

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: P270253

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270253
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-AFL-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 2700K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5437.4 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

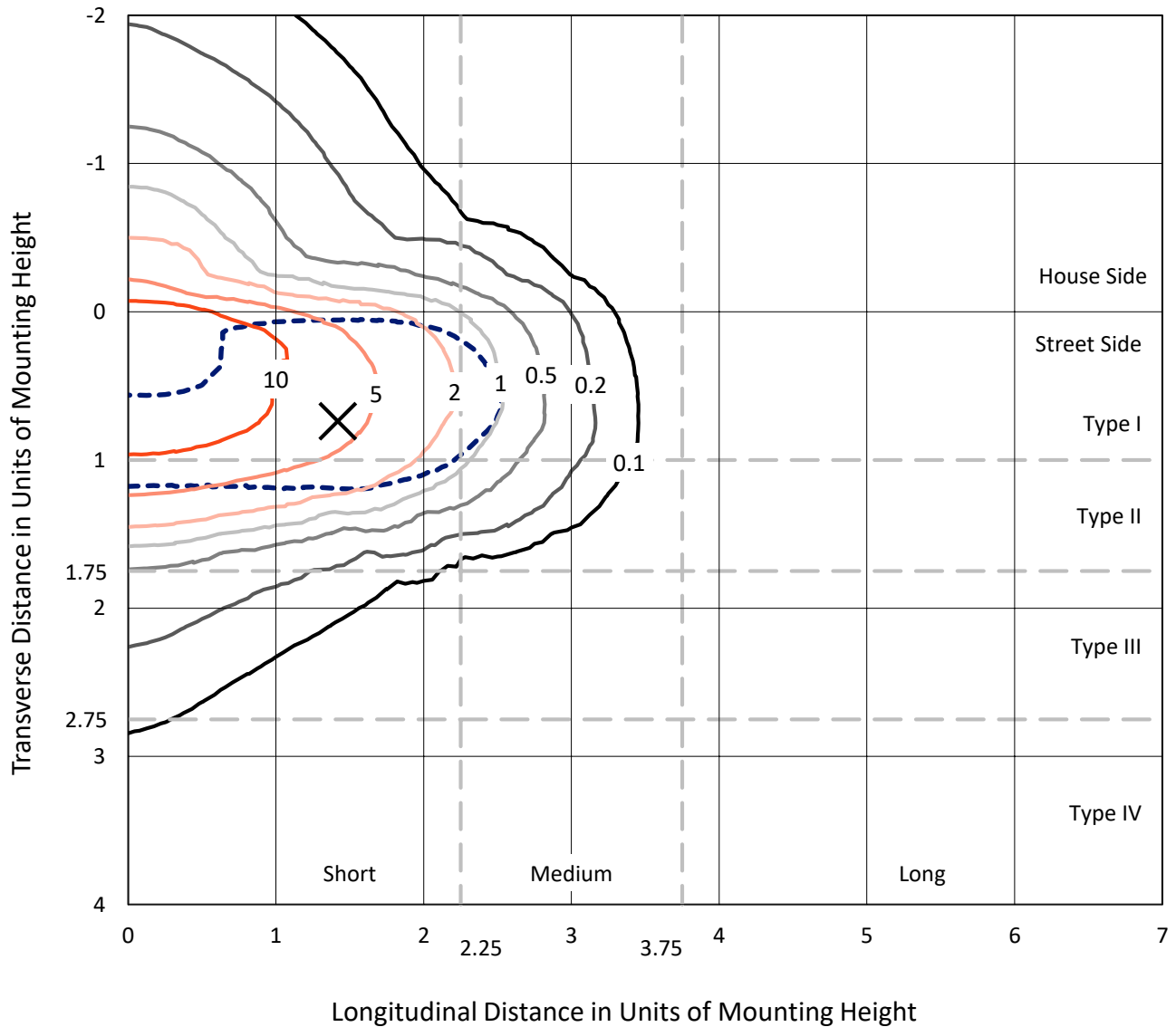
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

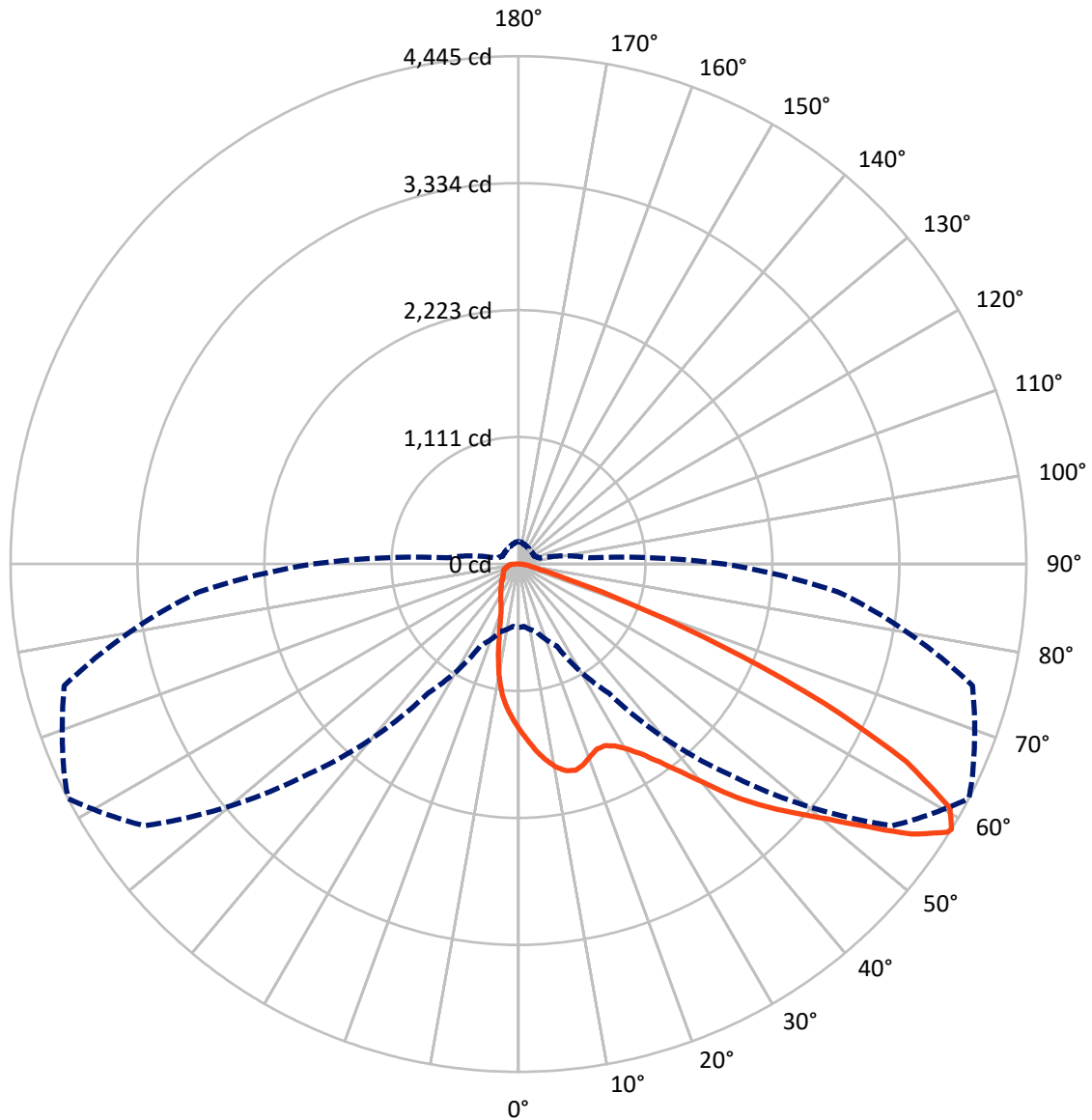
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	834.9	0.0	834.9
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	4602.6	0.0	4602.6
	% Fixture	84.6	0.0	84.6
Total	Lumens	5437.4	0.0	5437.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	2.4
10°-20°	327.5	6.0
20°-30°	530.7	9.8
30°-40°	847.4	15.6
40°-50°	1232.5	22.7
50°-60°	1289.7	23.7
60°-70°	786.3	14.5
70°-80°	219.9	4.0
80°-90°	73.7	1.4
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°	5437.4	100.0
0°-180°	5437.4	100.0



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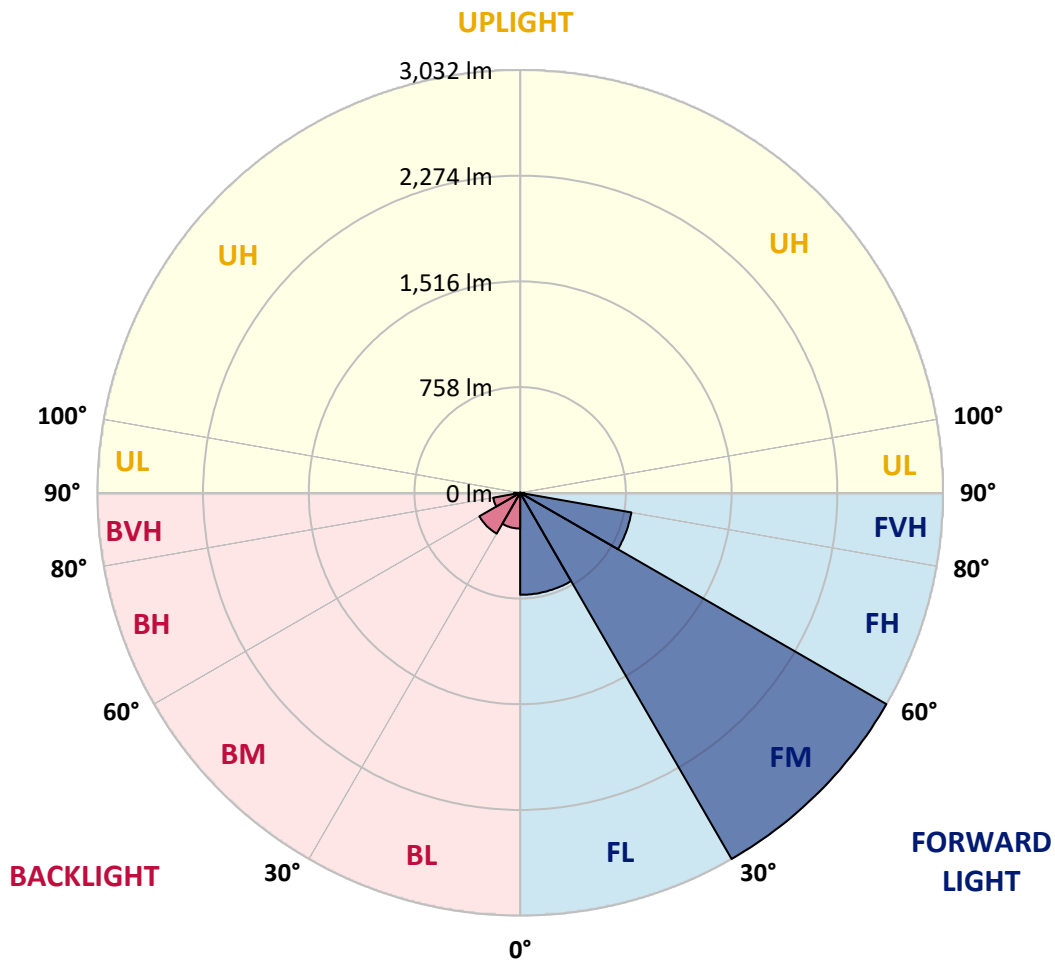
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	731.3	13.5			
FM	(30°-60°)	3032.0	55.8			
FH	(60°-80°)	809.6	14.9			G1/1800
FVH	(80°-90°)	29.7	0.5			G1/100
BL	(0°-30°)	256.6	4.7	B1/500		
BM	(30°-60°)	337.6	6.2	B1/1000		
BH	(60°-80°)	196.5	3.6	B1/500		G1/500
BVH	(80°-90°)	44.1	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8
