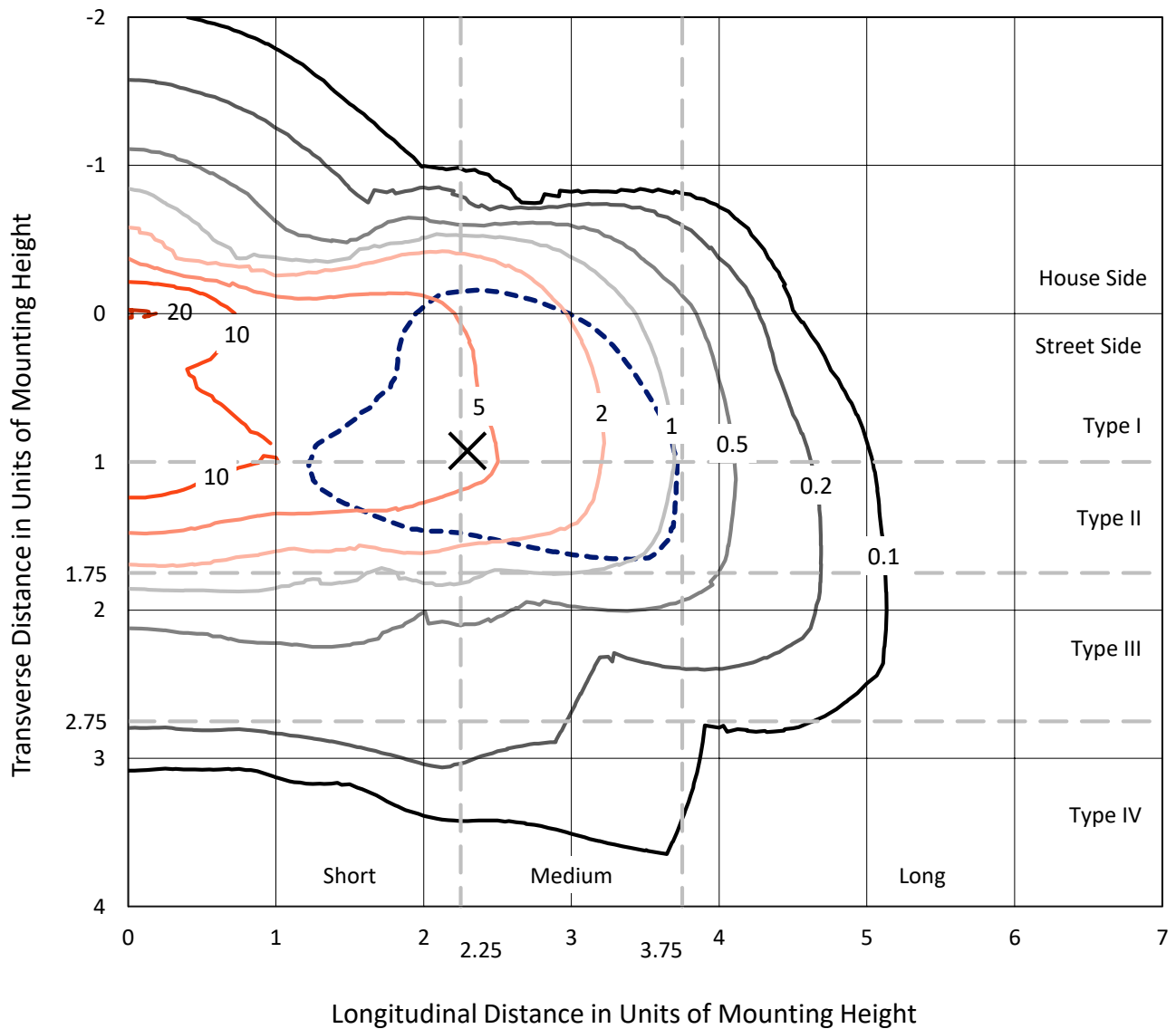
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

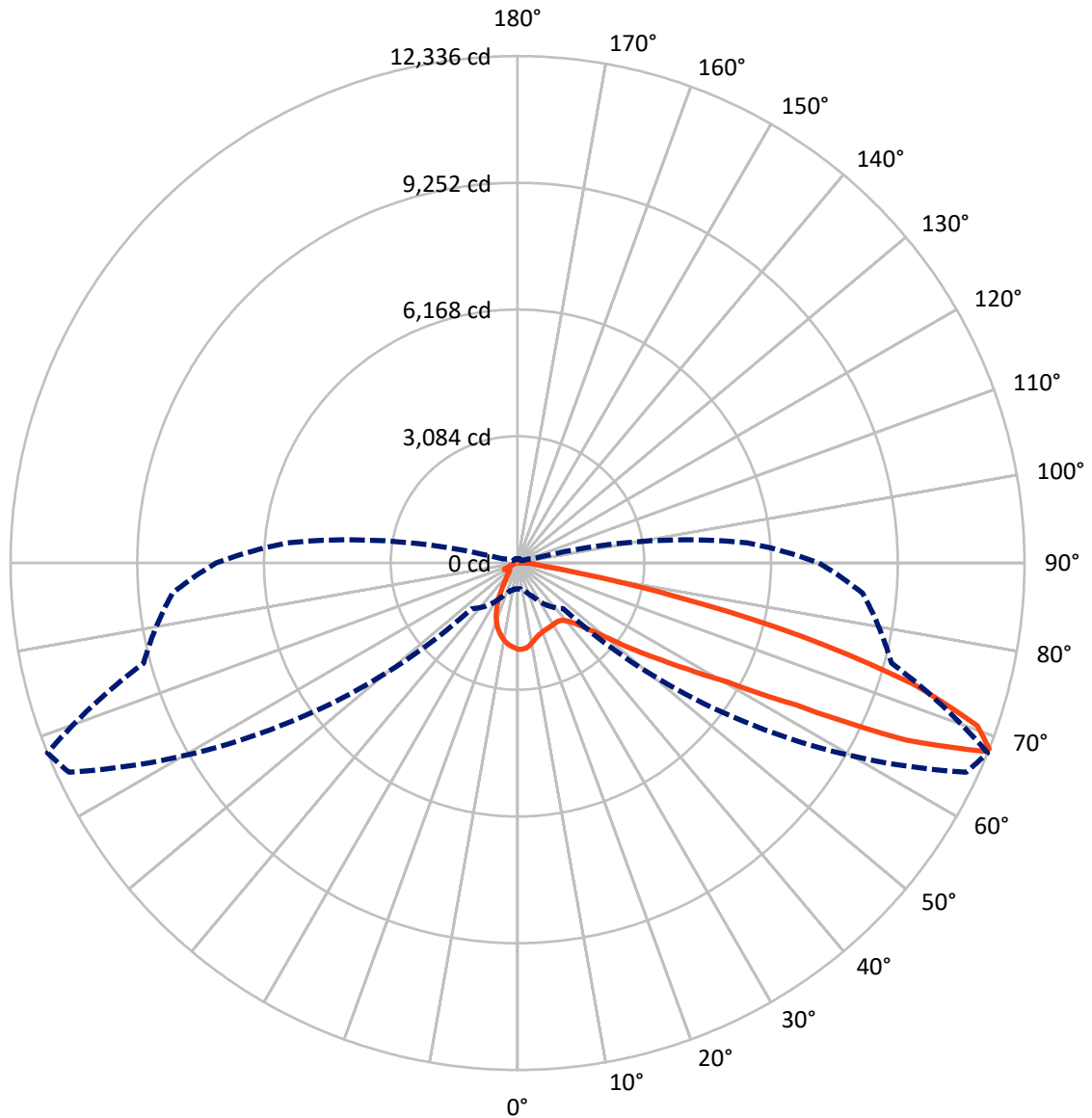
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1578.4	0.0	1578.4
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	8069.6	0.0	8069.6
	% Fixture	83.6	0.0	83.6
Total	Lumens	9648.0	0.0	9648.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.9	1.9
10°-20°	417.2	4.3
20°-30°	564.2	5.8
30°-40°	795.6	8.2
40°-50°	1308.2	13.6
50°-60°	2027.8	21.0
60°-70°	2629.2	27.3
70°-80°	1508.8	15.6
80°-90°	217.1	2.2
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°	9648.0	100.0
0°-180°	9648.0	100.0



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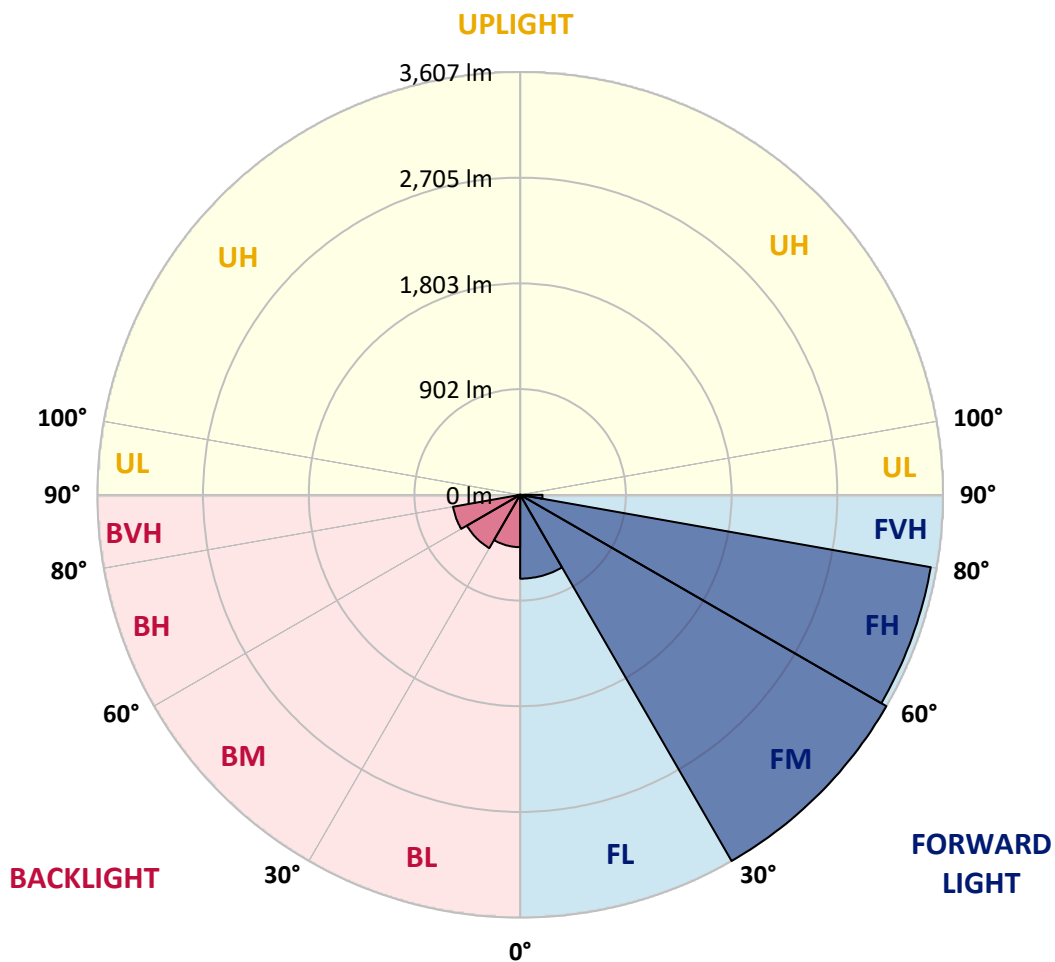
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	715.1	7.4			
FM	(30°-60°)	3606.6	37.4			
FH	(60°-80°)	3556.7	36.9			G2/5000
FVH	(80°-90°)	191.2	2.0			G2/225
BL	(0°-30°)	446.2	4.6	B1/500		
BM	(30°-60°)	525.0	5.4	B1/1000		
BH	(60°-80°)	581.3	6.0	B2/1000		G2/1000
BVH	(80°-90°)	25.9	0.3			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3
2.5°	2043.2	2059.6	2059.6	2071.6	2082.3	2091.1	2098.7	2098.7	2098.7	2093.6	2089.2
5°	1828.3	1850.4	1853.5	1883.8	1923.5	1972.0	2026.2	2074.1	2083.6	2101.2	2108.1
7.5°	1679.0	1685.9	1697.9	1718.7	1759.0	1818.9	1903.9	2011.1	2036.9	2092.4	2121.4
