

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: P197222

Luminaire Tested: **NAV-AF-02-D-UNV-T2-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197222
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-02-D-UNV-T2-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9728 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

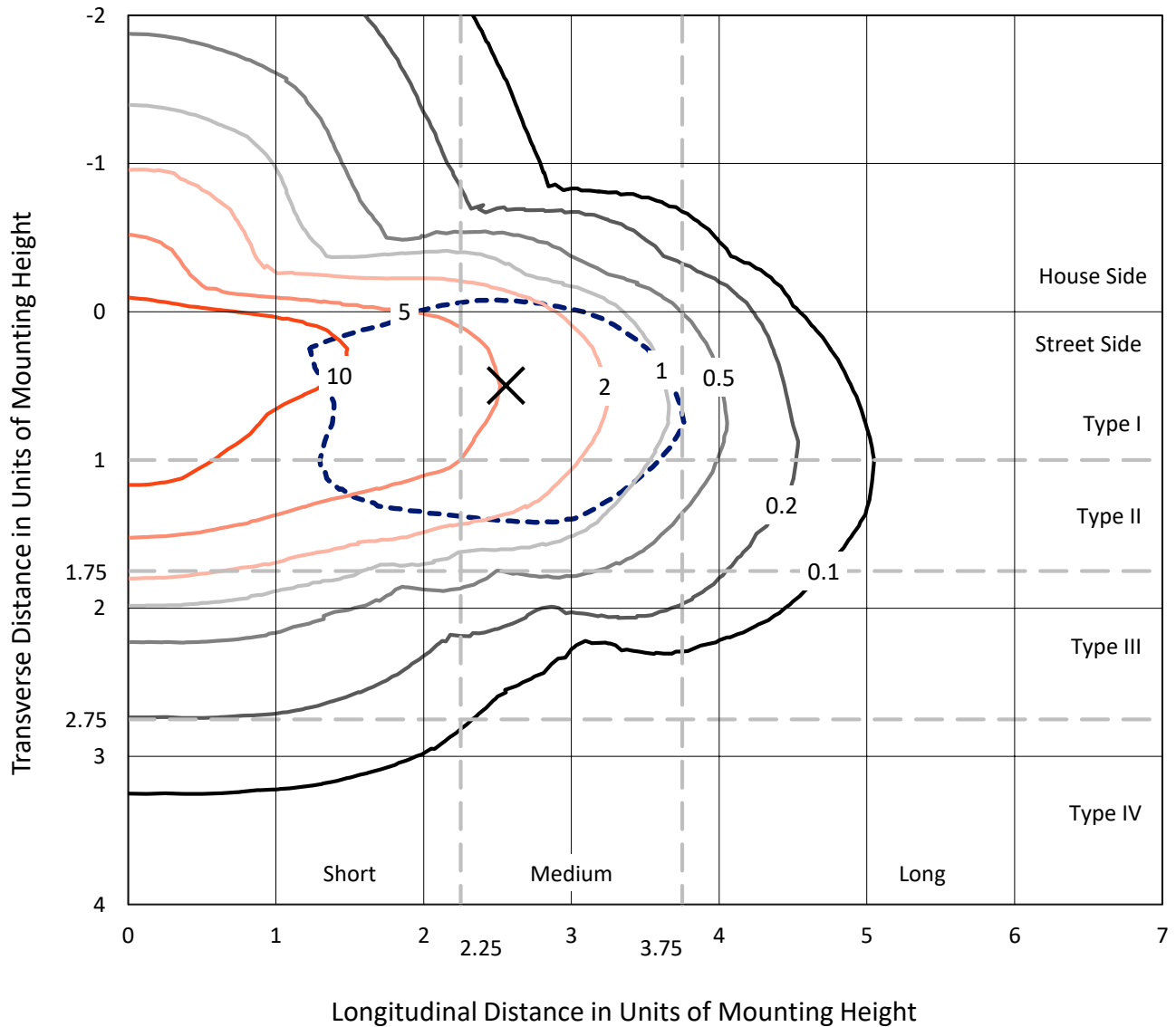
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

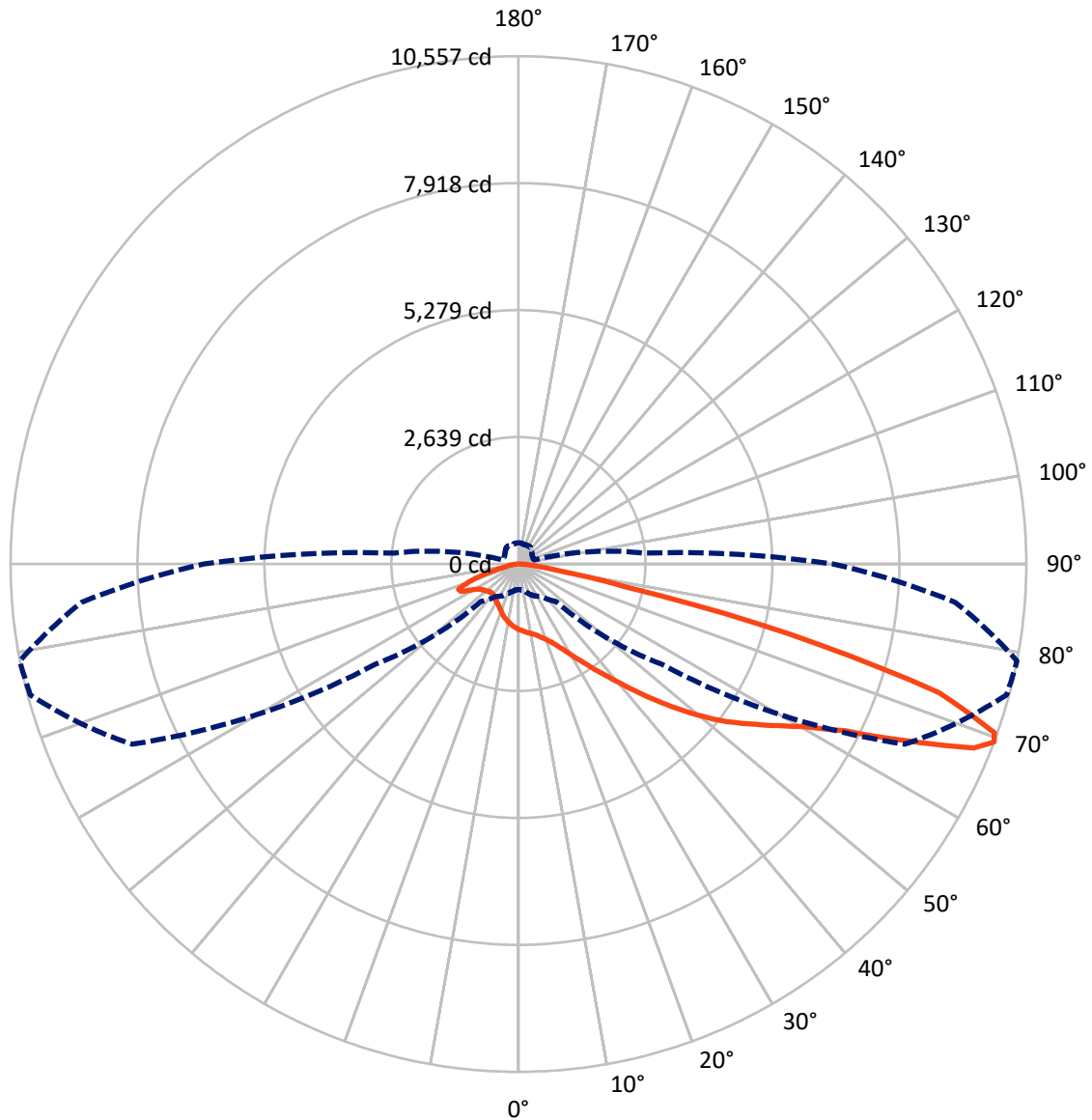
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.5 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1830.0	0.0	1830.0
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	7898.0	0.0	7898.0
	% Fixture	81.2	0.0	81.2
Total	Lumens	9728.0	0.0	9728.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.6	1.3
10°-20°	362.8	3.7
20°-30°	599.5	6.2
30°-40°	970.8	10.0
40°-50°	1550.9	15.9
50°-60°	2221.0	22.8
60°-70°	2474.6	25.4
70°-80°	1238.0	12.7
80°-90°	183.7	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°	9728.0	100.0
0°-180°	9728.0	100.0



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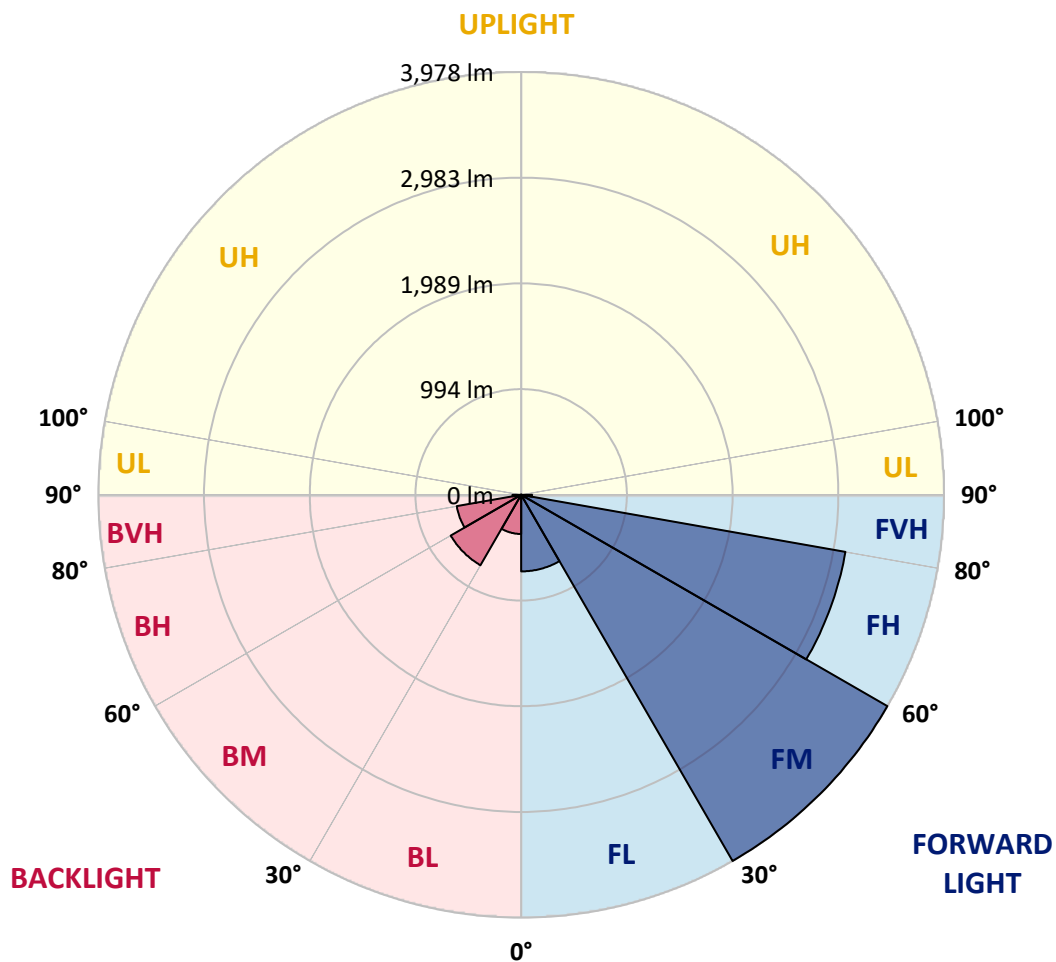
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	720.3	7.4			
FM (30°-60°)	3977.8	40.9			
FH (60°-80°)	3097.3	31.8			G2/5000
FVH (80°-90°)	102.7	1.1			G2/225
BL (0°-30°)	368.7	3.8	B1/500		
BM (30°-60°)	765.0	7.9	B1/1000		
BH (60°-80°)	615.3	6.3	B2/1000		G2/1000
