

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: P197054

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197054
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-SL2-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA 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: 9744 lumens
Efficiency: N/A
Efficacy: 86.2 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

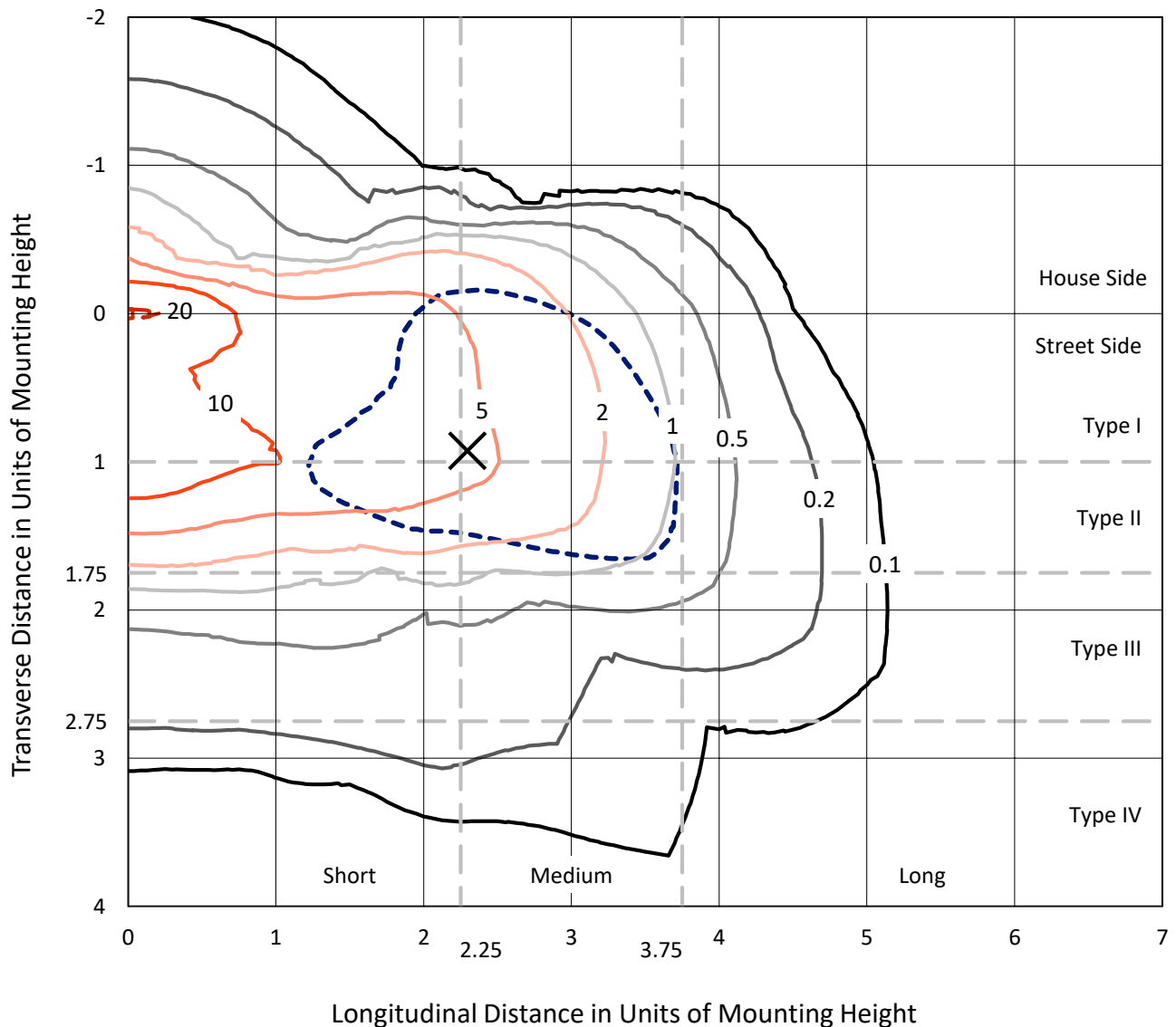
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P197054
 CATALOG NUMBER: NAV-AF-02-D-UNV-SL2-8030

