

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: P196802

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196802
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-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7895.1 lumens
Efficiency: N/A
Efficacy: 119.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B1 - U0 - G2

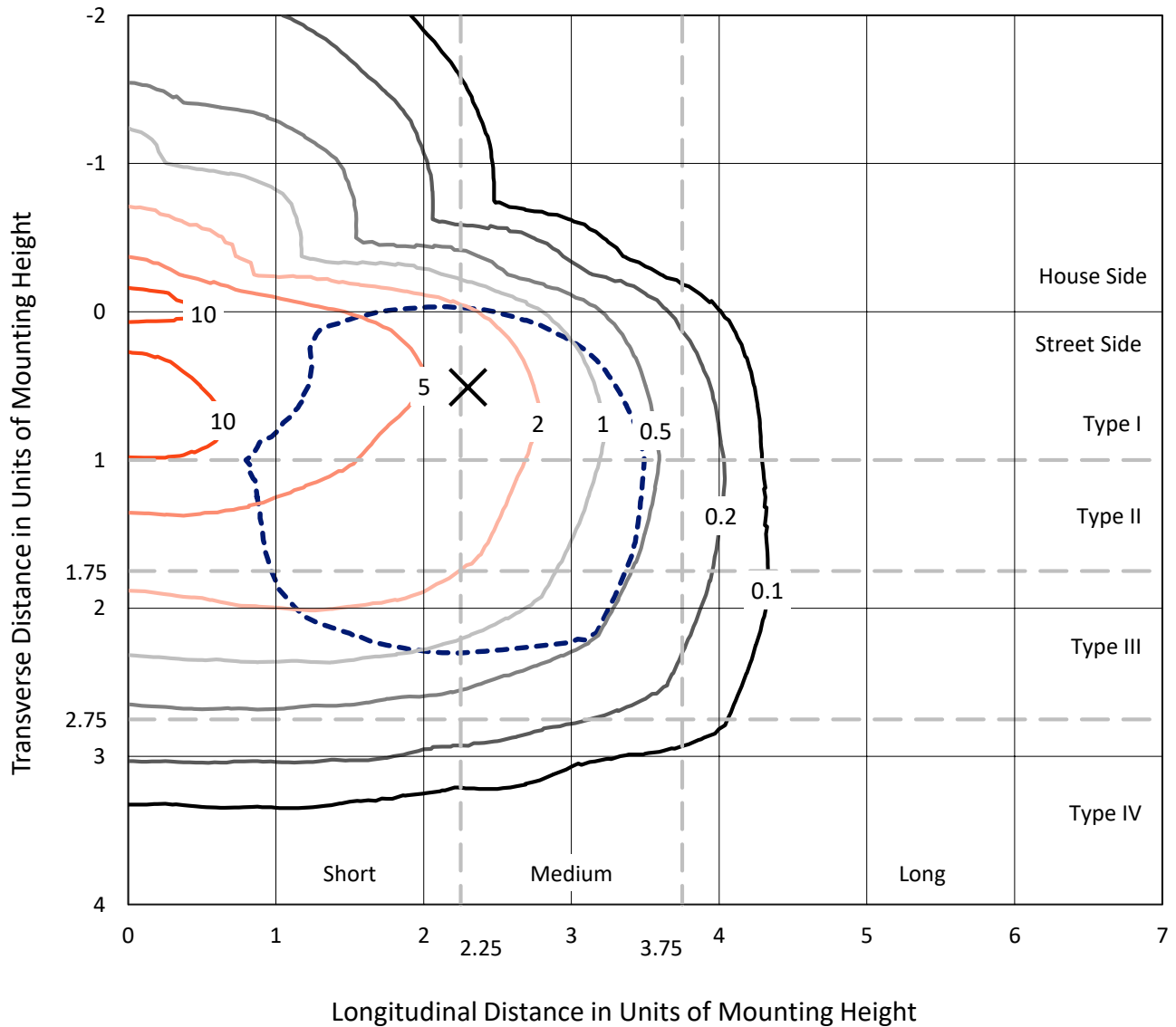
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