BVH (80°-90°)	81.1	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1
2.5°	1498.8	1495.6	1495.0	1485.4	1480.3	1469.5	1444.1	1418.0	1393.8	1381.1	1367.7
5°	1624.2	1617.8	1614.6	1598.7	1584.7	1560.5	1520.4	1479.1	1435.8	1413.5	1386.8
7.5°	1699.9	1700.5	1700.5	1687.8	1673.8	1644.5	1593.6	1537.0	1472.7	1443.4	1401.4
10°	1706.3	1706.9	1716.5	1719.6	1722.8	1707.5	1660.5	1589.2	1506.4	1468.2	1413.5
12.5°	1643.3	1647.7	1663.6	1686.5	1719.0	1735.5	1715.2	1645.2	1549.7	1503.3	1436.4
15°	1558.6	1563.1	1583.4	1618.4	1670.6	1726.0	1754.6	1709.5	1606.4	1551.6	1470.2
17.5°	1517.3	1522.3	1536.3	1564.3	1615.3	1689.7	1775.6	1778.2	1673.2	1610.2	1510.3
20°	1497.5	1501.3	1519.2	1542.1	1580.9	1652.2	1777.6	1850.7	1752.7	1679.5	1559.3
22.5°	1542.7	1544.0	1552.9	1565.6	1591.7	1646.4	1776.3	1925.8	1852.0	1766.7	1622.3
25°	1675.1	1666.8	1660.5	1644.5	1650.9	1689.7	1796.6	2006.0	1979.3	1881.3	1706.3
27.5°	1831.7	1830.4	1813.8	1776.9	1753.4	1778.2	1854.6	2095.8	2135.2	2027.0	1816.4
30°	2006.0	2006.7	1989.5	1944.3	1896.6	1899.1	1946.8	2199.5	2321.7	2202.7	1951.9
32.5°	2188.7	2200.1	2168.3	2123.1	2065.2	2046.8	2079.2	2324.9	2537.5	2410.2	2109.1
35°	2407.0	2408.9	2373.9	2307.7	2249.8	2220.5	2250.4	2481.4	2786.3	2653.9	2300.7
37.5°	2633.6	2634.8	2598.6	2513.9	2440.7	2421.6	2454.7	2671.7	3049.8	2931.4	2526.0
40°	2818.8	2832.1	2803.5	2723.9	2650.1	2638.6	2686.4	2899.6	3386.5	3259.8	2793.9
42.5°	3028.8	3044.1	3009.7	2926.9	2868.4	2864.6	2939.0	3159.2	3721.2	3639.8	3097.5
