

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: P195541

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195541
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-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 5000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6259 lumens
Efficiency: N/A
Efficacy: 106.1 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

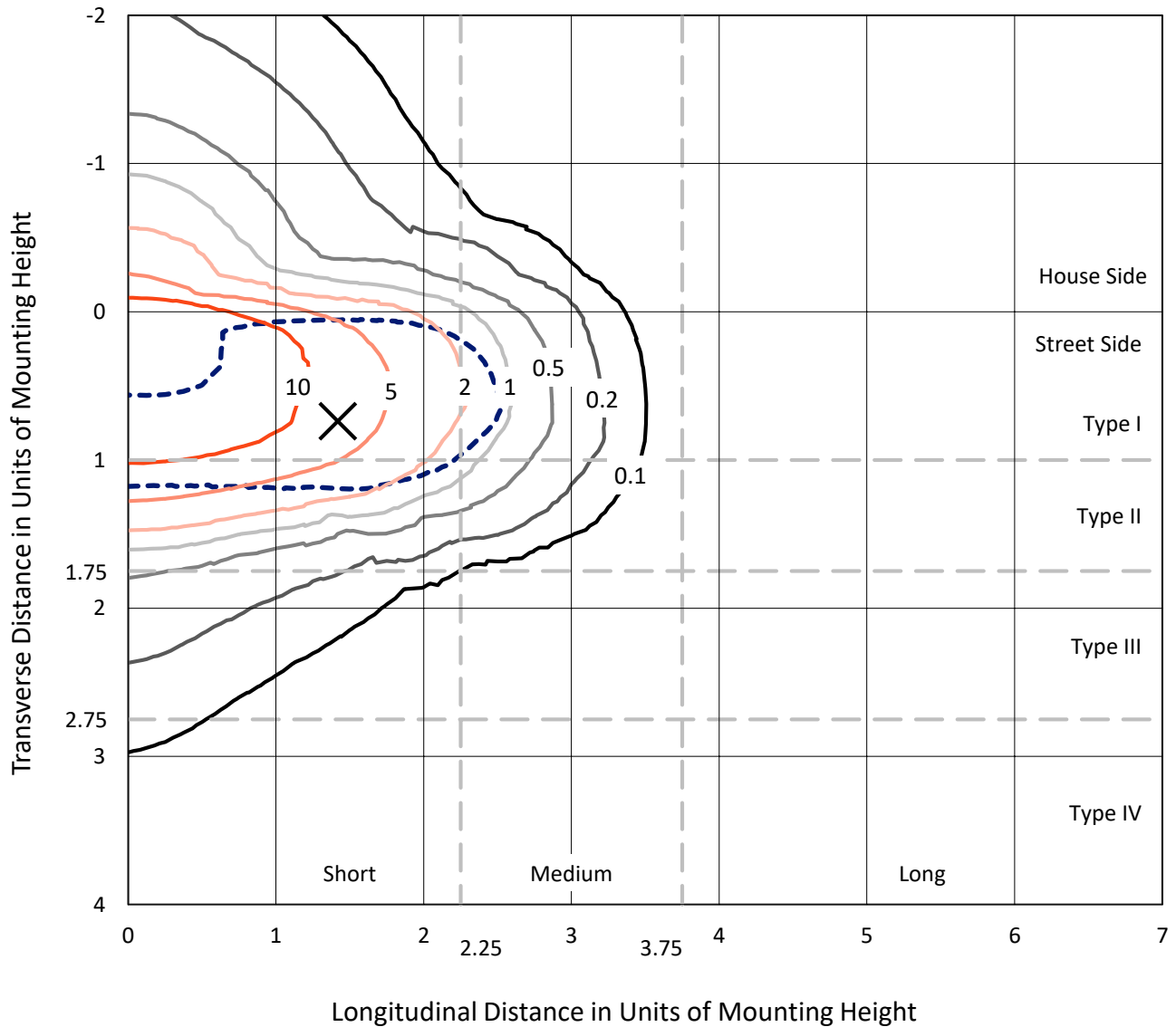
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

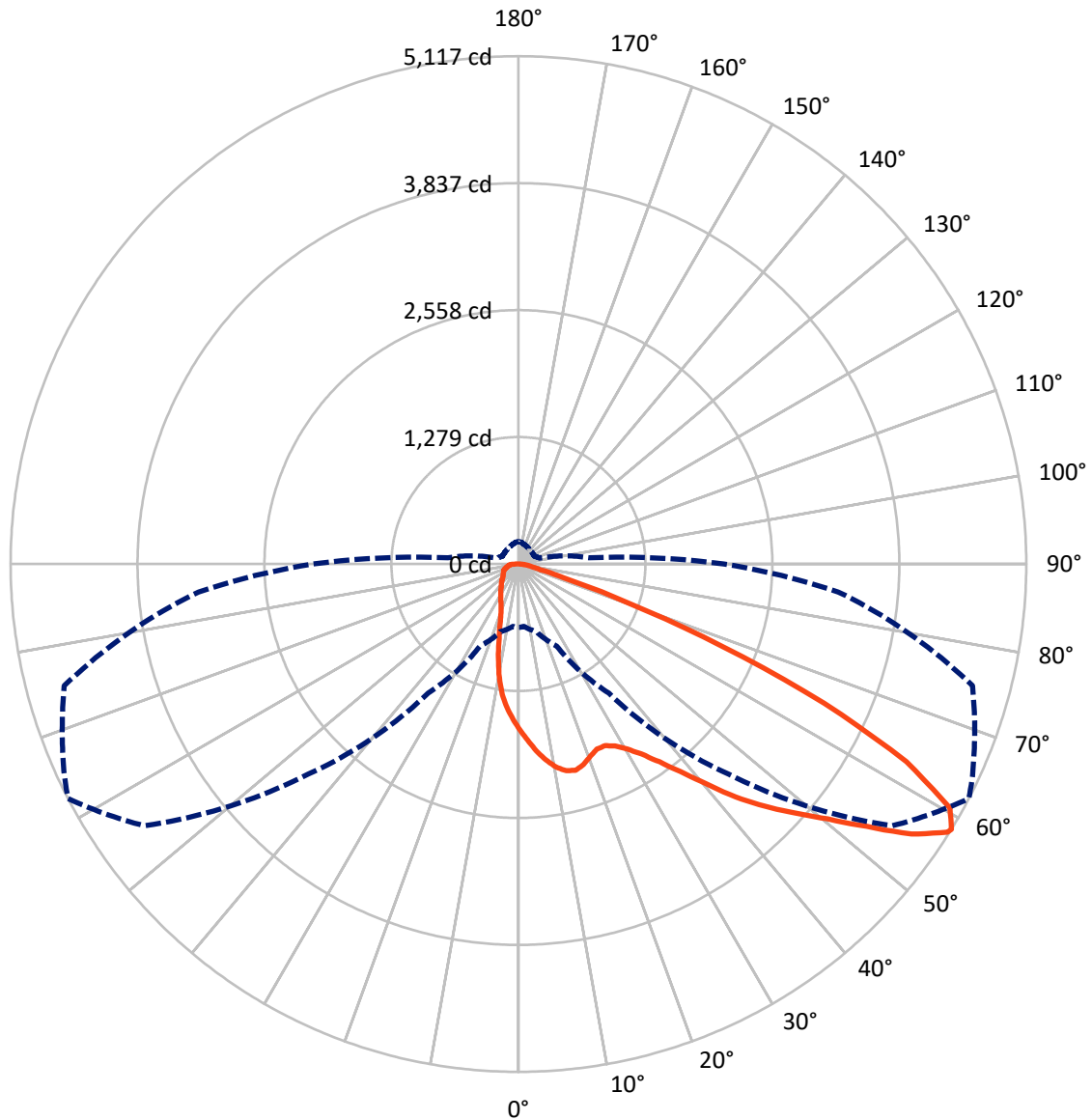
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 19.6 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	961.0	0.0	961.0
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	5298.0	0.0	5298.0
	% Fixture	84.6	0.0	84.6
Total	Lumens	6259.0	0.0	6259.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.4	2.4
10°-20°	377.0	6.0
20°-30°	610.9	9.8
30°-40°	975.4	15.6
40°-50°	1418.7	22.7
50°-60°	1484.6	23.7
60°-70°	905.1	14.5
70°-80°	253.1	4.0
80°-90°	84.8	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°	6259.0	100.0
0°-180°	6259.0	100.0



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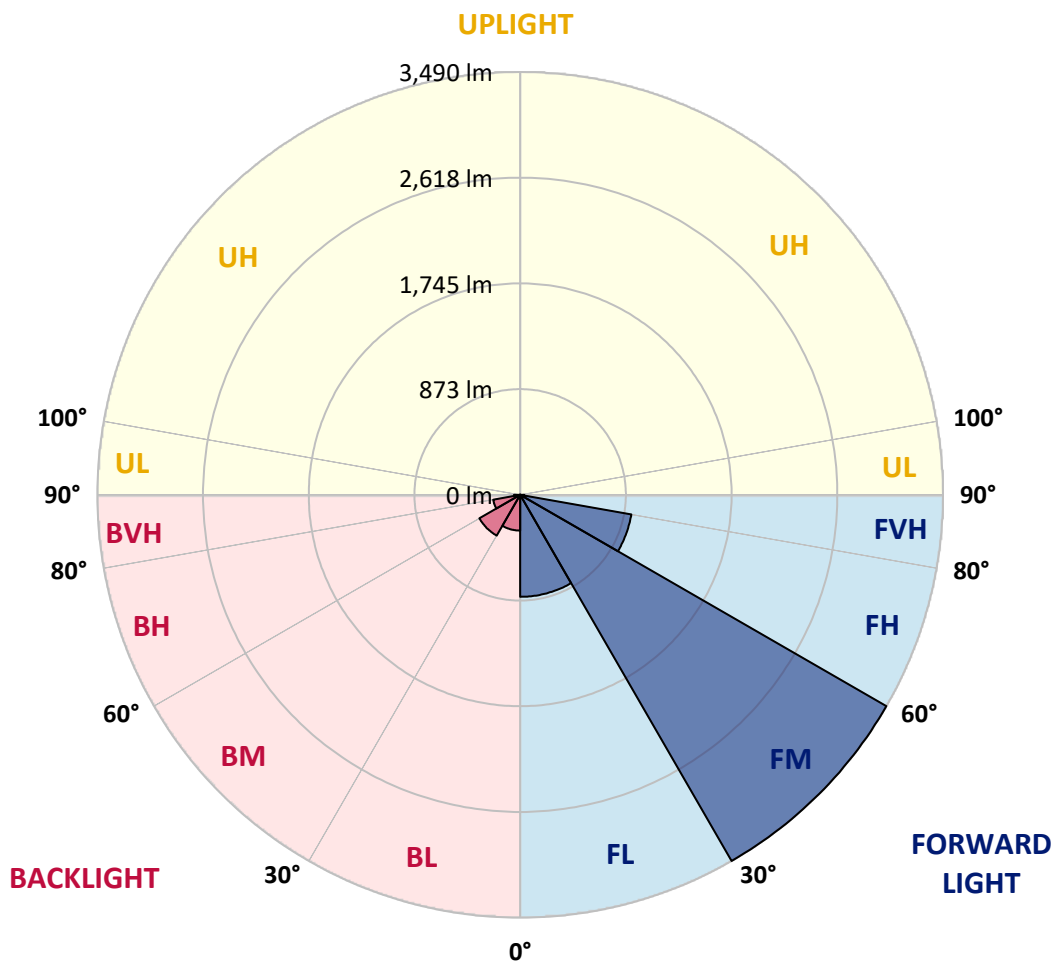
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	841.9	13.5			
FM (30°-60°)	3490.1	55.8			
FH (60°-80°)	931.9	14.9			G1/1800
FVH (80°-90°)	34.1	0.5			G1/100
BL (0°-30°)	295.4	4.7	B1/500		
BM (30°-60°)	388.6	6.2	B1/1000		
BH (60°-80°)	226.2	3.6	B1/500		G1/500