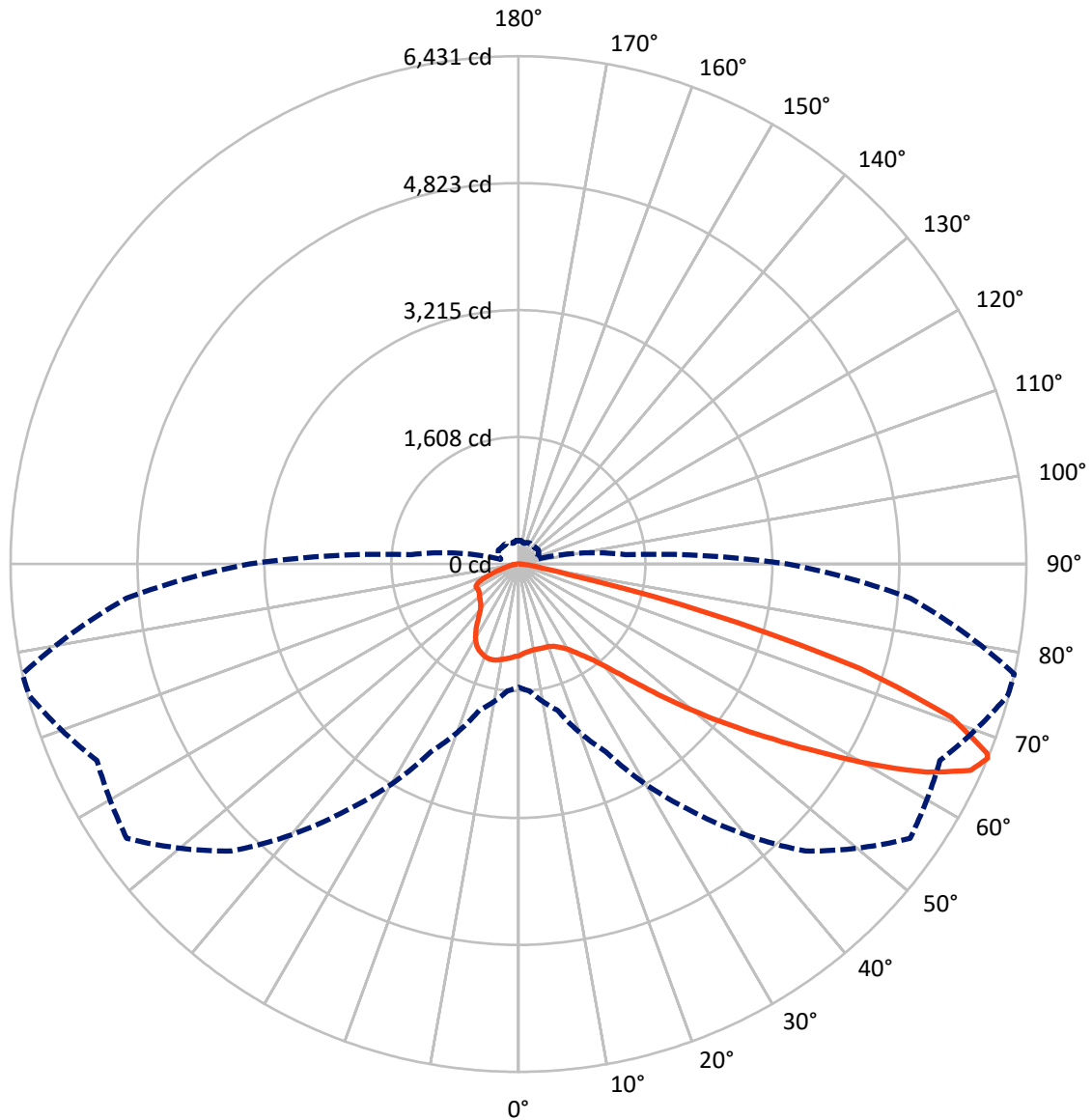
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14 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	1356.8	0.0	1356.8
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	6538.3	0.0	6538.3
	% Fixture	82.8	0.0	82.8
Total	Lumens	7895.1	0.0	7895.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.5	1.3
10°-20°	286.6	3.6
20°-30°	487.0	6.2
30°-40°	779.0	9.9
40°-50°	1199.3	15.2
50°-60°	1663.9	21.1
60°-70°	2219.5	28.1
70°-80°	1056.3	13.4
80°-90°	100.0	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°	7895.1	100.0
0°-180°	7895.1	100.0



