

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: P197300

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197300
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11089 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

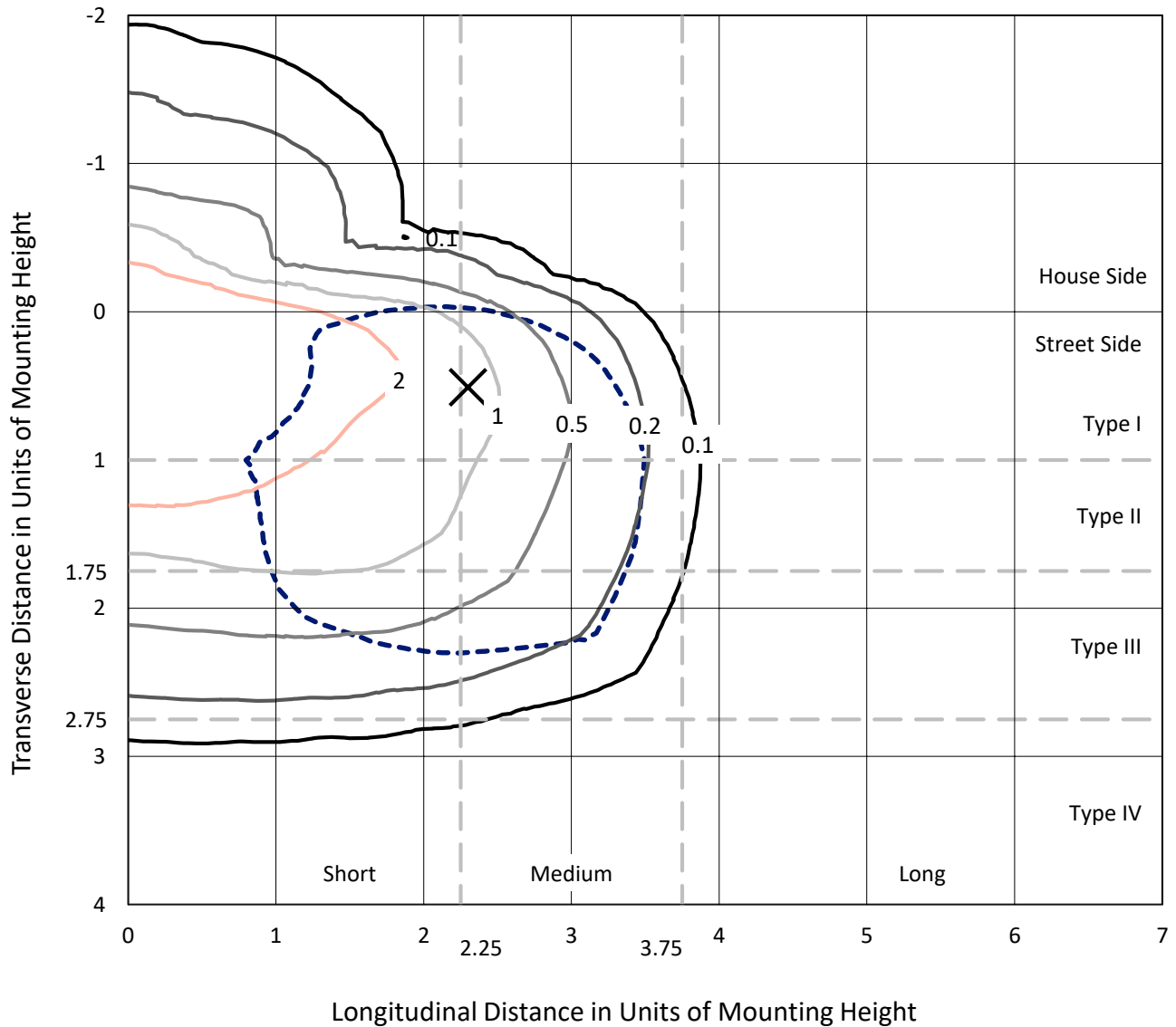
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

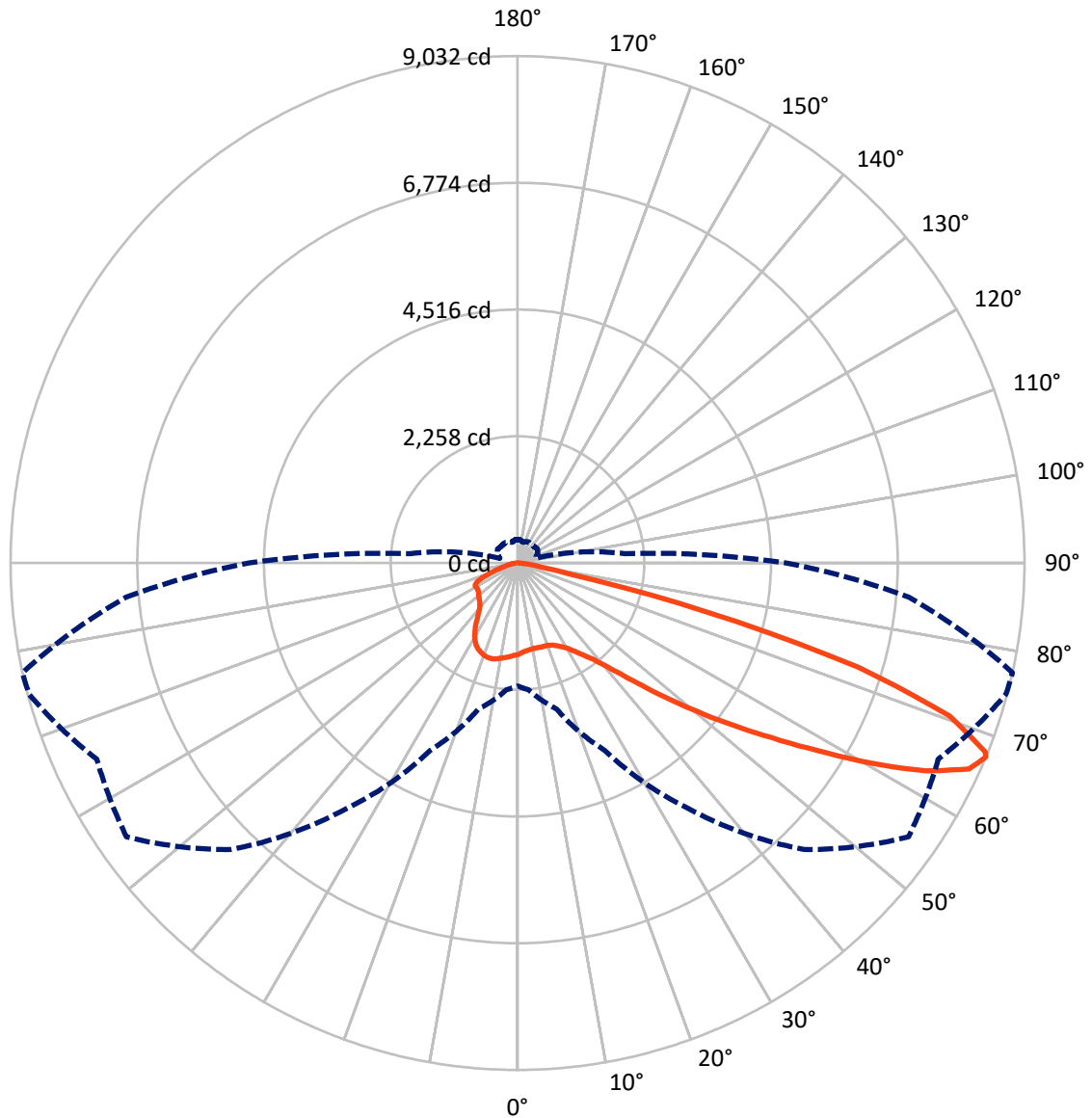
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.9 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1905.6	0.0	1905.6
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	9183.4	0.0	9183.4
	% Fixture	82.8	0.0	82.8
Total	Lumens	11089.0	0.0	11089.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.4	1.3
10°-20°	402.5	3.6
20°-30°	683.9	6.2
30°-40°	1094.2	9.9
40°-50°	1684.5	15.2
50°-60°	2337.0	21.1
60°-70°	3117.4	28.1
70°-80°	1483.6	13.4
80°-90°	140.5	1.3
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°	11089.0	100.0
0°-180°	11089.0	100.0



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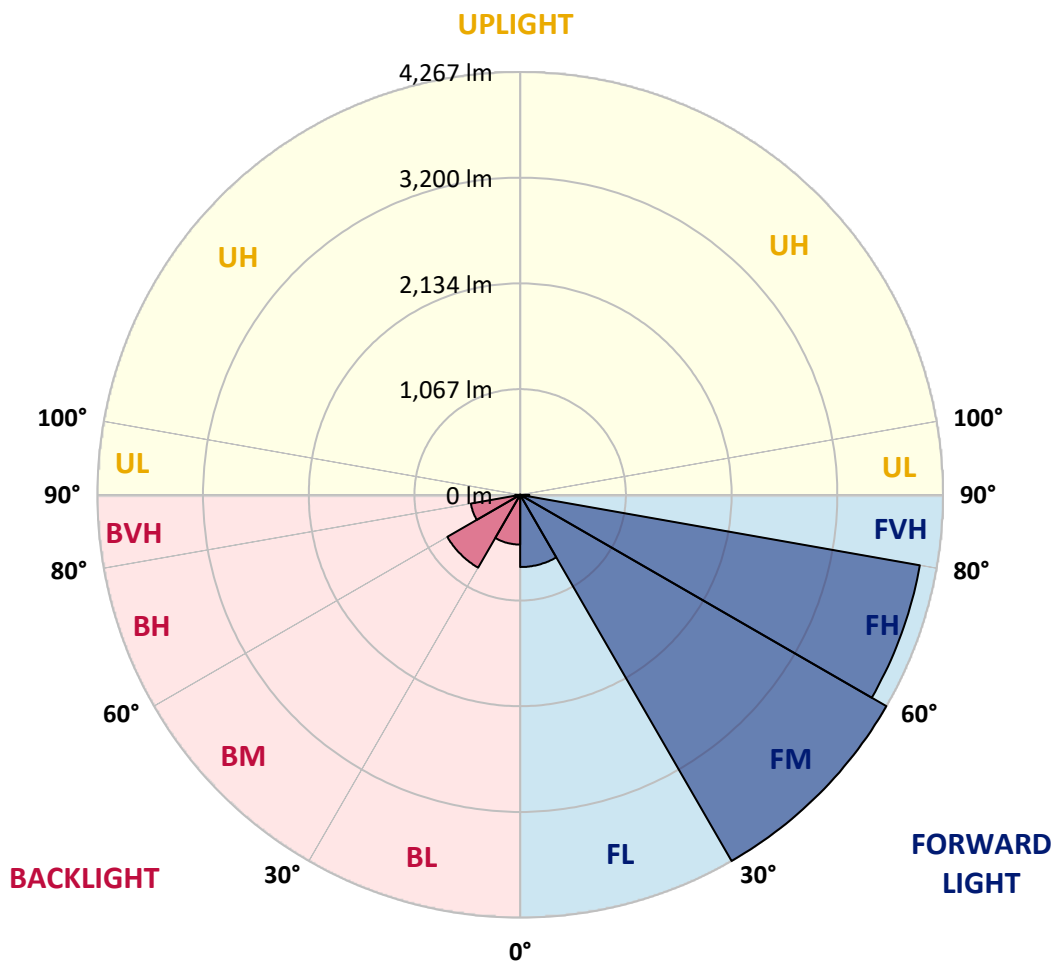
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	729.2	6.6			
FM	(30°-60°)	4267.2	38.5			
FH	(60°-80°)	4095.8	36.9			G2/5000
FVH	(80°-90°)	91.2	0.8			G1/100
BL	(0°-30°)	502.6	4.5	B2/1000		
BM	(30°-60°)	848.5	7.7	B1/1000		
BH	(60°-80°)	505.3	4.6	B2/1000		G2/1000
BVH	(80°-90°)	49.2	0.4			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0