BVH (80°-90°)	50.7	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°	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1
2.5°	1896.8	1895.6	1879.6	1869.0	1856.5	1827.6	1798.6	1777.1	1766.2	1724.3	1683.6
5°	2053.7	2049.0	2040.0	2028.6	2012.2	1975.8	1930.1	1890.6	1874.9	1800.6	1725.9
7.5°	1970.8	1978.2	2006.0	2037.3	2070.1	2072.5	2040.0	1993.1	1975.8	1876.5	1767.0
10°	1741.1	1738.0	1772.8	1833.8	1942.2	2049.4	2103.0	2079.9	2061.9	1948.5	1808.0
12.5°	1671.5	1670.7	1676.6	1692.2	1760.3	1907.4	2086.9	2137.0	2130.7	2024.7	1851.8
15°	1692.6	1693.4	1693.0	1695.0	1713.8	1783.8	1997.4	2156.2	2175.7	2100.2	1896.4
17.5°	1760.3	1757.6	1749.0	1739.6	1742.3	1767.3	1900.7	2123.3	2182.0	2167.5	1934.0
20°	1864.7	1864.7	1841.7	1815.5	1798.2	1803.7	1860.4	2067.0	2153.0	2224.6	1962.1
22.5°	1995.8	1997.7	1963.7	1916.0	1876.9	1862.0	1883.5	2025.1	2117.8	2277.4	1987.2
25°	2158.5	2158.1	2108.4	2040.0	1978.2	1942.6	1942.2	2027.1	2106.9	2339.2	2013.4
27.5°	2360.0	2341.6	2283.7	2186.3	2099.1	2044.7	2020.0	2076.4	2130.0	2415.1	2048.6
30°	2587.3	2568.5	2492.6	2367.4	2249.3	2169.9	2129.2	2161.6	2200.4	2511.8	2101.8
32.5°	2812.2	2816.5	2727.3	2586.1	2434.3	2322.4	2262.2	2282.1	2309.1	2629.9	2173.8
35°	3141.5	3141.2	3024.6	2848.2	2667.8	2512.9	2436.6	2447.2	2471.9	2796.5	2274.7
37.5°	3387.2	3383.3	3308.2	3152.1	2949.1	2763.3	2653.0	2654.5	2675.7	3005.8	2407.7
40°	3412.2	3411.5	3411.1	3388.8	3249.9	3074.7	2936.6	2908.0	2916.6	3228.0	2548.9
