

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: P196015

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196015
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-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5173.1 lumens
Efficiency: N/A
Efficacy: 117.6 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

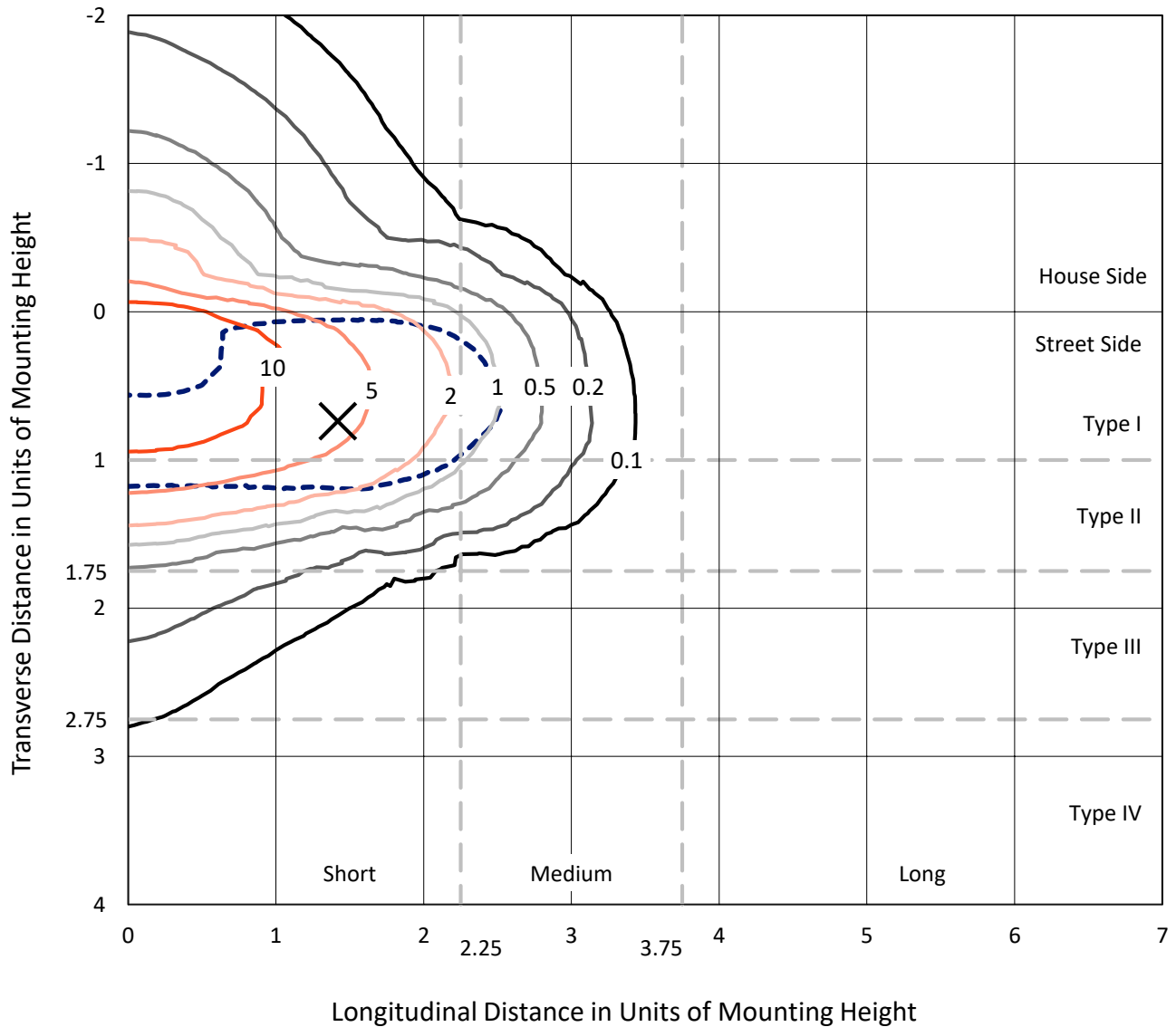
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

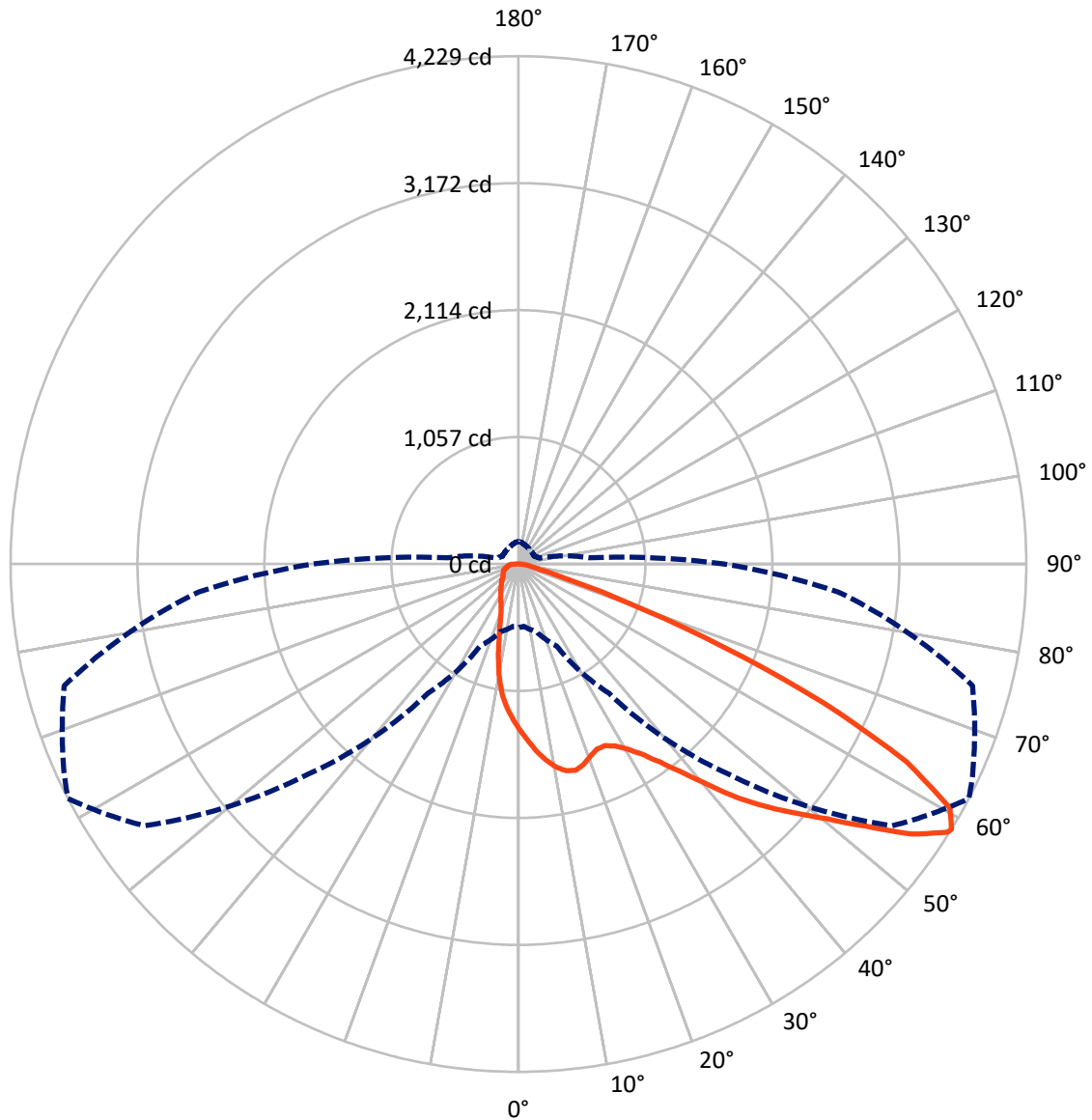
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.2 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	794.3	0.0	794.3
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	4378.8	0.0	4378.8
	% Fixture	84.6	0.0	84.6
Total	Lumens	5173.1	0.0	5173.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.5	2.4
10°-20°	311.6	6.0
20°-30°	504.9	9.8
30°-40°	806.2	15.6
40°-50°	1172.6	22.7
50°-60°	1227.0	23.7
60°-70°	748.0	14.5
70°-80°	209.2	4.0
80°-90°	70.1	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°	5173.1	100.0
0°-180°	5173.1	100.0



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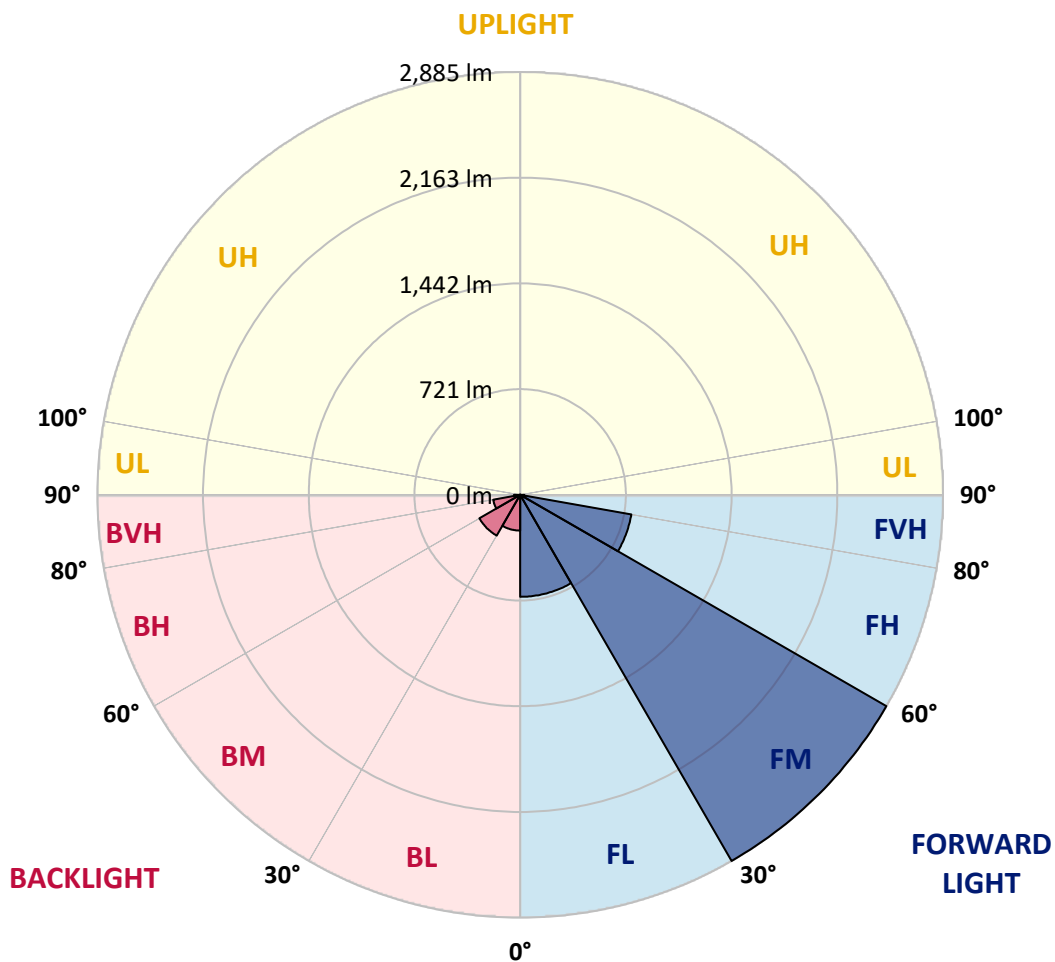
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	695.8	13.5			
FM	(30°-60°)	2884.6	55.8			
FH	(60°-80°)	770.2	14.9			G1/1800
FVH	(80°-90°)	28.2	0.5			G1/100
BL	(0°-30°)	244.2	4.7	B1/500		
BM	(30°-60°)	321.2	6.2	B1/1000		
BH	(60°-80°)	187.0	3.6	B1/500		G1/500
