

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: P196832

Luminaire Tested: **NAV-AF-02-D-UNV-T4FT-7030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196832  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)  
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-T4FT-7030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9593 lumens  
Efficiency: N/A  
Efficacy: 112.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

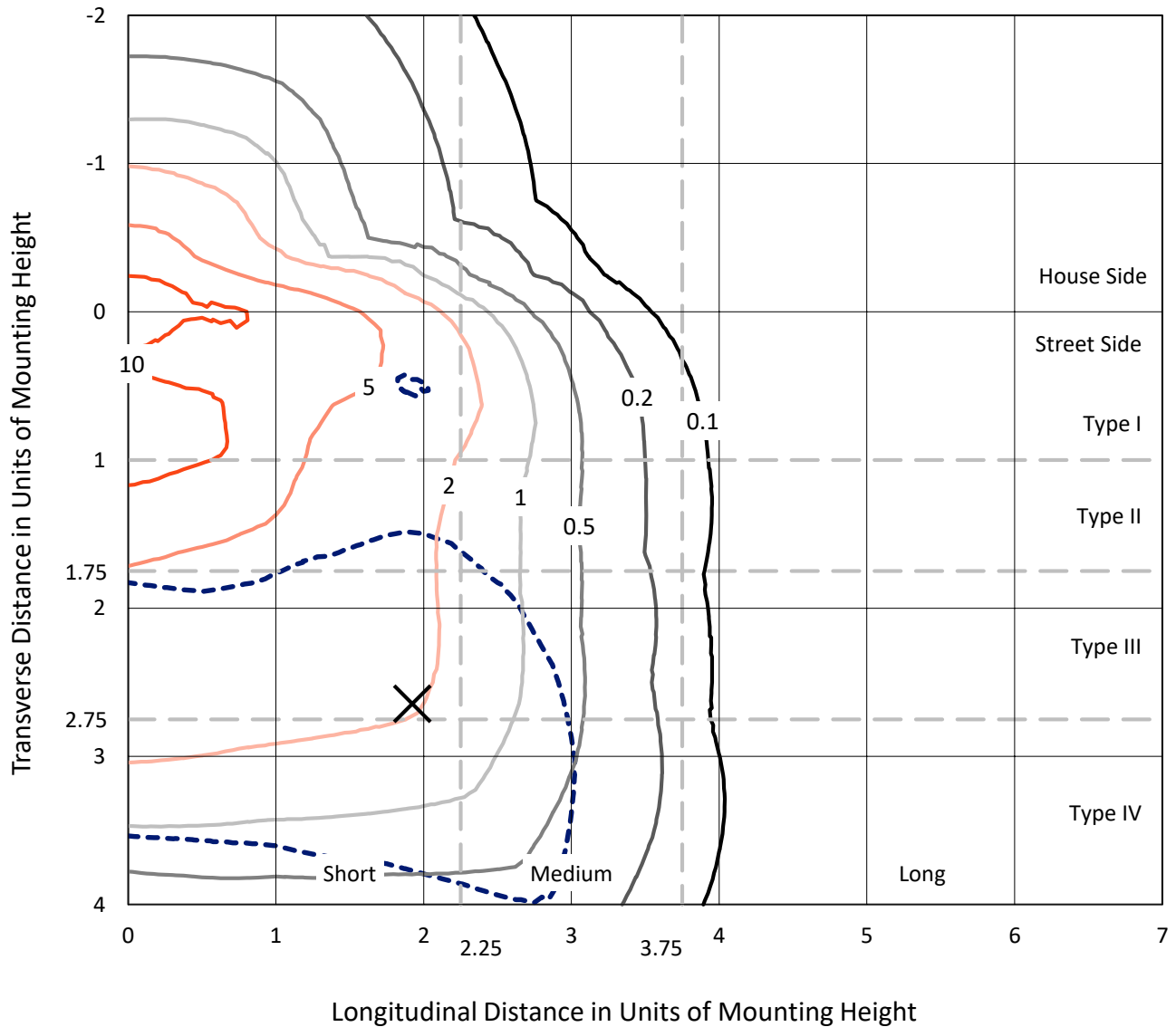
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

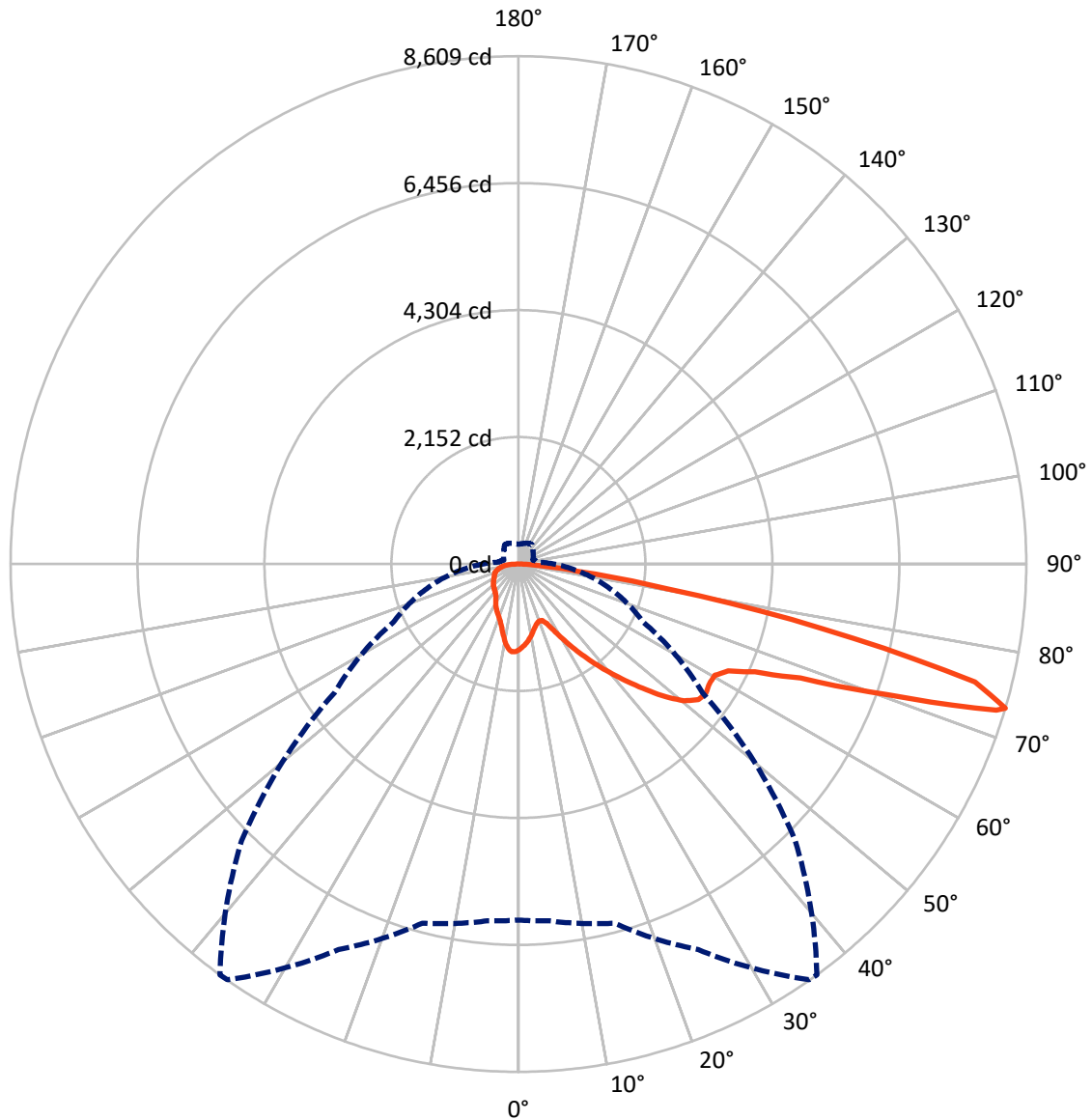
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.5 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 73-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1849.8	0.0	1849.8
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	7743.2	0.0	7743.2
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	9593.0	0.0	9593.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.0	1.4
10°-20°	331.5	3.5
20°-30°	531.4	5.5
30°-40°	879.0	9.2
40°-50°	1360.2	14.2
50°-60°	1820.9	19.0
60°-70°	2378.7	24.8
70°-80°	1943.0	20.3
80°-90°	216.3	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°	9593.0	100.0
0°-180°	9593.0	100.0



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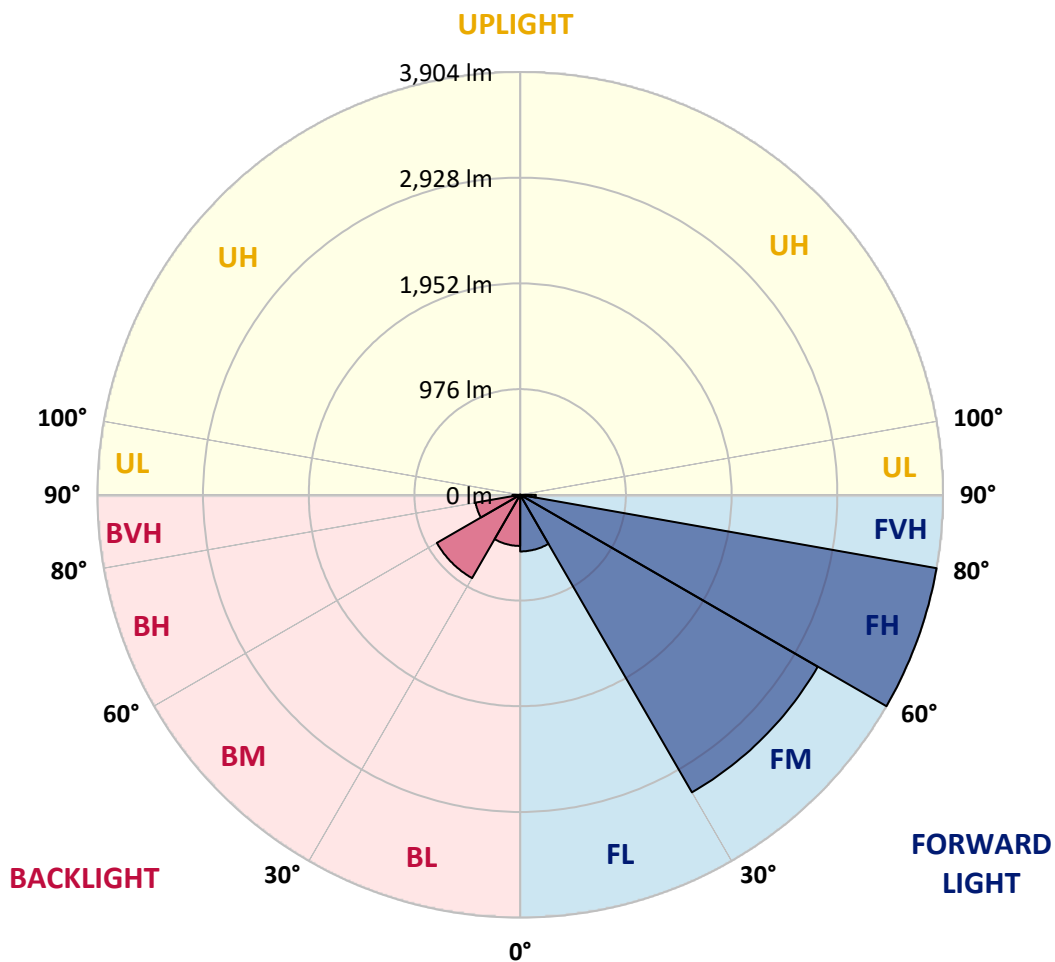
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	522.7	5.4			
FM (30°-60°)	3171.8	33.1			
FH (60°-80°)	3903.6	40.7			G2/5000
FVH (80°-90°)	145.0	1.5			G2/225