10°	1573.1	1578.7	1588.8	1609.6	1646.2	1700.4	1784.2	1923.5	1966.3	2064.7	2122.0
12.5°	1495.6	1500.0	1509.4	1528.3	1565.5	1614.0	1699.7	1844.7	1897.6	2036.9	2130.8
15°	1435.0	1442.6	1450.2	1468.5	1506.3	1552.9	1639.9	1787.4	1844.7	2014.9	2147.2
17.5°	1411.1	1414.9	1416.1	1425.6	1459.6	1506.9	1593.9	1747.0	1806.3	1997.2	2159.8
20°	1426.2	1426.9	1414.3	1407.9	1427.5	1471.0	1555.4	1716.8	1777.3	1981.5	2164.9
22.5°	1492.4	1492.4	1459.6	1431.9	1418.7	1445.8	1529.6	1696.0	1761.5	1969.5	2164.9
25°	1618.4	1612.8	1561.7	1506.9	1448.3	1436.9	1513.2	1682.7	1749.5	1963.2	2156.7
27.5°	1784.2	1779.2	1714.2	1632.9	1527.1	1455.8	1507.5	1672.0	1737.6	1953.7	2139.0
30°	1985.9	1981.5	1907.7	1801.2	1644.9	1515.7	1520.8	1664.5	1728.1	1938.0	2109.4
32.5°	2186.9	2184.4	2125.8	2016.8	1807.5	1617.2	1555.4	1663.2	1723.1	1919.1	2073.5
35°	2389.2	2389.2	2353.3	2261.3	2026.2	1769.7	1627.9	1686.5	1732.5	1909.0	2042.6
37.5°	2688.0	2676.0	2609.2	2514.0	2301.6	1967.6	1745.1	1735.7	1769.1	1926.0	2032.5
40°	3150.6	3115.9	2948.9	2788.8	2602.2	2221.0	1916.6	1830.8	1851.0	1984.0	2056.5
42.5°	3634.6	3579.7	3358.5	3102.7	2913.0	2533.6	2141.5	1985.2	1984.6	2096.2	2132.7
45°	4049.9	4021.5	3782.1	3457.5	3267.8	2885.2	2425.8	2214.7	2192.0	2270.1	2279.6
47.5°	4291.3	4272.4	4128.1	3833.1	3688.8	3300.6	2786.3	2532.9	2490.1	2536.7	2522.2
50°	4224.5	4242.8	4201.2	4050.5	4141.3	3884.1	3245.7	2969.0	2887.7	2934.4	2899.1