2.5°	1463.4	1470.2	1470.9	1490.8	1499.7	1522.3	1547.0	1568.9	1588.1	1595.0	1607.3
5°	1316.7	1316.7	1318.8	1331.8	1357.2	1393.5	1444.9	1501.1	1560.0	1574.4	1610.8
7.5°	1239.9	1241.3	1242.7	1255.7	1275.6	1307.8	1359.2	1436.0	1534.0	1558.0	1621.7
10°	1246.8	1244.7	1237.9	1235.1	1243.4	1263.9	1308.5	1387.3	1512.1	1549.1	1641.6
12.5°	1354.4	1350.3	1327.7	1294.8	1264.6	1257.1	1287.9	1362.6	1501.8	1549.1	1675.2
15°	1538.8	1541.5	1497.0	1428.4	1349.6	1296.1	1292.0	1353.7	1498.4	1553.2	1714.3
17.5°	1778.7	1780.1	1718.4	1619.0	1488.1	1377.7	1320.1	1353.7	1498.4	1557.3	1752.0
20°	2033.7	2024.1	1954.2	1829.4	1659.4	1490.8	1371.5	1361.9	1502.5	1563.5	1787.6
22.5°	2252.3	2243.4	2170.1	2039.2	1844.5	1624.5	1440.8	1389.4	1525.1	1588.8	1837.6
25°	2443.6	2449.0	2377.8	2230.4	2028.9	1775.3	1544.3	1452.4	1572.4	1634.8	1899.3
27.5°	2675.9	2665.6	2583.4	2442.9	2218.7	1931.5	1673.8	1531.9	1628.6	1690.3	1974.7
30°	2944.6	2939.8	2828.8	2684.1	2427.8	2106.3	1802.0	1617.6	1701.9	1766.4	2069.3
32.5°	3270.9	3270.2	3150.9	2973.4	2662.9	2303.7	1953.5	1734.8	1808.9	1874.0	2194.7
35°	3640.3	3639.6	3516.3	3281.8	2933.6	2522.4	2131.7	1877.4	1941.1	2009.7	2344.2
37.5°	3896.7	3892.6	3828.1	3600.6	3233.2	2776.7	2354.5	2069.3	2091.2	2168.0	2524.4
40°	3946.0	3970.7	4026.2	3891.9	3560.1	3059.1	2577.9	2275.6	2296.2	2394.9	2751.3
42.5°	3892.6	3924.8	4109.2	4146.9	3887.1	3401.1	2857.6	2561.5	2587.5	2710.2	3017.9
45°	3845.9	3874.1	4105.0	4288.1	4209.9	3774.0	3206.4	2910.3	2959.7	3111.9	3322.3