45°	3265.5	3287.2	3239.4	3146.5	3096.9	3180.9	3185.3	3446.9	4106.9	4064.9	3439.3
47.5°	3523.9	3541.7	3502.9	3403.0	3348.9	3470.5	3426.5	3758.1	4523.8	4520.6	3809.0
50°	3723.1	3742.9	3746.7	3702.8	3646.1	3661.4	3691.3	4085.3	4939.3	4989.0	4191.5
52.5°	3686.8	3705.9	3791.9	3907.1	3998.1	3958.6	3994.9	4432.7	5340.9	5445.9	4554.9
55°	3394.1	3404.3	3565.3	3839.0	4226.5	4414.9	4417.5	4810.8	5722.8	5869.8	4899.9
57.5°	2866.5	2867.8	3077.1	3480.6	4093.5	4710.9	5084.5	5285.6	6121.2	6338.2	5327.6
60°	2028.3	2033.4	2277.2	2804.8	3616.8	4675.2	5801.7	6135.2	6582.6	6864.6	5878.7
62.5°	1204.1	1215.6	1399.5	1822.7	2686.4	4217.0	6225.6	7646.7	7262.3	7636.5	6760.8
65°	783.4	793.0	903.1	1115.7	1587.3	3068.2	6086.2	9110.5	8548.5	8850.9	8028.6
67.5°	603.3	611.0	697.5	826.1	973.7	1658.5	4866.2	9417.3	10114.2	10208.4	9098.4
69°	530.1	536.5	600.2	723.6	819.7	1097.8	3626.4	8860.4	10505.6	10557.1	9111.8
70°	491.3	496.4	556.2	663.2	752.9	876.4	2775.5	8213.8	10362.4	10494.1	8848.9
72.5°	404.8	409.2	451.9	534.0	615.4	624.3	1229.6	5997.7	8725.5	9146.8	7488.3
75°	337.9	340.5	368.5	428.3	498.3	497.1	628.2	3397.3	5324.4	5826.5	4623.7
77.5°	281.9	283.8	302.3	339.2	393.3	391.4	442.3	1466.3	2351.0	2268.2	1591.7
80°	248.8	250.1	259.7	269.2	303.6	301.7	327.8	673.3	956.6	884.0	602.1
82.5°	189.0	191.6	239.9	244.4	235.5	227.2	228.5	392.0	490.1	446.1	323.3
85°	106.9	107.6	154.0	180.1	204.9	154.0	148.3	202.4	241.8	211.9	141.3