2.5°	1647.9	1646.9	1632.8	1623.6	1612.8	1587.7	1562.5	1543.8	1534.3	1498.0	1462.6
5°	1784.2	1780.0	1772.1	1762.4	1748.1	1716.5	1676.7	1642.5	1628.7	1564.2	1499.4
7.5°	1712.1	1718.5	1742.6	1769.8	1798.3	1800.5	1772.1	1731.5	1716.5	1630.2	1535.1
10°	1512.6	1510.0	1540.1	1593.1	1687.2	1780.4	1827.0	1806.9	1791.2	1692.6	1570.6
12.5°	1452.1	1451.4	1456.5	1470.0	1529.3	1657.1	1813.0	1856.4	1851.0	1758.9	1608.8
15°	1470.4	1471.2	1470.7	1472.5	1488.9	1549.7	1735.2	1873.1	1890.2	1824.5	1647.5
17.5°	1529.3	1526.8	1519.4	1511.2	1513.6	1535.4	1651.3	1844.6	1895.6	1882.9	1680.1
20°	1620.0	1620.0	1599.9	1577.2	1562.2	1567.0	1616.2	1795.6	1870.5	1932.7	1704.5
22.5°	1733.8	1735.5	1705.9	1664.5	1630.6	1617.6	1636.4	1759.3	1839.9	1978.4	1726.4
25°	1875.2	1874.9	1831.6	1772.1	1718.5	1687.6	1687.2	1760.9	1830.3	2032.1	1749.1
27.5°	2050.2	2034.2	1983.9	1899.2	1823.5	1776.3	1754.8	1803.7	1850.4	2098.1	1779.7
30°	2247.6	2231.3	2165.5	2056.7	1954.1	1885.1	1849.7	1877.8	1911.6	2182.1	1826.0
32.5°	2443.0	2446.8	2369.3	2246.7	2114.8	2017.6	1965.2	1982.6	2006.1	2284.7	1888.4
35°	2729.2	2728.8	2627.5	2474.3	2317.6	2183.2	2116.8	2126.0	2147.4	2429.5	1976.1
37.5°	2942.6	2939.2	2873.9	2738.4	2562.0	2400.5	2304.7	2306.0	2324.5	2611.3	2091.7
40°	2964.3	2963.7	2963.2	2943.9	2823.4	2671.1	2551.0	2526.4	2533.8	2804.2	2214.3
42.5°	2798.2	2823.0	2894.2	3003.8	3037.3	2957.5	2844.0	2788.7	2772.3	3025.9	2344.1