BL (0°-30°)	472.2	4.9	B1/500		
BM (30°-60°)	888.4	9.3	B1/1000		
BH (60°-80°)	418.0	4.4	B1/500		G1/500
BVH (80°-90°)	71.2	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0
2.5°	1397.7	1401.2	1401.9	1406.1	1406.1	1405.5	1407.4	1414.7	1418.3	1426.8	1434.1
5°	1328.7	1333.0	1334.8	1342.1	1351.3	1351.9	1358.5	1372.7	1386.1	1404.8	1420.7
7.5°	1251.3	1256.2	1261.1	1276.2	1289.7	1290.9	1303.7	1326.3	1344.0	1367.2	1395.8
10°	1176.4	1177.6	1182.4	1202.0	1219.7	1221.4	1239.8	1265.3	1289.1	1321.4	1353.7
12.5°	1114.8	1118.5	1117.1	1131.8	1147.1	1148.4	1172.7	1205.0	1239.8	1276.2	1314.7
15°	1093.4	1092.8	1080.0	1079.5	1086.1	1087.3	1111.1	1148.9	1187.8	1233.0	1282.3
17.5°	1108.1	1103.2	1069.6	1049.0	1044.7	1045.9	1063.5	1105.0	1146.4	1198.2	1257.3
20°	1188.5	1169.6	1091.1	1041.0	1027.0	1027.0	1037.4	1070.8	1116.6	1176.9	1251.3
22.5°	1379.3	1350.0	1182.4	1093.4	1044.1	1039.2	1031.3	1056.9	1107.5	1180.0	1276.2
25°	1619.4	1605.4	1350.0	1233.0	1131.3	1115.4	1063.0	1072.2	1126.4	1212.9	1344.6
27.5°	1841.9	1817.5	1570.0	1436.0	1292.1	1267.7	1156.8	1119.7	1171.5	1273.9	1443.4
30°	1971.7	1955.3	1796.2	1668.2	1497.0	1465.8	1306.7	1213.6	1251.9	1374.5	1583.5
32.5°	2113.2	2103.3	2022.9	1906.6	1718.7	1682.8	1500.5	1366.5	1375.0	1507.9	1752.3
35°	2250.3	2263.1	2217.4	2132.0	1957.7	1924.2	1760.8	1566.4	1526.8	1657.9	1932.7
37.5°	2414.8	2417.9	2389.3	2333.8	2208.7	2181.4	2046.8	1779.8	1692.0	1817.5	2107.1
40°	2743.4	2695.2	2583.1	2539.1	2464.8	2447.7	2294.1	1975.4	1845.6	1981.5	2271.6