47.5°	3766.4	3792.5	4024.2	4313.4	4394.3	4133.1	3626.6	3329.8	3414.8	3599.2	3669.1
50°	3762.3	3774.0	3913.8	4228.4	4458.0	4405.9	4092.0	3820.6	3950.8	4163.3	4052.9
52.5°	3658.1	3739.7	3866.5	4092.7	4459.4	4565.0	4550.6	4358.7	4559.5	4794.6	4473.8
55°	3020.7	3114.6	3708.9	4026.2	4451.2	4701.4	4969.4	4931.0	5244.9	5492.4	4945.4
57.5°	2820.5	2860.3	3253.7	4046.1	4519.7	4926.9	5388.2	5545.8	6029.0	6299.1	5510.9
60°	2765.7	2807.5	3162.6	4055.7	4705.5	5337.4	5956.4	6240.2	6950.9	7237.5	6153.1
62.5°	2704.7	2758.9	3169.4	4064.6	5031.7	5944.7	6710.4	6993.4	7897.5	8153.2	6754.9
65°	2526.5	2598.5	3042.6	4008.4	5388.9	6706.9	7707.0	7778.9	8679.6	8842.1	7118.2
67°	2188.6	2267.4	2694.4	3683.5	5356.0	7220.3	8504.1	8270.4	9012.0	9031.9	7000.3
67.5°	2081.7	2163.2	2576.5	3548.5	5262.0	7287.5	8645.3	8338.3	9009.3	8987.4	6890.6
70°	1401.7	1493.6	1824.6	2605.3	4220.9	6782.3	8611.1	8129.2	8418.5	8166.9	5920.1
72.5°	695.7	698.5	910.3	1427.1	2557.3	4864.5	7183.3	6954.4	6824.1	6349.1	4344.3
75°	335.2	341.3	429.8	630.6	1078.2	2511.4	4898.8	4692.5	3995.4	3459.4	2174.2
77.5°	255.7	261.8	333.8	410.6	449.6	819.1	2426.4	1961.0	1157.7	924.6	612.8
80°	197.4	209.1	281.7	315.3	297.5	328.3	762.9	600.4	450.3	413.3	303.6
82.5°	154.2	161.1	239.2	239.2	205.6	220.0	355.1	346.8	279.7	252.2	163.1
85°	109.0	122.7	192.6	178.2	135.0	136.4	212.5	203.6	143.9	115.8	63.7
87.5°	48.7	62.4	137.1	116.5	72.0	55.5	87.0	74.7	56.9	43.9	29.5
