

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: P195777

Luminaire Tested: **NAV-AF-03-D-UNV-T2-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195777
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-T2-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14325 lumens
Efficiency: N/A
Efficacy: 115.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

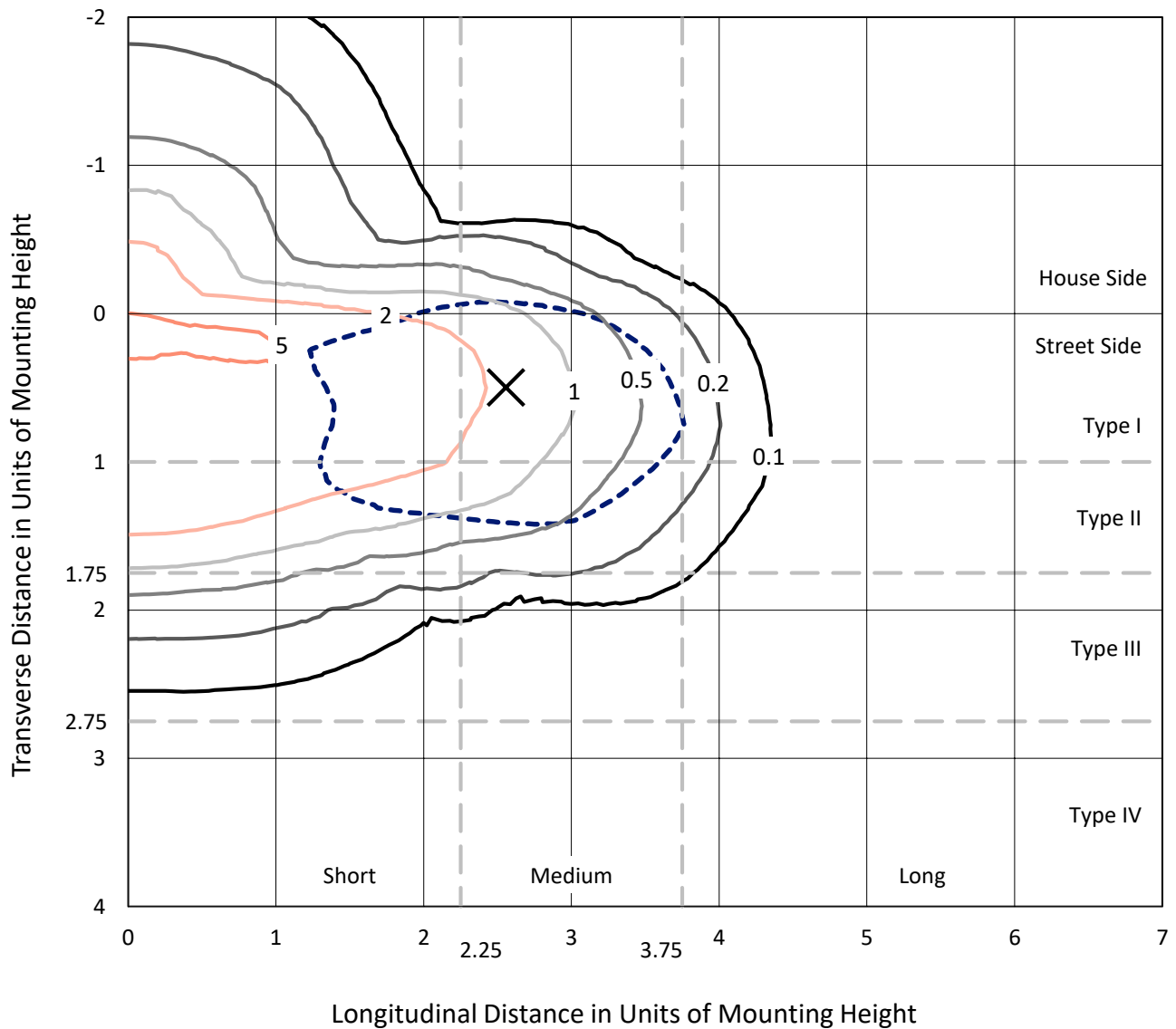
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P195777
 CATALOG NUMBER: NAV-AF-03-D-UNV-T2-7050-800