Iso-Footcandle Lines of Horizontal Illumination

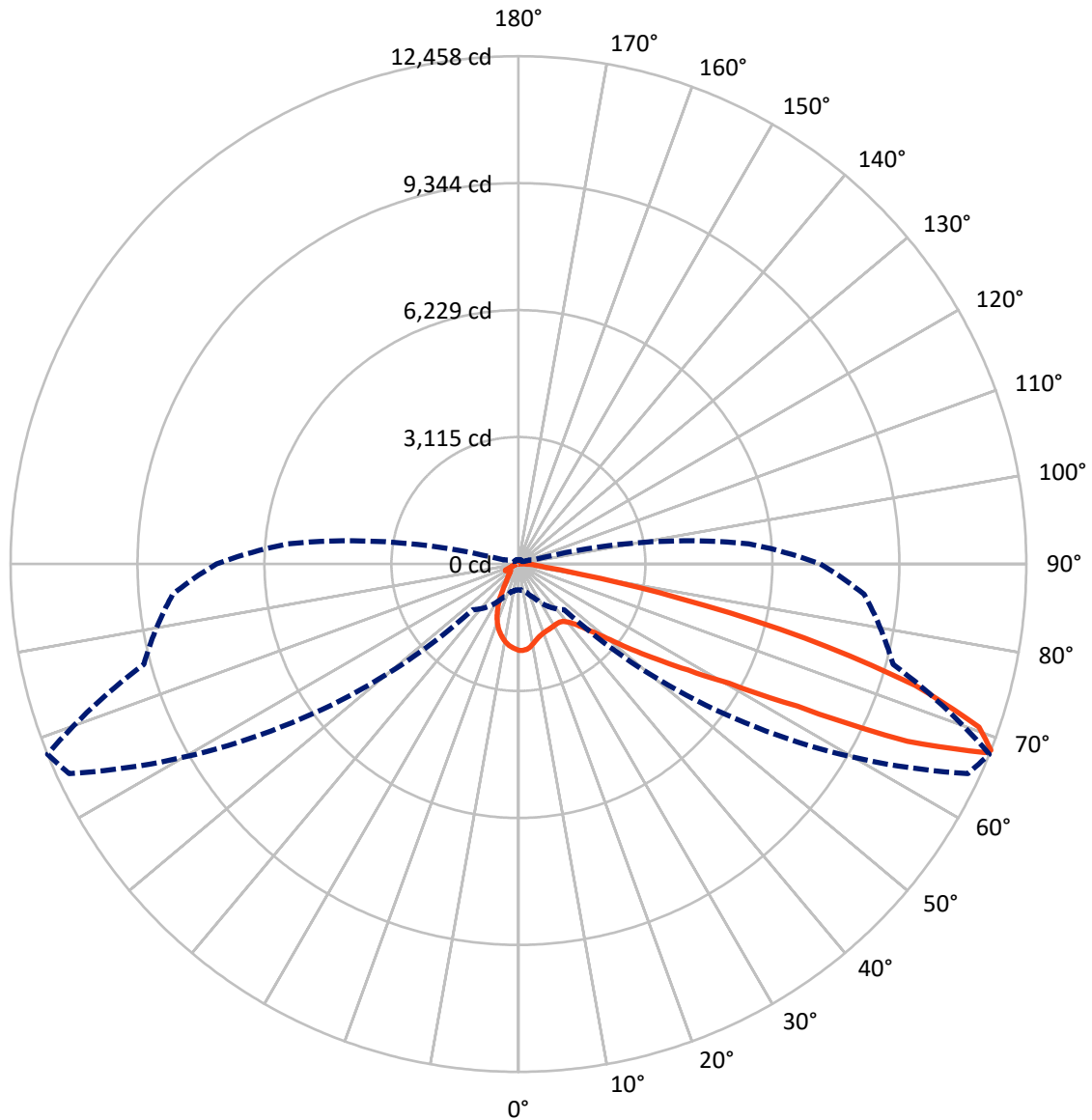
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.2 fc
 Type II - Medium - Semi-Cutoff

REPORT NUMBER: P197054
CATALOG NUMBER: NAV-AF-02-D-UNV-SL2-8030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197054

CATALOG NUMBER: NAV-AF-02-D-UNV-SL2-8030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1594.2	0.0	1594.2
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	8149.9	0.0	8149.9
	% Fixture	83.6	0.0	83.6
Total	Lumens	9744.0	0.0	9744.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.7	1.9
10°-20°	421.4	4.3
20°-30°	569.9	5.8
30°-40°	803.5	8.2
40°-50°	1321.2	13.6
50°-60°	2048.0	21.0
60°-70°	2655.4	27.3
70°-80°	1523.8	15.6
80°-90°	219.2	2.3
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°	9744.0	100.0
0°-180°	9744.0	100.0