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°	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0	1632.0
2.5°	1621.0	1632.0	1649.1	1659.4	1673.1	1678.6	1684.1	1693.7	1701.2	1699.2	1695.8
5°	1636.1	1654.6	1675.9	1682.7	1682.7	1675.9	1671.8	1672.4	1670.4	1669.0	1664.9
7.5°	1658.1	1683.4	1698.5	1691.6	1670.4	1643.7	1618.3	1603.2	1588.8	1579.9	1582.7
10°	1688.9	1717.0	1717.7	1687.5	1636.8	1578.5	1528.5	1496.3	1465.4	1451.7	1455.9
12.5°	1733.5	1761.6	1737.6	1672.4	1583.3	1492.2	1400.3	1333.8	1274.2	1259.8	1255.7
15°	1781.4	1803.4	1749.9	1640.2	1506.6	1356.5	1202.2	1102.9	1036.4	1024.7	1020.6
17.5°	1823.2	1835.6	1743.7	1582.7	1385.3	1148.8	969.2	902.0	888.3	895.2	895.2
20°	1860.3	1856.1	1717.0	1493.6	1194.0	918.5	814.3	813.6	832.1	849.2	850.6
22.5°	1906.9	1874.7	1674.5	1361.3	965.8	766.3	748.5	766.3	786.9	806.1	808.1
25°	1962.4	1895.2	1617.6	1172.8	776.6	695.7	703.3	718.3	731.4	746.4	747.1
27.5°	2017.9	1911.0	1537.4	951.4	673.8	650.5	658.7	664.9	668.3	677.9	677.9
30°	2082.3	1923.3	1421.6	762.2	626.5	610.7	605.9	603.2	605.9	618.9	619.6
32.5°	2163.2	1945.3	1263.2	653.9	604.5	582.6	557.9	544.2	553.8	577.1	581.2
35°	2255.1	1971.3	1073.4	610.7	597.0	568.9	523.7	502.4	505.8	527.1	530.5
37.5°	2370.2	2004.9	886.3	600.4	604.5	567.5	507.9	477.7	462.7	463.4	462.7
40°	2517.6	2038.5	738.2	603.2	621.0	571.0	500.4	453.1	421.5	422.9	425.7
42.5°	2671.8	2060.4	644.3	611.4	640.9	575.8	497.6	429.1	401.7	425.0	446.2