BVH	(80°-90°)	41.9	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°	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2
2.5°	1567.7	1566.8	1553.5	1544.8	1534.4	1510.5	1486.6	1468.8	1459.8	1425.2	1391.5
5°	1697.4	1693.5	1686.0	1676.7	1663.1	1633.0	1595.2	1562.6	1549.7	1488.2	1426.4
7.5°	1628.8	1635.0	1657.9	1683.8	1711.0	1712.9	1686.0	1647.3	1633.0	1550.9	1460.4
10°	1439.1	1436.4	1465.3	1515.7	1605.2	1693.8	1738.1	1719.1	1704.1	1610.4	1494.3
12.5°	1381.5	1380.9	1385.7	1398.7	1454.8	1576.5	1724.9	1766.2	1761.1	1673.4	1530.5
15°	1399.0	1399.6	1399.3	1400.9	1416.4	1474.3	1650.8	1782.1	1798.2	1735.8	1567.4
17.5°	1454.8	1452.6	1445.5	1437.8	1440.0	1460.7	1570.9	1754.9	1803.5	1791.5	1598.5
20°	1541.2	1541.2	1522.2	1500.5	1486.2	1490.7	1537.7	1708.3	1779.5	1838.7	1621.7
22.5°	1649.5	1651.1	1623.0	1583.5	1551.2	1538.9	1556.7	1673.8	1750.4	1882.3	1642.4
25°	1784.0	1783.7	1742.6	1686.0	1635.0	1605.5	1605.2	1675.4	1741.4	1933.4	1664.0
27.5°	1950.6	1935.3	1887.4	1806.9	1734.8	1689.9	1669.6	1716.1	1760.4	1996.1	1693.2
30°	2138.4	2122.8	2060.1	1956.7	1859.0	1793.4	1759.8	1786.6	1818.6	2076.0	1737.2
32.5°	2324.2	2327.8	2254.1	2137.4	2011.9	1919.5	1869.6	1886.2	1908.5	2173.6	1796.6
35°	2596.5	2596.1	2499.8	2354.0	2205.0	2076.9	2013.9	2022.6	2042.9	2311.4	1880.1
37.5°	2799.5	2796.3	2734.2	2605.3	2437.4	2283.8	2192.7	2193.9	2211.4	2484.3	1989.9
40°	2820.2	2819.6	2819.3	2800.8	2686.1	2541.2	2427.1	2403.5	2410.6	2668.0	2106.7
