

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: P196610

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196610
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-SL3-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 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: 7752 lumens
Efficiency: N/A
Efficacy: 117.5 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

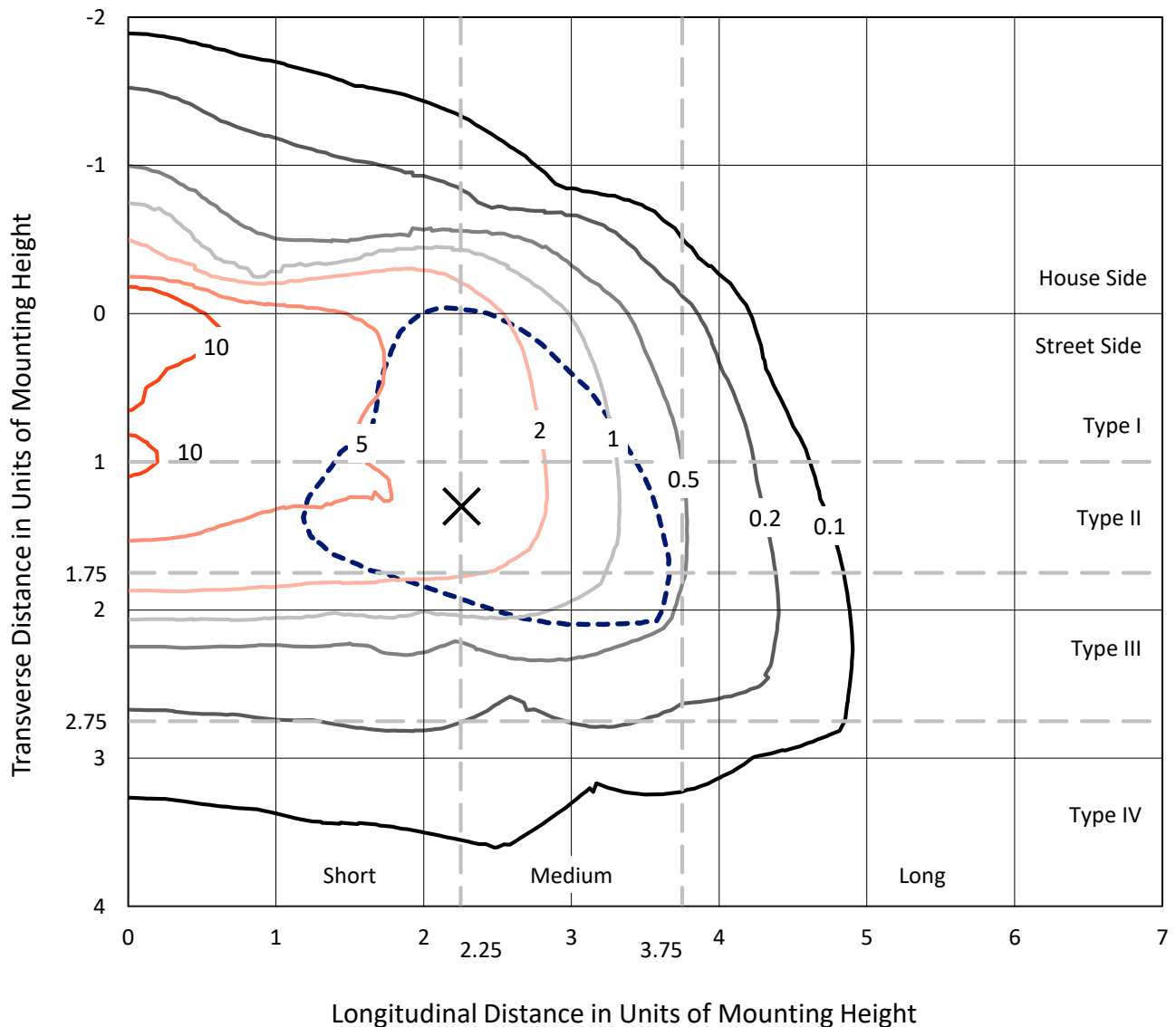
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

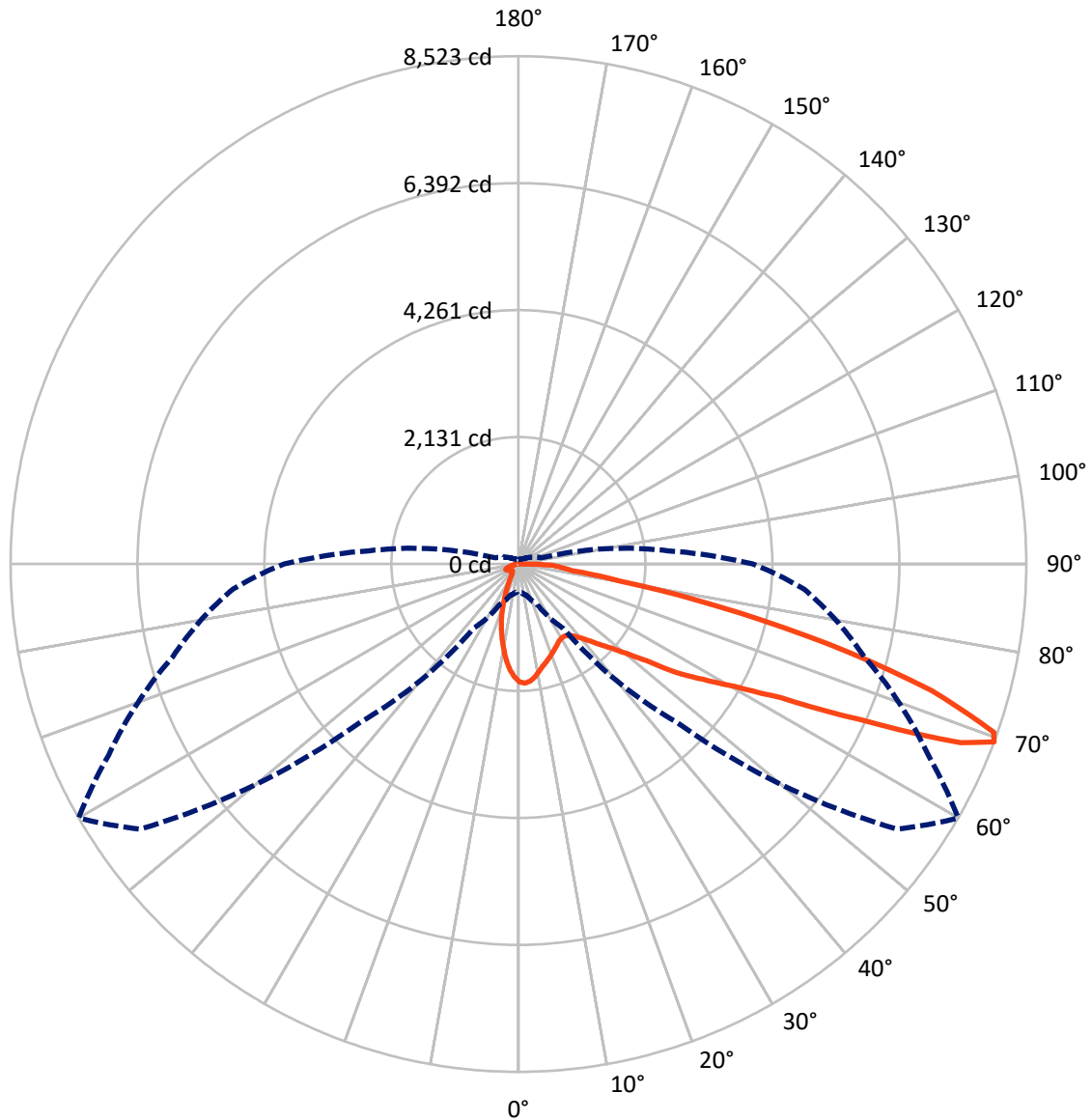
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 19.8 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	1105.7	0.0	1105.7
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	6646.3	0.0	6646.3
	% Fixture	85.7	0.0	85.7
Total	Lumens	7752.0	0.0	7752.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.8	2.2
10°-20°	359.3	4.6
20°-30°	458.3	5.9
30°-40°	630.7	8.1
40°-50°	1021.6	13.2
50°-60°	1603.4	20.7
60°-70°	2137.6	27.6
70°-80°	1189.0	15.3
80°-90°	184.4	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°	7752.0	100.0
0°-180°	7752.0	100.0

Coefficient of Utilization



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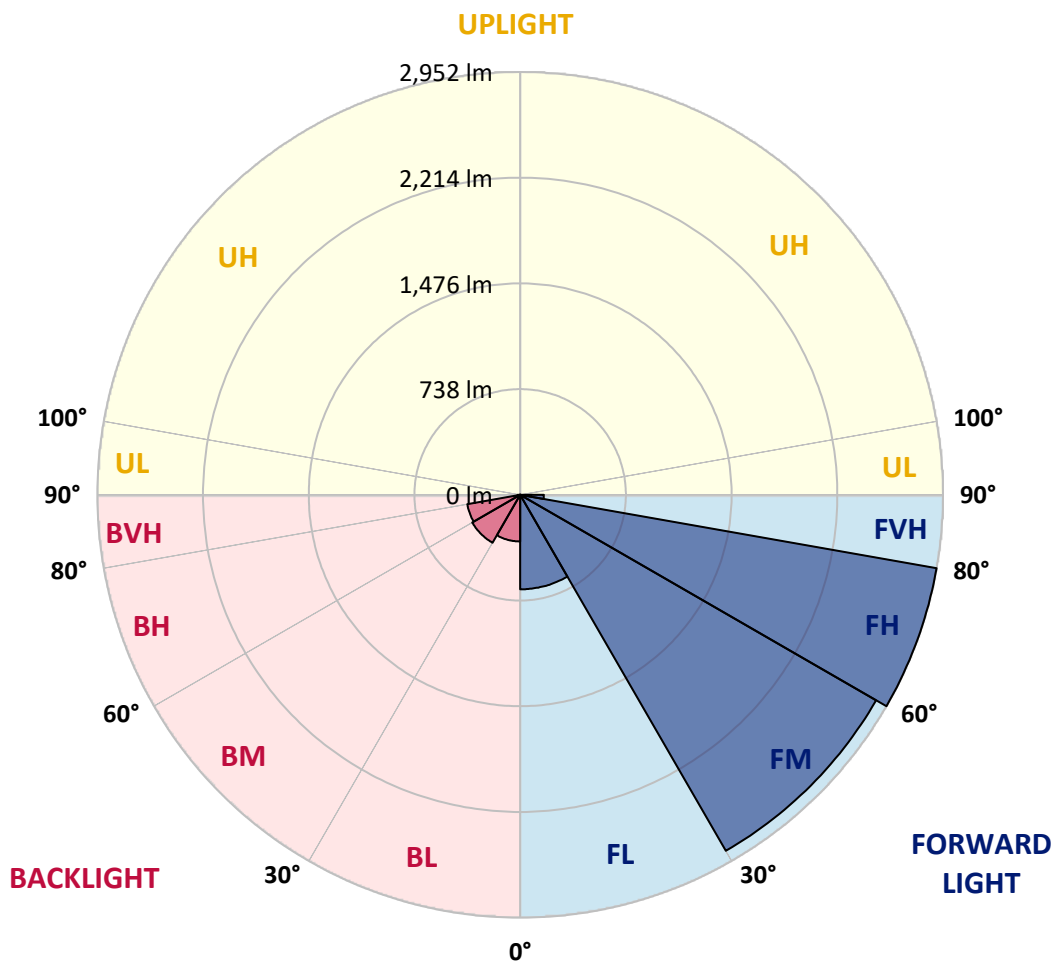
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	659.5	8.5			
FM	(30°-60°)	2869.4	37.0			
FH	(60°-80°)	2951.7	38.1			G2/5000
FVH	(80°-90°)	165.7	2.1			G2/225
BL	(0°-30°)	325.8	4.2	B1/500		
BM	(30°-60°)	386.3	5.0	B1/1000		