42.5°	3098.7	3023.7	2848.2	2776.3	2746.4	2730.6	2500.2	2105.9	1989.4	2145.5	2433.1
45°	3385.2	3324.2	3152.3	3063.4	3067.0	3041.4	2680.0	2222.3	2145.5	2310.1	2613.6
47.5°	3667.4	3565.5	3373.0	3360.2	3402.9	3365.0	2851.8	2338.7	2308.2	2489.3	2794.0
50°	3685.7	3593.0	3515.0	3617.3	3690.6	3643.6	3007.9	2491.0	2477.0	2706.3	3026.8
52.5°	3463.2	3449.8	3568.6	3741.1	3862.5	3820.4	3135.3	2647.7	2649.5	2977.5	3310.2
55°	3382.1	3365.0	3507.7	3719.8	3883.7	3858.7	3230.4	2824.5	2840.8	3306.5	3614.4
57.5°	3518.7	3476.0	3504.1	3679.6	3833.8	3819.1	3329.1	3020.7	3050.5	3685.7	3895.3
60°	3942.3	3855.1	3706.4	3739.3	3835.6	3827.1	3470.5	3239.5	3289.5	4080.7	4073.3
62.5°	4576.8	4478.0	4175.2	4028.8	4007.5	3991.0	3704.0	3508.4	3533.3	4365.9	3969.7
65°	5272.9	5166.8	4806.6	4567.0	4441.5	4406.1	4080.7	3832.6	3675.9	4365.2	3566.2
67.5°	6054.2	5942.1	5583.0	5354.5	5218.6	5158.2	4691.9	4094.6	3629.6	3995.9	2853.8
70°	6854.5	6747.9	6583.2	6663.0	6722.8	6630.8	5654.9	4181.8	3296.8	3132.8	1916.3
72.5°	6429.7	6421.1	6546.0	7303.1	8454.4	8472.7	6616.7	3935.5	2547.2	1862.0	1021.6
73°	6035.3	6071.2	6302.8	7208.6	8602.5	8608.6	6635.7	3808.1	2338.7	1604.3	897.2
75°	3126.8	3370.5	4230.0	5845.2	7965.5	7994.3	5849.4	2883.0	1393.9	891.1	604.6
77.5°	837.5	826.4	1362.9	2847.7	5310.5	5272.9	3696.0	1395.8	668.0	558.9	424.3
80°	287.1	290.7	463.8	1041.7	2478.9	2567.3	1604.3	608.9	439.4	389.5	300.5
82.5°	146.3	151.1	242.5	443.1	1036.8	1014.8	516.2	358.4	294.4	236.4	168.3