42.5°	3221.0	3249.5	3331.7	3457.6	3496.3	3404.4	3273.8	3210.0	3191.2	3483.0	2698.3
45°	2948.3	2962.8	3106.7	3389.9	3620.4	3714.2	3616.0	3481.5	3449.4	3731.1	2820.0
47.5°	2821.6	2815.3	2898.6	3207.3	3608.2	3960.7	3967.7	3747.1	3692.7	3945.0	2923.7
50°	2549.7	2541.5	2646.7	2938.5	3476.0	4083.1	4328.8	4036.6	3936.0	4148.4	3017.5
52.5°	2007.9	2000.1	2141.3	2517.2	3180.3	4037.3	4633.1	4391.8	4220.4	4344.4	3105.2
55°	1306.5	1307.3	1441.9	1829.5	2573.6	3770.6	4775.9	4802.1	4610.0	4540.4	3176.0
57.5°	719.4	712.7	808.6	1046.8	1770.5	3164.6	4657.0	5097.8	4997.7	4708.6	3227.2
58°	639.6	631.8	705.7	911.1	1587.4	2993.7	4597.1	5116.6	5047.4	4736.4	3234.6
60°	455.7	442.4	431.1	513.6	914.6	2158.5	4198.1	4995.0	5061.8	4791.9	3227.6
62.5°	384.1	368.9	328.2	325.1	430.7	1055.8	3319.9	4386.7	4574.0	4664.0	3114.2
65°	356.8	341.5	287.9	268.7	292.2	455.7	2052.9	3387.2	3637.6	4219.2	2828.6
67.5°	337.2	319.2	261.7	236.7	241.4	272.7	871.2	2215.2	2505.5	3290.2	2269.2
70°	319.6	299.6	241.0	212.0	208.1	207.3	340.3	1156.7	1436.4	2153.0	1520.1
72.5°	299.6	280.1	222.6	191.7	183.1	168.2	204.6	478.0	655.2	1055.4	696.7
75°	270.7	254.7	202.2	174.9	160.0	136.5	151.0	229.2	282.4	404.1	323.5
77.5°	238.2	225.3	181.5	160.8	140.8	111.5	115.4	155.3	174.5	227.7	187.4
80°	168.6	173.3	158.4	141.6	124.0	90.0	88.8	113.8	125.2	153.0	126.0
82.5°	116.2	119.7	129.1	111.9	100.1	70.0	65.3	79.0	84.9	92.3	61.0
85°	82.9	80.6	89.6	80.2	73.5	44.6	41.9	50.1	53.6	56.3	29.3