52.5°	3872.8	3922.0	3959.1	3988.1	4401.6	4665.0	3823.0	3513.6	3446.1	3437.9	3403.9
55°	3239.4	3317.6	3434.8	3647.8	4331.6	5292.1	4831.4	4172.2	4073.9	4022.2	4035.4
57.5°	2204.6	2323.1	2575.8	2981.0	3968.0	5559.3	6322.5	5023.0	4856.6	4672.6	4715.4
60°	1214.5	1313.4	1614.0	2022.4	3137.9	5519.6	7644.1	6405.7	5882.0	5394.2	5482.4
62.5°	785.9	807.3	1031.1	1381.5	1926.0	4873.0	8378.4	8716.8	7607.0	6345.9	6470.0
65°	631.5	646.6	756.3	1114.3	1341.8	3134.8	8411.1	11114.2	10382.5	7639.1	7642.9
67.5°	617.0	623.9	687.6	937.2	1258.6	1706.7	7270.4	12059.6	12229.1	9165.5	8427.5
68°	625.8	634.0	698.3	908.2	1258.0	1573.1	6719.6	12045.1	12335.6	9420.8	8427.5
70°	552.1	562.2	712.2	939.7	1204.4	1352.5	4601.4	11405.4	11873.0	10007.5	7996.4
72.5°	288.6	280.5	352.3	741.8	1355.6	1409.2	2430.8	9528.5	10074.3	9268.3	6908.7
75°	225.0	204.8	197.3	293.1	1192.4	1461.5	1411.7	6772.5	7184.7	6681.1	4617.7
77.5°	211.8	187.2	172.7	173.3	525.0	1520.8	1142.0	3985.6	3985.6	3187.1	1473.5
80°	170.2	147.5	138.0	157.6	253.4	1401.6	1191.8	1816.3	1549.1	823.7	405.9
82.5°	112.2	100.2	100.8	127.9	192.2	935.9	1380.2	896.8	673.7	364.9	238.9
85°	71.2	61.1	68.1	89.5	143.7	417.2	1366.4	623.3	446.2	204.8	119.1
87.5°	35.9	27.7	34.0	46.6	87.6	119.7	1125.0	556.5	330.9	85.1	64.9
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°	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3	2099.3