45°	2561.2	2573.9	2698.9	2945.0	3145.1	3226.7	3141.5	3024.5	2996.7	3241.4	2449.9
47.5°	2451.1	2445.7	2518.0	2786.3	3134.5	3440.8	3446.8	3255.2	3207.9	3427.2	2539.9
50°	2215.0	2207.9	2299.3	2552.9	3019.7	3547.1	3760.6	3506.8	3419.4	3603.9	2621.4
52.5°	1744.4	1737.5	1860.2	2186.8	2762.7	3507.4	4024.9	3815.3	3666.4	3774.1	2697.6
55°	1135.0	1135.6	1252.5	1589.5	2235.7	3275.6	4149.0	4171.8	4005.0	3944.4	2759.1
57.5°	625.0	619.2	702.5	909.4	1538.1	2749.3	4045.6	4428.6	4341.7	4090.5	2803.6
58°	555.6	548.9	613.1	791.4	1379.0	2600.8	3993.7	4445.0	4384.8	4114.6	2810.1
60°	396.0	384.4	374.6	446.2	794.6	1875.2	3647.1	4339.4	4397.5	4162.9	2803.9
62.5°	333.7	320.4	285.1	282.3	374.1	917.2	2884.2	3810.9	3973.7	4051.7	2705.3
65°	309.9	296.7	250.1	233.5	253.9	396.0	1783.5	2942.6	3160.1	3665.4	2457.4
67.5°	292.9	277.2	227.4	205.6	209.7	236.9	756.8	1924.4	2176.7	2858.2	1971.3
70°	277.7	260.2	209.3	184.2	180.7	180.1	295.6	1004.8	1247.8	1870.5	1320.6
72.5°	260.2	243.4	193.3	166.5	159.0	146.2	177.8	415.2	569.3	916.9	605.3
75°	235.1	221.3	175.7	152.0	139.0	118.5	131.2	199.2	245.3	351.1	281.0
77.5°	207.0	195.7	157.7	139.6	122.3	96.8	100.3	134.9	151.5	197.7	162.8
80°	146.5	150.6	137.6	123.0	107.7	78.2	77.2	99.0	108.8	132.9	109.5
82.5°	100.9	103.9	112.2	97.1	87.0	60.8	56.8	68.6	73.8	80.2	53.0
85°	72.0	70.0	77.9	69.7	63.9	38.7	36.3	43.5	46.5	49.0	25.5