87.5°	47.7	49.6	73.8	85.3	110.7	90.4	84.6	85.9	104.4	86.6	56.0
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°	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1	1365.1
2.5°	1355.0	1344.1	1318.7	1292.6	1266.5	1250.0	1232.8	1216.9	1210.5	1209.9	1197.8
5°	1360.7	1335.2	1277.3	1213.7	1153.2	1106.1	1066.7	1041.2	1016.4	1011.9	1001.1
7.5°	1362.6	1321.2	1227.0	1125.2	1032.9	968.0	928.6	911.4	899.3	896.1	892.3
10°	1362.0	1303.4	1171.0	1031.7	926.6	877.6	863.0	866.8	871.9	874.5	874.5
12.5°	1372.1	1295.1	1115.0	943.8	857.9	834.4	845.8	865.5	880.8	887.2	888.5
15°	1390.6	1290.0	1053.3	867.5	809.5	815.3	843.3	871.9	893.5	903.1	905.6
17.5°	1413.5	1283.0	982.0	804.4	781.5	801.3	837.5	873.8	899.9	912.0	913.9
20°	1439.0	1272.9	908.2	757.4	756.7	781.5	817.8	858.5	886.5	899.9	899.3
22.5°	1473.3	1263.3	839.5	723.0	729.4	752.3	782.2	819.1	845.2	857.3	854.7
25°	1519.2	1254.4	777.7	692.4	698.2	713.4	734.4	762.4	780.9	787.3	782.8
27.5°	1580.9	1247.4	729.4	664.4	663.8	670.8	683.5	698.8	707.7	705.8	698.8
30°	1656.6	1240.4	693.7	639.6	630.7	630.1	635.8	644.7	650.4	639.0	633.2
32.5°	1741.3	1228.3	661.9	618.0	602.1	596.3	598.9	611.0	634.5	623.1	618.6
35°	1841.2	1214.3	630.1	594.4	582.3	571.5	573.4	599.5	670.8	662.5	658.1
37.5°	1961.5	1201.6	600.8	569.0	568.3	555.0	553.7	584.9	680.3	662.5	658.7
40°	2106.0	1199.0	574.7	541.0	551.1	546.1	541.6	560.7	627.5	591.2	584.2
42.5°	2280.3	1210.5	555.6	514.2	531.4	543.5	535.2	539.7	567.1	534.6	528.9