85°	78.0	80.5	133.6	229.8	380.3	384.6	181.6	191.4	187.2	134.1	82.9
87.5°	38.4	39.7	64.0	101.2	140.8	135.9	63.4	82.9	92.0	75.6	45.7
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°	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0	1453.0
2.5°	1443.4	1443.4	1451.2	1464.6	1474.4	1483.5	1489.6	1499.4	1504.8	1504.3	1503.6
5°	1433.6	1439.6	1455.5	1471.9	1482.8	1490.2	1490.2	1494.4	1494.4	1492.7	1490.2
7.5°	1411.0	1421.4	1444.5	1459.1	1462.2	1454.2	1438.4	1426.3	1411.0	1403.1	1400.0
10°	1375.0	1388.4	1417.7	1424.4	1408.6	1380.5	1342.1	1309.3	1280.0	1266.6	1262.3
12.5°	1339.7	1357.3	1384.8	1374.5	1336.7	1281.8	1222.6	1177.6	1144.6	1131.8	1127.5
15°	1310.4	1331.8	1353.0	1320.8	1255.0	1178.8	1113.6	1071.5	1046.4	1036.8	1034.3
17.5°	1290.9	1315.9	1323.2	1262.9	1171.5	1086.1	1028.2	1000.9	989.8	985.5	984.3
20°	1292.1	1320.2	1302.5	1206.8	1091.1	1005.0	966.7	958.7	958.7	958.7	958.1
22.5°	1325.7	1350.0	1293.9	1154.5	1013.6	936.8	920.4	927.1	932.0	932.0	931.3
25°	1395.1	1408.6	1300.0	1103.8	941.0	877.7	878.3	891.1	895.4	895.4	894.2
27.5°	1501.2	1490.2	1311.0	1047.7	869.8	824.1	832.5	844.1	847.2	845.3	844.8
30°	1634.1	1590.2	1320.2	981.9	802.7	774.1	781.4	788.1	785.7	781.4	780.7
32.5°	1782.8	1692.0	1314.7	908.2	743.6	722.3	726.6	730.2	726.6	716.2	716.2
35°	1930.3	1783.9	1284.8	827.7	696.6	672.3	671.7	683.2	682.7	670.5	671.1
37.5°	2059.5	1856.6	1227.0	754.0	656.4	635.7	638.2	645.5	649.1	632.6	630.9
40°	2172.3	1906.6	1145.2	691.2	624.1	625.4	618.6	607.1	602.8	595.5	594.3