Iso-Footcandle Lines of Horizontal Illumination

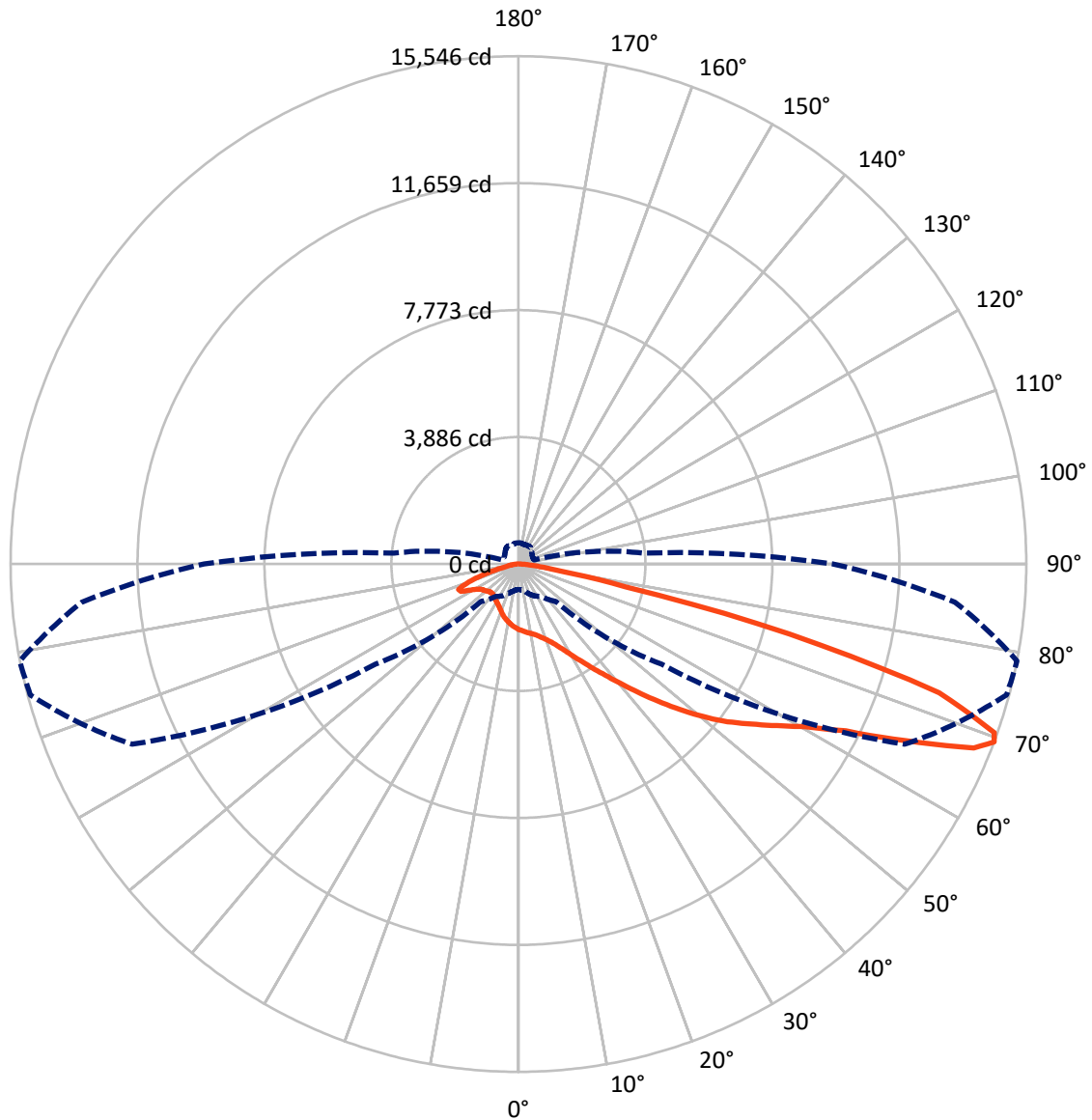
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.1 fc
 Type II - Medium - Full Cutoff

REPORT NUMBER: P195777
CATALOG NUMBER: NAV-AF-03-D-UNV-T2-7050-800

Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P195777

CATALOG NUMBER: NAV-AF-03-D-UNV-T2-7050-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2694.8	0.0	2694.8
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	11630.2	0.0	11630.2
	% Fixture	81.2	0.0	81.2
Total	Lumens	14325.0	0.0	14325.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.4	1.3
10°-20°	534.3	3.7
20°-30°	882.9	6.2
30°-40°	1429.6	10.0
40°-50°	2283.8	15.9
50°-60°	3270.6	22.8
60°-70°	3643.9	25.4
70°-80°	1823.0	12.7
80°-90°	270.5	1.9
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°	14325.0	100.0
0°-180°	14325.0	100.0