2.5°	2089.2	2075.4	2068.4	2057.1	2043.2	2029.4	2019.9	2015.5	2013.0	2014.2	2013.6
5°	2104.4	2086.1	2056.5	2014.2	1970.8	1924.7	1889.4	1862.3	1845.3	1840.3	1839.0
7.5°	2115.7	2089.2	2033.8	1956.9	1882.5	1801.8	1733.2	1678.3	1641.1	1624.1	1623.5
10°	2113.8	2079.8	1992.2	1878.7	1769.7	1651.2	1543.4	1451.4	1384.6	1352.5	1351.2
12.5°	2115.7	2069.1	1941.1	1787.4	1631.1	1461.5	1301.4	1158.4	1058.8	1011.5	1009.6
15°	2123.3	2057.7	1888.8	1685.3	1469.1	1229.6	1000.8	821.2	730.4	699.6	699.6
17.5°	2122.6	2038.8	1828.3	1566.8	1276.9	956.1	683.2	572.3	563.4	591.8	596.2
20°	2110.0	2008.6	1750.2	1426.2	1051.2	661.7	463.2	447.5	518.1	596.2	605.0
22.5°	2090.5	1969.5	1660.0	1263.0	788.4	431.1	357.3	381.3	477.1	574.1	588.0
25°	2063.4	1922.2	1556.7	1073.3	524.4	310.1	298.1	327.7	395.2	460.1	470.2
27.5°	2023.7	1862.3	1443.9	867.8	334.7	255.2	259.7	280.5	309.4	337.2	342.8
30°	1973.9	1792.4	1321.0	640.3	254.0	228.1	235.7	248.3	260.9	278.6	282.3
32.5°	1923.5	1721.2	1193.0	439.9	221.8	213.7	221.2	228.1	238.9	250.8	253.4
35°	1878.1	1655.0	1061.3	306.9	208.0	204.2	208.0	212.4	223.1	235.1	236.3
37.5°	1845.3	1600.8	923.9	242.6	199.8	196.0	197.9	199.8	212.4	230.0	231.9
40°	1840.9	1564.9	784.6	218.1	193.5	188.4	187.2	188.4	204.8	225.0	226.9
42.5°	1883.8	1566.8	648.5	208.0	188.4	182.8	177.7	180.2	194.7	210.5	211.8