REPORT NUMBER: P197054

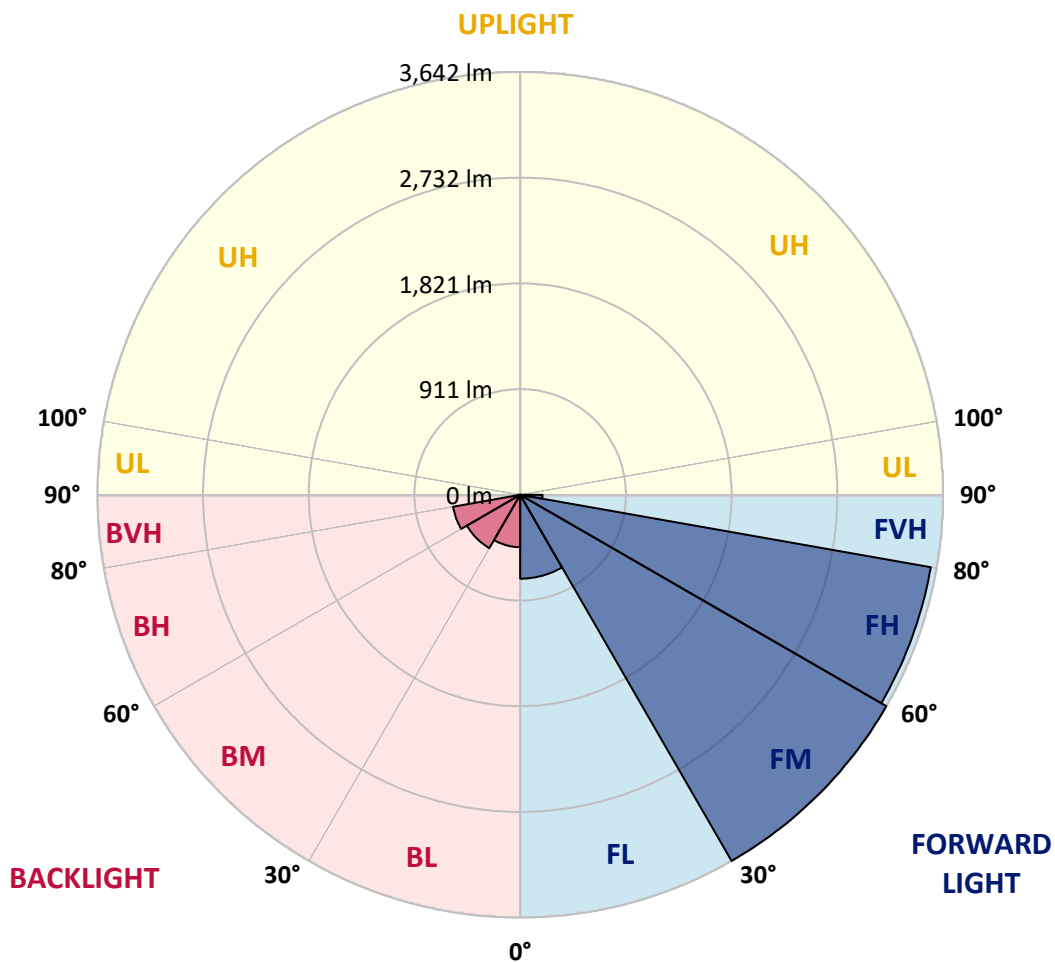
CATALOG NUMBER: NAV-AF-02-D-UNV-SL2-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	722.2	7.4			
FM	(30°-60°)	3642.5	37.4			
FH	(60°-80°)	3592.1	36.9			G2/5000
FVH	(80°-90°)	193.1	2.0			G2/225
BL	(0°-30°)	450.7	4.6	B1/500		
BM	(30°-60°)	530.2	5.4	B1/1000		
BH	(60°-80°)	587.1	6.0	B2/1000		G2/1000
BVH	(80°-90°)	26.1	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