45°	2852.1	2054.2	595.6	618.9	656.0	577.8	487.3	426.3	403.7	473.6	513.4
47.5°	3059.1	2027.5	568.2	622.4	660.1	577.1	479.8	435.2	420.9	542.2	587.4
50°	3283.9	1985.7	546.3	616.9	658.0	574.4	488.0	446.2	427.7	557.3	592.2
52.5°	3530.0	1947.3	523.7	604.5	647.7	566.2	498.3	441.4	408.5	513.4	540.1
55°	3821.3	1938.4	498.3	583.3	630.6	557.3	492.8	426.3	387.3	455.1	471.6
57.5°	4154.4	1993.9	465.4	557.3	607.3	539.4	479.8	418.1	379.7	414.0	422.9
60°	4577.3	2116.6	430.5	529.8	578.5	512.7	468.1	420.2	381.8	407.8	409.9
62.5°	4907.7	2227.0	398.9	496.3	540.1	480.5	455.8	422.2	388.0	416.1	412.6
65°	5027.6	2172.8	359.9	446.2	486.0	444.8	438.7	423.6	388.0	420.9	413.3
67°	4781.6	1914.4	322.8	396.2	434.6	413.3	422.2	418.1	381.1	420.2	407.1
67.5°	4664.4	1823.2	313.2	388.0	420.9	403.7	418.1	415.4	379.0	418.8	403.7
70°	3846.6	1307.8	264.6	325.6	352.3	355.7	392.8	397.5	362.6	393.4	366.0
72.5°	2736.9	818.4	228.2	252.2	284.5	304.3	358.5	373.6	340.7	342.0	319.4
75°	1354.4	439.4	203.6	194.7	221.4	253.6	312.6	340.7	308.4	285.1	277.6
77.5°	457.2	248.8	172.0	157.0	172.0	203.6	259.1	297.5	272.1	241.3	236.5
80°	236.5	181.0	134.3	126.1	135.7	157.6	202.9	247.4	232.4	233.7	192.6
82.5°	147.4	110.4	96.6	96.0	102.8	120.6	149.4	200.8	199.5	170.7	124.1
85°	68.5	63.7	61.7	63.7	65.8	68.5	97.3	143.3	151.5	91.8	81.6
87.5°	28.8	28.1	24.7	26.7	29.5	28.8	39.1	61.0	85.0	57.6	52.8
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)