42.5°	2278.3	1941.3	1058.7	638.7	607.7	621.6	599.2	571.8	560.2	566.8	571.1
45°	2382.5	1980.4	975.2	595.5	586.9	610.8	579.6	549.1	535.8	538.7	543.0
47.5°	2509.9	2034.5	874.6	549.1	555.2	590.6	567.5	534.5	514.4	502.3	498.6
50°	2677.5	2113.2	744.2	499.2	521.7	568.7	557.1	513.2	491.2	466.9	460.7
52.5°	2887.1	2187.5	612.5	459.0	494.3	549.8	540.1	495.0	468.0	438.9	434.0
55°	3096.3	2197.9	499.2	424.3	463.3	524.2	519.3	480.3	442.5	418.7	413.9
57.5°	3242.6	2099.8	423.0	395.0	433.3	492.4	500.4	462.6	421.2	402.8	399.8
60°	3245.0	1865.0	376.7	375.5	410.9	465.0	480.8	441.9	407.7	395.5	393.2
62.5°	2987.1	1503.1	346.8	360.8	394.3	442.5	466.3	430.3	404.7	399.8	397.3
65°	2503.7	1110.5	323.1	347.5	379.1	423.6	454.1	426.6	403.5	401.6	399.8
67.5°	1848.6	761.3	302.9	330.4	362.0	404.2	442.5	421.2	396.2	403.5	401.1
70°	1162.9	508.3	284.1	310.9	339.5	381.6	427.3	411.4	387.0	382.7	374.9
72.5°	656.4	367.5	261.4	285.8	310.2	351.7	406.6	395.0	366.3	349.2	341.3
73°	593.1	348.0	256.0	279.8	303.5	345.6	401.6	390.0	360.2	341.3	334.0
75°	434.0	284.6	231.0	254.8	275.5	317.5	378.5	365.7	333.3	310.9	305.9
77.5°	314.5	219.4	198.8	220.0	238.3	278.5	343.7	329.1	297.4	285.2	280.4
80°	226.7	166.4	164.6	185.3	201.1	242.0	306.6	291.4	260.9	296.8	288.9
82.5°	135.3	106.6	120.7	143.9	160.3	203.0	266.4	248.7	219.4	221.9	188.9
85°	64.6	60.3	75.0	94.5	106.1	139.0	221.9	207.8	175.6	143.9	140.8
87.5°	28.6	27.5	35.9	42.1	56.7	83.5	151.8	134.7	127.4	76.2	59.8
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)