87.5°	43.8	43.5	44.8	36.0	33.2	19.8	18.1	20.8	22.1	21.4	12.2
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°	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8	1451.8
2.5°	1449.3	1432.7	1396.3	1367.1	1335.5	1311.3	1287.4	1273.6	1258.7	1250.3	1249.3
5°	1465.3	1431.4	1353.8	1281.8	1207.7	1141.1	1075.9	1027.7	988.2	965.8	964.4
7.5°	1483.0	1429.7	1310.1	1185.4	1053.4	922.3	806.4	724.6	671.8	647.4	645.7
10°	1496.5	1422.6	1256.6	1062.7	853.7	680.3	574.9	526.8	510.7	506.6	506.0
12.5°	1512.9	1417.4	1189.4	905.3	652.4	518.0	486.0	482.8	486.3	488.3	488.7
15°	1528.1	1407.6	1098.6	731.0	510.7	462.8	463.5	470.1	476.8	479.9	480.1
17.5°	1535.4	1383.4	979.4	576.1	446.8	438.1	445.9	454.4	460.6	462.8	462.8
20°	1535.4	1344.8	841.1	466.6	413.6	415.2	424.8	431.2	432.7	430.6	429.5
22.5°	1528.8	1296.9	706.4	407.1	386.5	392.9	400.4	396.0	380.0	367.6	365.3
25°	1523.2	1240.0	577.0	370.7	362.6	371.1	368.0	337.9	313.2	300.8	298.6
27.5°	1513.6	1171.4	468.9	340.8	339.5	346.2	316.1	286.7	274.6	267.8	266.4
30°	1511.2	1097.0	392.5	314.3	316.7	307.2	272.5	263.1	260.2	256.6	254.8
32.5°	1519.0	1022.5	344.6	292.6	295.0	263.7	250.4	251.9	251.4	246.8	245.0
35°	1540.5	950.1	314.0	272.8	266.1	236.2	238.0	242.0	242.0	236.2	234.2
37.5°	1577.9	882.9	294.6	256.2	232.8	221.9	226.4	231.8	231.8	227.7	226.1
40°	1617.6	817.3	280.0	243.0	211.7	212.1	216.5	220.5	222.2	222.9	221.5
42.5°	1653.6	749.4	264.5	228.7	202.2	204.5	206.6	209.7	216.9	221.5	221.0