REPORT NUMBER: P197054

CATALOG NUMBER: NAV-AF-02-D-UNV-SL2-8030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2
2.5°	2063.6	2080.1	2080.1	2092.2	2103.0	2111.9	2119.6	2119.6	2119.6	2114.5	2110.0
5°	1846.5	1868.8	1872.0	1902.5	1942.6	1991.6	2046.4	2094.7	2104.3	2122.1	2129.1
7.5°	1695.7	1702.7	1714.8	1735.8	1776.5	1837.0	1922.9	2031.1	2057.2	2113.2	2142.5
10°	1588.7	1594.5	1604.6	1625.6	1662.6	1717.3	1802.0	1942.6	1985.9	2085.2	2143.1
12.5°	1510.4	1514.9	1524.4	1543.5	1581.1	1630.1	1716.7	1863.1	1916.5	2057.2	2152.0
15°	1449.3	1457.0	1464.6	1483.1	1521.3	1568.4	1656.2	1805.1	1863.1	2034.9	2168.6
17.5°	1425.1	1429.0	1430.2	1439.8	1474.2	1521.9	1609.7	1764.4	1824.2	2017.1	2181.3
20°	1440.4	1441.1	1428.3	1422.0	1441.7	1485.6	1570.9	1733.8	1795.0	2001.2	2186.4
22.5°	1507.3	1507.3	1474.2	1446.1	1432.8	1460.1	1544.8	1712.8	1779.0	1989.1	2186.4
25°	1634.6	1628.8	1577.3	1521.9	1462.7	1451.2	1528.3	1699.5	1766.9	1982.7	2178.1
27.5°	1802.0	1796.9	1731.3	1649.2	1542.3	1470.3	1522.5	1688.7	1754.9	1973.2	2160.3
30°	2005.6	2001.2	1926.7	1819.1	1661.3	1530.8	1535.9	1681.0	1745.3	1957.3	2130.4
32.5°	2208.7	2206.1	2146.9	2036.8	1825.5	1633.3	1570.9	1679.7	1740.2	1938.2	2094.1
35°	2413.0	2413.0	2376.7	2283.8	2046.4	1787.3	1644.1	1703.3	1749.8	1928.0	2062.9
37.5°	2714.7	2702.6	2635.1	2539.0	2324.5	1987.2	1762.5	1752.9	1786.7	1945.2	2052.7
40°	3181.9	3146.9	2978.2	2816.5	2628.1	2243.1	1935.6	1849.1	1869.4	2003.7	2076.9
42.5°	3670.7	3615.4	3392.0	3133.5	2941.9	2558.8	2162.9	2005.0	2004.4	2117.0	2153.9
45°	4090.2	4061.6	3819.7	3491.9	3300.3	2913.9	2449.9	2236.7	2213.8	2292.7	2302.2
47.5°	4334.0	4314.9	4169.1	3871.2	3725.5	3333.4	2814.0	2558.1	2514.8	2561.9	2547.3
50°	4266.5	4285.0	4243.0	4090.8	4182.5	3922.8	3278.0	2998.6	2916.5	2963.6	2927.9
52.5°	3911.3	3961.0	3998.5	4027.8	4445.4	4711.4	3861.1	3548.5	3480.4	3472.2	3437.8
55°	3271.7	3350.6	3469.0	3684.1	4374.7	5344.8	4879.5	4213.7	4114.4	4062.2	4075.6
57.5°	2226.5	2346.2	2601.4	3010.7	4007.5	5614.6	6385.4	5073.0	4904.9	4719.1	4762.4
60°	1226.6	1326.5	1630.1	2042.6	3169.2	5574.5	7720.2	6469.5	5940.5	5447.9	5537.0
62.5°	793.7	815.4	1041.3	1395.2	1945.2	4921.5	8461.7	8803.5	7682.6	6409.0	6534.4
65°	637.8	653.1	763.8	1125.3	1355.1	3166.0	8494.8	11224.8	10485.8	7715.1	7718.9
67.5°	623.1	630.1	694.4	946.5	1271.1	1723.7	7342.8	12179.6	12350.8	9256.7	8511.4
68°	632.1	640.3	705.3	917.2	1270.5	1588.7	6786.4	12164.9	12458.4	9514.5	8511.4
70°	557.6	567.8	719.3	949.0	1216.4	1365.9	4647.1	11518.9	11991.2	10107.1	8076.0
72.5°	291.5	283.2	355.8	749.2	1369.1	1423.2	2455.0	9623.4	10174.6	9360.5	6977.4
75°	227.2	206.9	199.2	296.0	1204.3	1476.1	1425.8	6839.9	7256.2	6747.6	4663.7
77.5°	213.9	189.0	174.4	175.0	530.2	1535.9	1153.4	4025.3	4025.3	3218.8	1488.2
80°	171.9	148.9	139.4	159.1	255.9	1415.6	1203.6	1834.4	1564.5	831.9	409.9
82.5°	113.3	101.2	101.8	129.2	194.1	945.2	1394.0	905.8	680.4	368.5	241.2
85°	71.9	61.7	68.7	90.4	145.1	421.4	1379.9	629.5	450.6	206.9	120.3
87.5°	36.3	28.0	34.4	47.1	88.5	120.9	1136.2	562.0	334.2	85.9	65.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P197054