BH	(60°-80°)	374.9	4.8	B1/500		G1/500
BVH	(80°-90°)	18.7	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°	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9
2.5°	2030.6	2036.0	2036.0	2031.5	2029.2	2014.7	2006.2	2000.3	1989.8	1970.5	1953.1
5°	1958.0	1968.6	1973.0	1975.0	1987.9	1983.4	1983.9	1979.9	1970.9	1950.1	1921.8
7.5°	1824.8	1826.9	1834.8	1848.2	1879.5	1901.3	1919.2	1922.8	1920.8	1905.4	1865.6
10°	1693.6	1697.2	1706.5	1729.3	1759.2	1790.5	1829.3	1845.2	1857.2	1852.2	1802.0
12.5°	1584.7	1585.3	1595.6	1622.1	1655.3	1694.6	1747.3	1772.1	1800.5	1811.9	1755.7
15°	1479.8	1486.8	1496.8	1528.5	1569.8	1619.5	1680.2	1714.5	1751.8	1784.5	1720.0
17.5°	1400.2	1405.7	1411.7	1438.1	1485.8	1547.9	1623.0	1659.7	1709.1	1759.2	1683.1
20°	1356.6	1358.5	1354.0	1367.1	1407.3	1474.4	1561.4	1605.6	1664.2	1734.8	1645.3
22.5°	1347.6	1347.6	1331.3	1328.7	1346.6	1403.3	1497.7	1551.9	1623.5	1718.0	1611.6
25°	1389.3	1386.4	1355.6	1327.3	1320.7	1349.6	1437.1	1503.7	1588.7	1717.4	1586.2
27.5°	1468.5	1464.4	1426.2	1378.5	1337.3	1324.8	1390.4	1458.5	1561.4	1734.4	1573.4
30°	1566.9	1565.3	1526.6	1467.0	1398.8	1334.7	1372.0	1435.1	1543.0	1765.6	1572.8
32.5°	1674.7	1667.8	1644.0	1584.3	1495.8	1389.9	1382.9	1436.1	1538.1	1811.4	1584.3
35°	1789.5	1784.5	1778.6	1718.4	1619.0	1487.3	1431.1	1470.4	1562.4	1875.0	1616.6
37.5°	1935.6	1930.2	1940.1	1874.6	1765.6	1615.1	1512.7	1539.0	1612.1	1967.5	1676.7
40°	2195.7	2179.7	2152.0	2051.1	1936.6	1771.6	1630.4	1634.4	1697.2	2091.2	1773.2