87.5°	50.5	50.1	51.6	41.5	38.3	22.7	20.7	23.9	25.4	24.6	14.1
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°	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1	1671.1
2.5°	1668.4	1649.2	1607.3	1573.7	1537.3	1509.6	1481.8	1466.1	1448.9	1439.1	1438.0
5°	1686.8	1647.6	1558.5	1475.5	1390.2	1313.6	1238.5	1182.9	1137.5	1111.7	1110.2
7.5°	1707.1	1645.7	1508.0	1364.4	1212.7	1061.7	928.3	834.0	773.4	745.2	743.2
10°	1722.7	1637.5	1446.6	1223.2	982.6	783.1	661.9	606.3	587.9	583.2	582.5
12.5°	1741.5	1631.6	1369.1	1042.1	751.1	596.2	559.4	555.9	559.8	562.1	562.5
15°	1759.1	1620.3	1264.7	841.4	587.9	532.8	533.6	541.0	548.8	552.3	552.7
17.5°	1767.3	1592.5	1127.4	663.0	514.4	504.2	513.2	523.0	530.0	532.8	532.8
20°	1767.3	1547.9	968.2	537.1	476.1	478.0	489.0	496.4	498.0	495.6	494.4
22.5°	1759.9	1492.7	813.3	468.6	444.8	452.2	460.8	455.7	437.3	423.3	420.5
25°	1753.3	1427.4	664.2	426.8	417.4	427.2	423.6	388.8	360.7	346.2	343.8
27.5°	1742.3	1348.4	539.8	392.4	390.8	398.6	363.8	330.2	316.1	308.2	306.7
30°	1739.6	1262.7	451.8	361.8	364.6	353.6	313.7	302.8	299.6	295.3	293.4
32.5°	1748.6	1177.1	396.7	336.8	339.5	303.6	288.3	289.9	289.5	284.0	282.0
35°	1773.2	1093.7	361.4	314.1	306.3	271.9	273.8	278.5	278.5	271.9	269.5
37.5°	1816.2	1016.3	339.2	294.9	268.0	255.4	260.5	266.8	266.8	262.1	260.1
40°	1862.0	940.8	322.3	279.7	243.7	244.1	249.2	253.9	255.8	256.6	255.0
42.5°	1903.5	862.5	304.3	263.3	232.8	235.5	237.8	241.4	249.6	255.0	254.3