CATALOG NUMBER: NAV-AF-02-D-UNV-SL2-8030

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2	2120.2
2.5°	2110.0	2096.0	2089.0	2077.6	2063.6	2049.6	2040.0	2035.6	2033.0	2034.3	2033.6
5°	2125.3	2106.8	2076.9	2034.3	1990.4	1943.9	1908.3	1880.9	1863.7	1858.6	1857.3
7.5°	2136.8	2110.0	2054.0	1976.4	1901.2	1819.8	1750.4	1695.0	1657.5	1640.3	1639.6
10°	2134.8	2100.5	2012.0	1897.4	1787.3	1667.7	1558.8	1465.9	1398.4	1365.9	1364.7
12.5°	2136.8	2089.7	1960.4	1805.1	1647.3	1476.1	1314.4	1169.9	1069.3	1021.6	1019.7
15°	2144.4	2078.2	1907.6	1702.0	1483.7	1241.8	1010.8	829.4	737.7	706.5	706.5
17.5°	2143.8	2059.1	1846.5	1582.4	1289.6	965.6	690.0	577.9	569.0	597.7	602.1
20°	2131.0	2028.6	1767.6	1440.4	1061.7	668.3	467.8	451.9	523.2	602.1	611.0
22.5°	2111.3	1989.1	1676.6	1275.6	796.3	435.4	360.9	385.1	481.8	579.9	593.9
25°	2083.9	1941.3	1572.2	1084.0	529.6	313.2	301.1	331.0	399.1	464.7	474.8
27.5°	2043.8	1880.9	1458.2	876.5	338.0	257.8	262.2	283.2	312.5	340.5	346.3
30°	1993.5	1810.2	1334.1	646.7	256.5	230.4	238.1	250.8	263.5	281.3	285.2
32.5°	1942.6	1738.3	1204.9	444.3	224.1	215.8	223.4	230.4	241.2	253.3	255.9
35°	1896.8	1671.5	1071.9	310.0	210.0	206.2	210.0	214.5	225.3	237.4	238.7
37.5°	1863.7	1616.7	933.1	245.1	201.8	198.0	199.9	201.8	214.5	232.3	234.2
40°	1859.2	1580.4	792.5	220.2	195.4	190.3	189.0	190.3	206.9	227.2	229.1
42.5°	1902.5	1582.4	655.0	210.0	190.3	184.6	179.5	182.0	196.7	212.6	213.9
45°	2005.0	1626.9	535.9	205.6	185.9	181.4	173.8	175.0	182.0	190.3	191.6
47.5°	2185.8	1724.3	444.9	203.0	182.0	178.2	168.7	164.9	165.5	169.9	169.9
50°	2474.7	1887.2	389.5	200.5	178.9	171.9	161.0	153.4	151.5	154.0	154.7
52.5°	2905.7	2166.7	362.8	195.4	173.1	163.6	151.5	143.9	140.7	143.2	143.2
55°	3488.1	2612.9	350.1	188.4	166.1	153.4	142.6	136.2	133.7	135.6	135.6
57.5°	4151.9	3192.7	371.7	178.9	157.2	142.6	134.9	130.5	128.6	130.5	131.1
60°	4940.6	3951.4	520.7	166.8	147.7	133.0	128.6	126.0	124.8	126.7	126.7
62.5°	5988.9	4960.9	805.8	157.2	137.5	124.1	122.8	121.6	120.3	122.2	122.2
65°	7120.6	5879.4	829.4	151.5	128.6	116.5	117.1	117.1	115.8	117.8	117.8
67.5°	7480.9	5799.9	463.4	144.5	117.8	108.8	111.4	111.4	110.8	112.7	112.0
68°	7404.5	5673.8	403.5	142.6	115.8	106.9	109.5	110.1	109.5	111.4	110.8
70°	6835.5	4981.3	265.4	131.8	107.6	100.6	104.4	105.0	104.4	106.9	106.3
72.5°	5642.6	3736.3	196.0	115.2	97.4	92.3	96.1	96.7	97.4	99.9	99.3
75°	3583.5	2063.6	154.7	98.0	87.2	82.7	86.6	88.5	89.7	93.6	91.7
77.5°	981.5	626.3	125.4	83.4	75.1	73.2	75.7	78.3	79.6	84.0	80.8
80°	343.7	276.9	104.4	70.7	62.4	61.7	64.3	66.8	68.1	71.9	68.1
82.5°	208.8	180.8	83.4	55.4	49.0	48.4	51.6	54.1	55.4	55.4	52.8
85°	108.8	95.5	61.1	38.8	33.7	31.8	37.6	40.7	41.4	40.7	38.8
87.5°	61.1	54.1	32.5	18.5	15.3	15.9	19.7	24.2	26.1	25.5	24.2
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)