42.5°	2622.7	2571.4	2433.8	2248.3	2117.1	1953.5	1784.1	1765.2	1814.4	2254.8	1913.3
45°	3050.6	2993.0	2760.3	2463.6	2304.1	2148.9	1974.0	1928.8	1960.5	2445.2	2093.7
47.5°	3327.1	3298.7	3036.2	2678.8	2499.9	2361.6	2191.2	2116.6	2139.6	2660.9	2316.4
50°	3408.2	3383.8	3177.4	2847.3	2684.8	2618.7	2460.1	2361.2	2365.1	2913.0	2583.4
52.5°	3347.3	3337.5	3200.7	2951.7	2854.8	2889.6	2832.4	2694.8	2661.9	3189.4	2872.8
55°	3266.5	3269.9	3217.1	3056.6	3027.8	3142.1	3319.7	3208.7	3069.5	3477.1	3174.0
57.5°	3011.4	3013.9	3152.0	3256.5	3357.9	3496.1	3698.9	3652.1	3490.1	3787.8	3511.5
60°	2424.8	2444.2	2751.9	3215.2	3735.1	4193.5	4243.2	4162.7	3937.4	4145.8	3950.4
62.5°	1732.5	1749.8	2106.2	2791.1	3690.9	4982.9	5248.3	4928.1	4544.4	4681.1	4567.8
65°	910.1	907.2	1183.1	1928.8	3108.9	5165.8	6832.1	6287.3	5567.0	5417.3	5164.2
67.5°	508.5	524.9	631.8	972.9	2026.1	4546.4	7843.6	8004.3	6988.7	6001.4	5138.5
69°	470.3	475.8	547.3	752.1	1320.7	3751.1	7756.7	8522.7	7588.2	6003.9	4807.4
70°	456.8	462.8	527.9	692.9	1109.5	3073.6	7440.0	8462.0	7733.8	5870.7	4506.2
72.5°	409.6	417.6	480.7	622.9	935.0	1584.3	5993.0	7242.7	7005.4	5131.1	3494.1
75°	349.4	362.8	458.4	618.4	885.9	1007.2	3996.6	5396.0	5214.0	3669.6	1982.4
77.5°	144.7	146.2	200.4	452.9	929.6	963.8	2147.9	3417.9	3025.8	1609.1	597.0
80°	100.9	98.9	99.9	132.2	750.1	970.3	1102.1	1738.4	1351.1	424.5	279.3
82.5°	85.0	84.0	88.0	83.0	254.0	1101.2	921.6	906.2	636.3	228.7	133.2