REPORT NUMBER: P195777

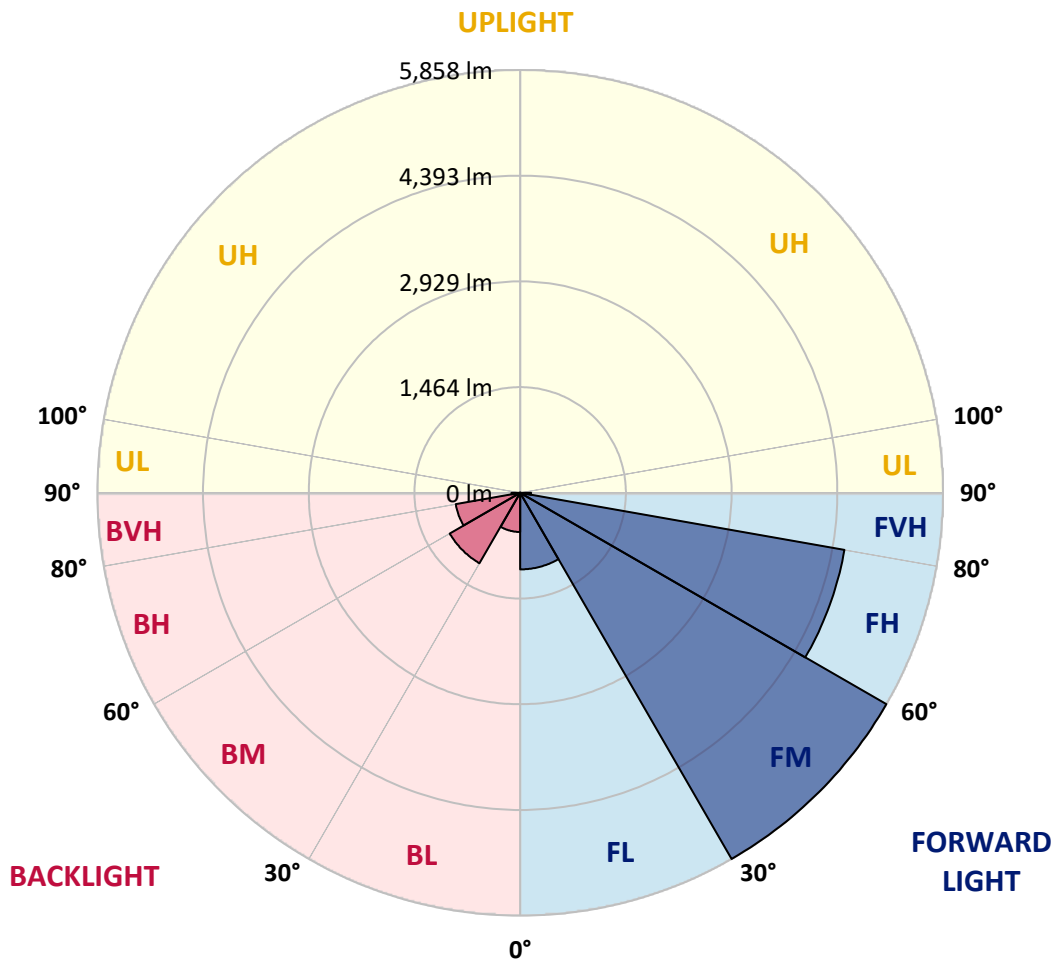
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1060.6	7.4			
FM (30°-60°)	5857.5	40.9			
FH (60°-80°)	4560.9	31.8			G2/5000
FVH (80°-90°)	151.2	1.1			G2/225
BL (0°-30°)	542.9	3.8	B2/1000		
BM (30°-60°)	1126.5	7.9	B2/2500		
BH (60°-80°)	906.1	6.3	B2/1000		G2/1000
BVH (80°-90°)	119.4	0.8			G2/225
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: P195777