45°	1927.7	783.9	284.8	242.9	225.3	226.5	225.7	232.0	241.7	250.0	250.0
47.5°	1950.0	719.4	268.7	222.6	217.9	217.9	215.5	221.8	230.8	240.6	241.4
50°	1971.1	677.5	257.4	206.9	208.5	207.3	206.5	212.4	224.5	236.3	238.2
52.5°	1992.7	663.4	247.2	195.6	198.7	197.2	197.9	206.2	219.8	232.0	233.9
55°	2022.8	672.4	236.7	187.8	189.3	188.9	192.1	201.5	213.6	225.7	226.5
57.5°	2059.9	705.3	227.7	181.9	180.3	182.7	187.8	196.8	208.5	223.0	224.1
58°	2067.4	713.1	226.1	180.3	178.4	181.9	187.0	195.6	207.7	223.0	224.1
60°	2078.7	740.9	222.2	177.2	171.7	178.0	184.2	192.9	206.2	224.9	227.3
62.5°	2024.0	746.4	221.0	173.7	164.7	172.5	179.9	189.7	204.6	231.6	236.7
65°	1834.2	690.0	212.8	167.8	158.8	168.2	176.0	187.4	209.3	251.5	253.9
67.5°	1472.4	573.1	192.9	158.8	152.2	163.1	172.9	187.4	211.2	254.7	256.2
70°	1012.4	430.7	167.8	149.0	144.3	156.9	171.7	191.7	204.6	241.0	236.3
72.5°	528.9	299.6	147.1	137.7	135.0	151.4	183.1	187.4	196.8	224.9	220.2
75°	266.4	203.8	129.5	124.8	124.4	149.4	205.0	180.3	188.5	211.6	221.8
77.5°	157.3	159.6	115.4	112.7	114.6	145.9	205.4	173.3	179.2	194.8	205.8
80°	107.6	131.8	104.4	103.7	105.2	134.2	189.3	164.7	168.2	184.2	196.0
82.5°	60.6	72.8	91.5	96.6	95.8	109.9	163.5	149.8	154.1	217.9	230.4
85°	29.3	43.8	76.7	90.4	81.8	73.2	133.0	133.0	134.2	156.1	158.0
87.5°	11.0	19.6	51.6	71.6	57.1	43.8	90.4	94.3	104.8	108.0	110.3
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)