42.5°	2662.1	2685.8	2753.6	2857.7	2889.7	2813.7	2705.8	2653.0	2637.6	2878.8	2230.1
45°	2436.8	2448.7	2567.7	2801.8	2992.2	3069.8	2988.7	2877.5	2851.0	3083.7	2330.7
47.5°	2332.0	2326.8	2395.8	2650.8	2982.2	3273.5	3279.3	3097.0	3052.1	3260.6	2416.4
50°	2107.3	2100.5	2187.5	2428.7	2873.0	3374.7	3577.8	3336.3	3253.1	3428.7	2494.0
52.5°	1659.5	1653.1	1769.8	2080.5	2628.5	3336.9	3829.3	3629.7	3488.2	3590.7	2566.4
55°	1079.8	1080.5	1191.7	1512.1	2127.0	3116.4	3947.3	3968.9	3810.2	3752.6	2624.9
57.5°	594.5	589.1	668.3	865.2	1463.3	2615.6	3849.0	4213.3	4130.6	3891.7	2667.3
58°	528.6	522.1	583.3	753.0	1312.0	2474.3	3799.5	4228.9	4171.7	3914.6	2673.5
60°	376.7	365.7	356.3	424.5	755.9	1784.0	3469.7	4128.3	4183.6	3960.6	2667.7
62.5°	317.5	304.8	271.3	268.6	356.0	872.6	2744.0	3625.5	3780.4	3854.8	2573.8
65°	294.8	282.2	237.9	222.1	241.5	376.7	1696.8	2799.5	3006.5	3487.2	2337.9
67.5°	278.7	263.8	216.3	195.6	199.5	225.4	720.1	1830.9	2070.8	2719.3	1875.5
70°	264.1	247.7	199.2	175.2	172.0	171.3	281.3	956.0	1187.2	1779.5	1256.4
72.5°	247.7	231.5	183.9	158.5	151.3	139.0	169.1	395.1	541.6	872.3	575.8
75°	223.7	210.5	167.2	144.5	132.3	112.8	124.8	189.5	233.4	334.0	267.4
77.5°	196.9	186.2	150.0	132.9	116.4	92.2	95.3	128.4	144.2	188.1	154.9
80°	139.3	143.2	130.9	117.0	102.5	74.4	73.3	94.1	103.4	126.4	104.1
82.5°	96.1	98.9	106.7	92.5	82.8	57.9	54.0	65.3	70.2	76.3	50.4
85°	68.5	66.6	74.1	66.3	60.8	36.8	34.6	41.4	44.3	46.5	24.2