45°	1674.7	681.0	247.5	211.0	195.7	196.8	196.1	201.5	210.1	217.1	217.1
47.5°	1694.1	625.0	233.5	193.3	189.4	189.4	187.2	192.6	200.5	208.9	209.7
50°	1712.3	588.6	223.6	179.8	181.1	180.1	179.4	184.5	195.0	205.3	207.0
52.5°	1731.2	576.4	214.8	169.9	172.7	171.2	171.9	179.1	191.0	201.5	203.2
55°	1757.3	584.2	205.6	163.1	164.5	164.1	166.8	175.0	185.5	196.1	196.8
57.5°	1789.6	612.7	197.7	158.0	156.7	158.7	163.1	170.9	181.1	193.8	194.8
58°	1796.0	619.6	196.4	156.7	155.0	158.0	162.5	169.9	180.5	193.8	194.8
60°	1805.9	643.6	193.0	153.9	149.2	154.6	160.1	167.5	179.1	195.4	197.4
62.5°	1758.3	648.3	192.0	150.8	143.1	149.8	156.3	164.7	177.8	201.2	205.6
65°	1593.5	599.4	185.0	145.7	138.0	146.2	152.9	162.8	181.7	218.5	220.5
67.5°	1279.1	497.8	167.5	138.0	132.2	141.8	150.1	162.8	183.6	221.3	222.6
70°	879.5	374.1	145.7	129.4	125.5	136.3	149.2	166.5	177.8	209.3	205.3
72.5°	459.5	260.2	127.7	119.7	117.3	131.5	159.0	162.8	170.9	195.4	191.2
75°	231.5	177.1	112.5	108.4	108.1	129.8	178.0	156.7	163.9	183.9	192.6
77.5°	136.6	138.7	100.3	97.8	99.5	126.8	178.5	150.6	155.6	169.2	178.8
80°	93.5	114.5	90.6	90.1	91.4	116.6	164.5	143.1	146.2	160.1	170.3
82.5°	52.7	63.2	79.5	83.9	83.3	95.5	142.0	130.2	133.8	189.4	200.1
85°	25.5	38.1	66.7	78.5	71.1	63.5	115.5	115.5	116.6	135.6	137.4
87.5°	9.5	17.0	44.8	62.3	49.6	38.1	78.5	81.8	91.1	93.9	95.8
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)