45°	1985.2	1610.9	530.7	203.6	184.0	179.6	172.1	173.3	180.2	188.4	189.7
47.5°	2164.2	1707.3	440.5	201.0	180.2	176.5	167.0	163.2	163.9	168.3	168.3
50°	2450.4	1868.7	385.7	198.5	177.1	170.2	159.4	151.9	150.0	152.5	153.1
52.5°	2877.0	2145.3	359.2	193.5	171.4	162.0	150.0	142.4	139.3	141.8	141.8
55°	3453.7	2587.1	346.6	186.6	164.5	151.9	141.2	134.9	132.3	134.2	134.2
57.5°	4111.0	3161.3	368.1	177.1	155.7	141.2	133.6	129.2	127.3	129.2	129.8
60°	4891.9	3912.5	515.5	165.1	146.2	131.7	127.3	124.8	123.5	125.4	125.4
62.5°	5929.9	4912.1	797.9	155.7	136.1	122.9	121.6	120.4	119.1	121.0	121.0
65°	7050.5	5821.5	821.2	150.0	127.3	115.3	116.0	116.0	114.7	116.6	116.6
67.5°	7407.2	5742.7	458.8	143.1	116.6	107.8	110.3	110.3	109.7	111.6	110.9
68°	7331.5	5617.9	399.6	141.2	114.7	105.9	108.4	109.0	108.4	110.3	109.7
70°	6768.1	4932.2	262.8	130.5	106.5	99.6	103.4	104.0	103.4	105.9	105.2
72.5°	5587.0	3699.5	194.1	114.1	96.4	91.4	95.2	95.8	96.4	98.9	98.3
75°	3548.2	2043.2	153.1	97.1	86.3	81.9	85.7	87.6	88.9	92.6	90.8
77.5°	971.8	620.2	124.2	82.6	74.4	72.5	75.0	77.5	78.8	83.2	80.0
80°	340.3	274.2	103.4	70.0	61.8	61.1	63.7	66.2	67.4	71.2	67.4
82.5°	206.7	179.0	82.6	54.8	48.5	47.9	51.0	53.6	54.8	54.8	52.3
85°	107.8	94.5	60.5	38.4	33.4	31.5	37.2	40.3	41.0	40.3	38.4
87.5°	60.5	53.6	32.1	18.3	15.1	15.8	19.5	23.9	25.8	25.2	23.9
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)