87.5°	41.7	41.4	42.7	34.3	31.7	18.7	17.2	19.7	21.0	20.4	11.7
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°	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2	1381.2
2.5°	1378.9	1363.1	1328.5	1300.7	1270.6	1247.7	1224.7	1211.8	1197.6	1189.5	1188.5
5°	1394.1	1361.8	1288.1	1219.6	1149.1	1085.7	1023.6	977.6	940.2	918.8	917.6
7.5°	1411.0	1360.1	1246.4	1127.7	1002.3	877.5	767.2	689.3	639.1	615.9	614.3
10°	1423.8	1353.4	1195.6	1011.0	812.1	647.2	547.1	501.1	485.9	482.0	481.4
12.5°	1439.4	1348.6	1131.6	861.3	620.7	492.8	462.4	459.4	462.7	464.6	464.9
15°	1453.9	1339.1	1045.3	695.4	485.9	440.4	441.0	447.1	453.6	456.5	456.8
17.5°	1460.7	1316.2	931.8	548.0	425.1	416.8	424.2	432.3	438.1	440.4	440.4
20°	1460.7	1279.3	800.2	443.9	393.4	395.1	404.2	410.3	411.5	409.6	408.7
22.5°	1454.5	1233.8	672.2	387.3	367.6	373.8	380.8	376.7	361.4	349.8	347.6
25°	1449.1	1179.8	549.0	352.7	344.9	353.0	350.2	321.4	298.1	286.1	284.2
27.5°	1440.0	1114.4	446.2	324.3	322.9	329.5	300.6	272.9	261.3	254.8	253.5
30°	1437.8	1043.6	373.4	299.1	301.4	292.3	259.3	250.2	247.7	244.1	242.4
32.5°	1445.2	972.8	327.9	278.3	280.6	250.9	238.2	239.6	239.3	234.8	233.1
35°	1465.6	904.0	298.7	259.6	253.2	224.7	226.3	230.2	230.2	224.7	222.8
37.5°	1501.1	839.9	280.3	243.8	221.5	211.1	215.3	220.4	220.4	216.7	215.0
40°	1538.9	777.5	266.4	231.2	201.4	201.7	205.9	209.8	211.4	212.1	210.8
42.5°	1573.2	712.9	251.5	217.6	192.4	194.7	196.6	199.5	206.2	210.8	210.1