45°	2484.0	1241.7	541.6	490.7	510.4	541.6	532.1	528.2	532.7	514.9	511.1
47.5°	2721.4	1297.0	532.1	471.0	490.7	536.5	530.8	523.1	521.2	511.1	508.5
50°	2975.3	1371.5	525.7	453.1	472.9	527.6	530.1	519.3	516.1	511.7	510.4
52.5°	3227.3	1452.3	518.1	437.9	458.2	516.8	530.8	515.5	511.1	508.5	507.2
55°	3478.1	1536.3	504.1	424.5	447.4	504.1	530.1	510.4	505.3	505.3	505.3
57.5°	3803.3	1664.3	485.6	413.7	433.4	487.5	521.9	504.7	497.7	498.3	499.0
60°	4273.0	1878.7	465.2	401.6	415.0	468.4	509.1	494.5	486.2	488.8	489.4
62.5°	5057.7	2253.6	437.2	384.4	395.9	448.0	492.6	480.5	472.9	477.3	478.0
65°	6104.0	2707.4	400.3	362.8	376.1	425.1	471.6	464.0	455.7	466.5	465.9
67.5°	6742.4	2840.4	361.5	339.9	357.0	401.0	445.5	442.3	436.6	455.7	454.4
69°	6533.0	2599.8	339.2	325.2	343.7	384.4	429.0	427.7	423.2	441.7	440.4
70°	6207.8	2375.2	325.2	315.7	336.7	374.2	418.1	418.1	413.7	429.6	426.4
72.5°	4986.4	1761.6	292.8	291.5	312.5	346.2	388.9	392.0	389.5	395.2	392.0
75°	2927.6	1061.6	260.9	264.8	283.2	316.3	356.4	358.9	356.4	355.8	356.4
77.5°	1015.1	476.1	230.4	236.1	252.0	285.8	320.8	325.9	322.0	317.6	318.9
80°	397.1	276.8	197.3	205.6	218.9	251.4	285.1	288.3	282.6	281.9	276.8
82.5°	238.7	168.7	153.4	166.7	183.3	218.3	246.3	245.0	240.6	266.7	233.6
85°	103.7	93.6	112.0	125.4	133.7	163.6	208.1	202.4	191.6	168.7	164.8
87.5°	42.0	48.4	61.7	74.5	80.2	105.6	142.6	137.5	139.4	114.6	113.9
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)