85°	56.2	54.6	72.1	75.6	120.8	874.4	991.2	712.4	474.1	122.3	56.7
87.5°	27.4	27.9	41.3	51.3	64.1	276.9	949.5	563.2	366.3	53.2	22.8
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°	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9	1977.9
2.5°	1946.1	1931.1	1917.8	1900.9	1888.0	1877.1	1862.1	1861.6	1859.1	1862.7	1863.6
5°	1902.9	1878.0	1840.3	1798.0	1768.2	1728.9	1690.6	1677.6	1663.3	1661.9	1666.2
7.5°	1837.7	1799.0	1734.4	1669.7	1605.1	1539.0	1476.4	1444.5	1413.7	1404.3	1408.8
10°	1765.2	1715.9	1617.0	1511.7	1420.7	1322.2	1226.9	1165.1	1109.0	1085.2	1091.2
12.5°	1708.5	1645.9	1506.6	1370.0	1233.7	1092.6	966.8	845.0	753.2	711.9	714.3
15°	1659.7	1579.8	1403.3	1221.4	1050.8	857.4	683.0	541.8	461.3	431.5	430.5
17.5°	1607.1	1510.2	1295.4	1083.2	861.9	622.9	457.4	373.7	342.0	332.0	332.0
20°	1550.9	1438.6	1182.6	932.5	663.1	435.0	343.9	311.7	299.7	296.7	296.3
22.5°	1498.7	1368.5	1069.2	772.0	479.6	330.1	292.9	280.4	278.4	280.9	280.9
25°	1457.5	1306.8	954.4	603.0	349.0	276.4	260.5	259.0	266.5	275.5	276.9
27.5°	1426.7	1251.7	841.1	440.5	274.3	240.6	235.1	241.6	259.0	276.9	280.4
30°	1405.3	1204.5	705.4	316.7	228.7	210.8	213.3	224.6	251.1	278.4	285.8
32.5°	1395.8	1166.3	568.7	243.1	195.3	185.4	191.9	206.8	234.2	261.4	270.4
35°	1404.7	1138.4	442.4	201.8	171.0	163.6	171.0	186.4	204.4	217.8	223.2
37.5°	1437.1	1128.4	333.0	178.9	155.0	147.6	153.6	164.0	172.0	177.0	179.4
40°	1505.1	1138.8	261.0	167.0	146.2	137.6	139.2	144.1	149.5	153.6	154.0