CATALOG NUMBER: NAV-AF-03-D-UNV-T2-7050-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3
2.5°	2207.1	2202.4	2201.4	2187.4	2179.9	2163.9	2126.5	2088.0	2052.4	2033.7	2014.0
5°	2391.7	2382.3	2377.6	2354.2	2333.6	2298.0	2238.9	2178.0	2114.3	2081.5	2042.1
7.5°	2503.2	2504.1	2504.1	2485.4	2464.8	2421.7	2346.7	2263.3	2168.6	2125.5	2063.7
10°	2512.6	2513.5	2527.6	2532.3	2536.9	2514.5	2445.1	2340.1	2218.3	2162.1	2081.5
12.5°	2419.8	2426.4	2449.8	2483.5	2531.3	2555.7	2525.7	2422.6	2282.0	2213.6	2115.2
15°	2295.2	2301.7	2331.7	2383.2	2460.1	2541.6	2583.8	2517.3	2365.4	2284.8	2164.9
17.5°	2234.2	2241.7	2262.4	2303.6	2378.6	2488.2	2614.7	2618.5	2463.8	2371.1	2223.9
20°	2205.2	2210.8	2237.0	2270.8	2328.0	2432.9	2617.5	2725.3	2581.0	2473.2	2296.1
22.5°	2271.7	2273.6	2286.7	2305.5	2343.9	2424.5	2615.7	2835.9	2727.2	2601.6	2388.9
25°	2466.7	2454.5	2445.1	2421.7	2431.0	2488.2	2645.7	2954.0	2914.6	2770.3	2512.6
27.5°	2697.2	2695.3	2671.0	2616.6	2581.9	2618.5	2730.9	3086.1	3144.2	2984.9	2674.7
30°	2954.0	2954.9	2929.6	2863.1	2792.8	2796.5	2866.8	3238.9	3418.8	3243.6	2874.3
32.5°	3223.0	3239.8	3193.0	3126.4	3041.1	3014.0	3061.8	3423.5	3736.5	3549.1	3105.8
35°	3544.4	3547.2	3495.7	3398.2	3312.9	3269.8	3313.9	3654.1	4103.0	3908.0	3387.9
37.5°	3878.0	3879.9	3826.5	3701.9	3594.1	3566.0	3614.7	3934.3	4491.0	4316.6	3719.7
40°	4150.8	4170.4	4128.3	4011.1	3902.4	3885.5	3955.8	4269.8	4986.7	4800.2	4114.2
42.5°	4460.0	4482.5	4431.9	4310.1	4223.9	4218.2	4327.9	4652.2	5479.7	5359.7	4561.3
45°	4808.7	4840.5	4770.2	4633.4	4560.3	4684.0	4690.6	5075.8	6047.6	5985.8	5064.5
47.5°	5189.2	5215.4	5158.2	5011.1	4931.4	5110.4	5045.8	5534.0	6661.5	6656.8	5609.0
50°	5482.5	5511.6	5517.2	5452.5	5369.1	5391.6	5435.6	6015.8	7273.5	7346.6	6172.3
52.5°	5429.1	5457.2	5583.7	5753.3	5887.4	5829.3	5882.7	6527.5	7864.8	8019.4	6707.4
55°	4998.0	5013.0	5250.1	5653.1	6223.8	6501.2	6505.0	7084.1	8427.1	8643.6	7215.3
57.5°	4221.1	4222.9	4531.3	5125.4	6027.9	6937.0	7487.1	7783.3	9013.8	9333.4	7845.1
60°	2986.8	2994.3	3353.2	4130.2	5326.0	6884.5	8543.3	9034.4	9693.2	10108.4	8656.7
62.5°	1773.1	1790.0	2060.9	2684.1	3955.8	6209.8	9167.5	11260.2	10694.2	11245.2	9955.7
65°	1153.7	1167.7	1329.9	1642.9	2337.3	4518.1	8962.2	13415.7	12588.2	13033.4	11822.5
67.5°	888.4	899.7	1027.1	1216.5	1433.9	2442.3	7165.7	13867.4	14893.7	15032.4	13397.9
69°	780.7	790.0	883.8	1065.6	1207.1	1616.6	5340.0	13047.4	15470.0	15545.9	13417.6
70°	723.5	731.0	819.1	976.5	1108.7	1290.5	4087.0	12095.2	15259.2	15453.2	13030.5
72.5°	596.0	602.6	665.4	786.3	906.3	919.4	1810.6	8832.0	12848.7	13469.1	11026.9
75°	497.6	501.4	542.6	630.7	733.8	731.9	925.0	5002.7	7840.4	8579.9	6808.6
77.5°	415.2	418.0	445.2	499.5	579.2	576.4	651.3	2159.3	3461.9	3340.1	2343.9
80°	366.4	368.3	382.4	396.4	447.0	444.2	482.6	991.5	1408.6	1301.7	886.6
82.5°	278.3	282.1	353.3	359.9	346.8	334.6	336.4	577.3	721.6	657.0	476.1
85°	157.4	158.4	226.8	265.2	301.8	226.8	218.4	298.0	356.1	312.1	208.1
87.5°	70.3	73.1	108.7	125.6	163.1	133.1	124.6	126.5	153.7	127.5	82.5
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: P195777