45°	1593.2	647.9	235.4	200.8	186.2	187.2	186.6	191.7	199.8	206.6	206.6
47.5°	1611.7	594.5	222.1	183.9	180.0	180.0	178.1	183.3	190.8	198.9	199.5
50°	1629.2	560.0	212.8	171.0	172.4	171.3	170.7	175.5	185.6	195.3	196.9
52.5°	1647.0	548.3	204.3	161.6	164.3	163.0	163.6	170.4	181.7	191.7	193.3
55°	1671.8	555.8	195.6	155.2	156.5	156.2	158.8	166.5	176.6	186.6	187.2
57.5°	1702.5	582.9	188.1	150.4	149.0	151.0	155.2	162.6	172.4	184.3	185.3
58°	1708.6	589.4	186.9	149.0	147.4	150.4	154.6	161.6	171.7	184.3	185.3
60°	1718.0	612.3	183.6	146.5	141.9	147.1	152.3	159.4	170.4	185.9	187.8
62.5°	1672.8	616.8	182.7	143.5	136.2	142.6	148.7	156.8	169.1	191.4	195.6
65°	1516.0	570.3	175.8	138.7	131.2	139.0	145.5	154.9	173.0	207.9	209.8
67.5°	1216.9	473.6	159.4	131.2	125.7	134.8	142.9	154.9	174.6	210.5	211.8
70°	836.7	356.0	138.7	123.2	119.3	129.6	141.9	158.5	169.1	199.2	195.3
72.5°	437.1	247.7	121.5	113.9	111.5	125.1	151.3	154.9	162.6	185.9	182.0
75°	220.1	168.5	107.0	103.1	102.8	123.5	169.4	149.0	155.8	174.9	183.3
77.5°	130.0	132.0	95.3	93.1	94.7	120.6	169.7	143.2	148.1	161.0	170.0
80°	88.9	108.9	86.3	85.7	87.0	110.9	156.5	136.2	139.0	152.3	161.9
82.5°	50.1	60.1	75.7	79.9	79.2	90.8	135.1	123.8	127.4	180.0	190.5
85°	24.2	36.2	63.3	74.7	67.6	60.5	110.0	110.0	110.9	129.0	130.6
87.5°	9.0	16.2	42.7	59.1	47.2	36.2	74.7	77.9	86.6	89.2	91.1
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)