42.5°	1613.5	1173.1	232.1	162.6	140.7	129.7	127.3	130.8	136.7	142.1	143.1
45°	1757.8	1230.3	229.1	164.0	138.2	123.3	118.3	121.9	129.7	138.6	140.2
47.5°	1944.2	1320.7	243.1	172.0	139.7	119.7	112.3	115.9	126.3	138.2	140.2
50°	2164.9	1446.0	268.9	183.9	146.6	119.7	109.8	112.9	123.8	137.2	139.2
52.5°	2424.8	1620.6	295.8	195.9	156.6	124.2	110.9	110.4	120.3	132.8	135.3
55°	2711.6	1837.3	321.7	206.3	162.0	130.2	113.3	107.4	115.4	125.3	127.3
57.5°	3049.2	2134.1	366.9	216.3	165.0	134.7	116.4	104.4	108.8	115.9	117.4
60°	3507.0	2570.0	454.8	233.2	170.6	136.7	116.8	101.4	100.9	105.9	106.4
62.5°	4104.0	3080.4	538.8	253.1	181.5	137.2	114.8	99.4	94.4	95.9	95.9
65°	4528.5	3268.4	514.5	269.9	191.4	136.7	112.9	97.9	89.5	87.0	87.0
67.5°	4286.9	2887.0	436.9	274.3	192.4	131.2	108.3	94.4	85.0	79.0	79.0
69°	3932.0	2530.7	401.2	266.5	184.4	124.8	103.4	91.0	82.1	75.1	75.1
70°	3642.7	2260.8	379.2	257.0	175.0	119.3	98.9	87.5	79.0	73.1	72.5
72.5°	2719.6	1508.7	324.1	221.7	143.6	100.9	86.6	78.0	71.1	67.0	67.0
75°	1435.1	756.1	265.5	181.0	110.9	80.6	71.1	65.7	61.6	61.1	60.6
77.5°	470.3	342.0	190.8	136.2	81.5	62.6	56.7	53.2	52.7	54.6	54.6
80°	254.0	204.4	122.8	92.0	56.7	46.8	43.7	43.2	44.7	47.7	47.7
82.5°	123.3	100.9	73.1	56.7	38.8	34.3	34.3	34.8	36.8	40.3	40.3
85°	53.2	47.7	42.3	31.8	23.8	21.5	24.4	26.9	28.3	30.8	31.8
87.5°	25.3	22.4	19.3	12.4	10.5	10.9	12.9	16.0	18.9	20.9	21.5
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)