CATALOG NUMBER: NAV-AF-03-D-UNV-T2-7050-800

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3	2010.3
2.5°	1995.3	1979.3	1941.8	1903.4	1865.0	1840.6	1815.3	1791.9	1782.5	1781.6	1763.8
5°	2003.7	1966.2	1880.9	1787.2	1698.2	1628.8	1570.7	1533.2	1496.7	1490.1	1474.2
7.5°	2006.5	1945.6	1806.9	1656.9	1521.0	1425.5	1367.3	1342.0	1324.2	1319.5	1313.9
10°	2005.6	1919.3	1724.4	1519.2	1364.5	1292.4	1270.8	1276.4	1283.9	1287.7	1287.7
12.5°	2020.6	1907.2	1641.9	1389.8	1263.3	1228.6	1245.5	1274.6	1297.1	1306.4	1308.3
15°	2047.7	1899.7	1551.0	1277.4	1192.1	1200.5	1241.8	1283.9	1315.8	1329.9	1333.6
17.5°	2081.5	1889.4	1446.1	1184.6	1150.9	1179.9	1233.3	1286.7	1325.2	1343.0	1345.8
20°	2119.0	1874.4	1337.4	1115.2	1114.3	1150.9	1204.3	1264.3	1305.5	1325.2	1324.2
22.5°	2169.6	1860.3	1236.1	1064.6	1074.0	1107.7	1151.8	1206.2	1244.6	1262.4	1258.6
25°	2237.0	1847.2	1145.2	1019.7	1028.1	1050.6	1081.5	1122.7	1149.9	1159.3	1152.7
27.5°	2328.0	1836.9	1074.0	978.4	977.5	987.8	1006.5	1029.0	1042.1	1039.3	1029.0
30°	2439.5	1826.6	1021.5	941.9	928.7	927.8	936.2	949.4	957.8	940.9	932.5
32.5°	2564.1	1808.8	974.7	910.0	886.6	878.1	881.9	899.7	934.4	917.5	910.9
35°	2711.3	1788.1	927.8	875.3	857.5	841.6	844.4	882.8	987.8	975.6	969.0
37.5°	2888.4	1769.4	884.7	837.8	836.9	817.2	815.3	861.3	1001.8	975.6	970.0
40°	3101.1	1765.6	846.3	796.6	811.6	804.1	797.5	825.7	924.1	870.6	860.3
42.5°	3357.9	1782.5	818.2	757.2	782.5	800.4	788.2	794.7	835.0	787.2	778.8
45°	3657.8	1828.4	797.5	722.6	751.6	797.5	783.5	777.9	784.4	758.2	752.6
47.5°	4007.4	1910.0	783.5	693.5	722.6	790.0	781.6	770.4	767.6	752.6	748.8
50°	4381.3	2019.6	774.1	667.3	696.3	776.9	780.7	764.7	760.1	753.5	751.6
52.5°	4752.4	2138.6	762.9	644.8	674.8	761.0	781.6	759.1	752.6	748.8	746.9
55°	5121.7	2262.4	742.2	625.1	658.8	742.2	780.7	751.6	744.1	744.1	744.1
57.5°	5600.6	2450.7	715.1	609.2	638.2	717.9	768.5	743.2	732.9	733.8	734.7
60°	6292.2	2766.6	685.1	591.4	611.0	689.8	749.7	728.2	716.0	719.8	720.7
62.5°	7447.8	3318.6	643.8	566.1	582.9	659.8	725.4	707.6	696.3	702.9	703.8
65°	8988.5	3986.8	589.5	534.2	553.9	626.0	694.5	683.2	671.0	687.0	686.0
67.5°	9928.5	4182.6	532.3	500.5	525.8	590.4	656.0	651.3	642.9	671.0	669.1
69°	9620.1	3828.4	499.5	478.9	506.1	566.1	631.7	629.8	623.2	650.4	648.5
70°	9141.2	3497.6	478.9	464.8	495.8	551.1	615.7	615.7	609.2	632.6	627.9
72.5°	7342.8	2594.1	431.1	429.2	460.2	509.8	572.6	577.3	573.6	582.0	577.3
75°	4311.0	1563.2	384.2	389.9	417.0	465.8	524.8	528.6	524.8	523.9	524.8
77.5°	1494.8	701.0	339.3	347.7	371.1	420.8	472.3	479.8	474.2	467.7	469.5
80°	584.8	407.7	290.5	302.7	322.4	370.2	419.9	424.5	416.1	415.2	407.7
82.5°	351.4	248.4	225.9	245.5	269.9	321.5	362.7	360.8	354.3	392.7	343.9
85°	152.8	137.8	164.9	184.6	196.8	240.9	306.5	298.0	282.1	248.4	242.7
87.5°	61.9	71.2	90.9	109.7	118.1	155.6	209.9	202.4	205.2	168.7	167.8
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)