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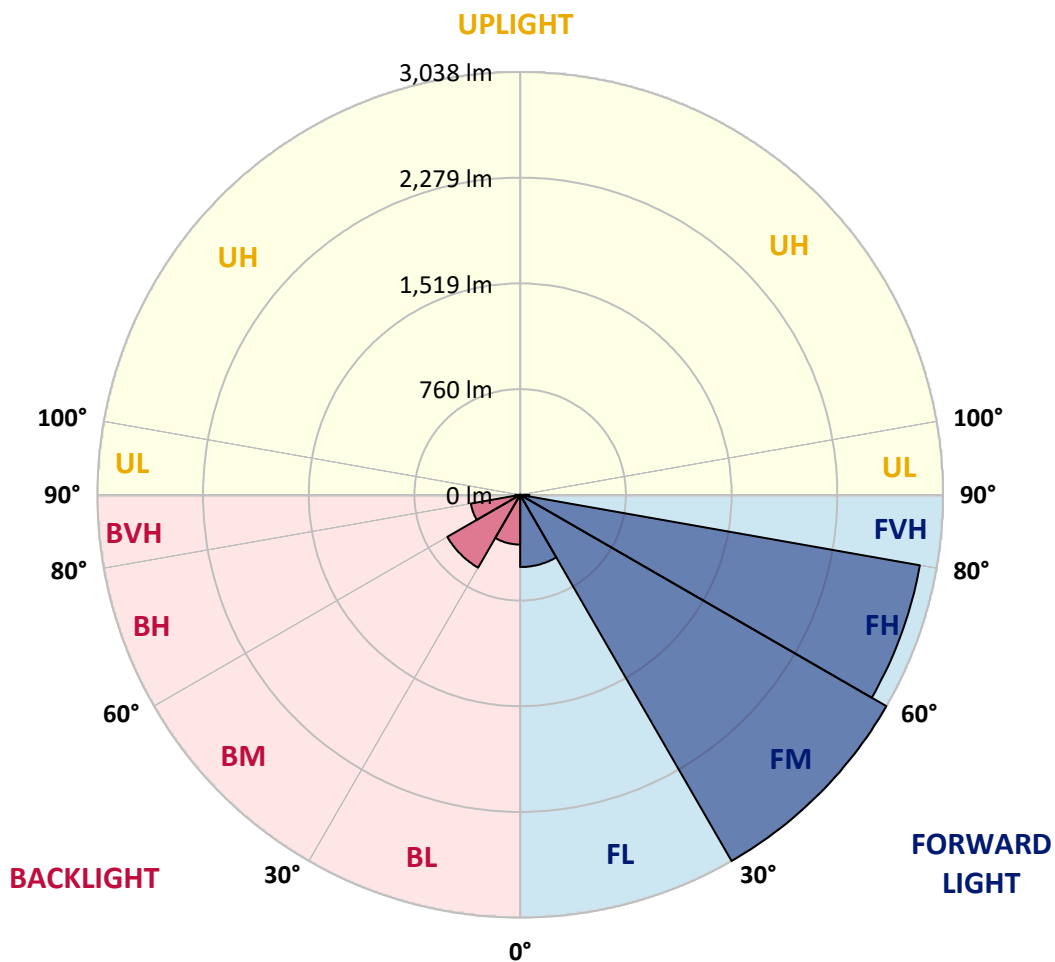
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	519.2	6.6			
FM	(30°-60°)	3038.1	38.5			
FH	(60°-80°)	2916.1	36.9			G2/5000
FVH	(80°-90°)	65.0	0.8			G1/100
BL	(0°-30°)	357.9	4.5	B1/500		
BM	(30°-60°)	604.1	7.7	B1/1000		
BH	(60°-80°)	359.7	4.6	B1/500		G1/500
BVH	(80°-90°)	35.1	0.4			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0
2.5°	1041.9	1046.8	1047.2	1061.5	1067.8	1083.9	1101.5	1117.0	1130.8	1135.6	1144.4
5°	937.5	937.5	939.0	948.2	966.3	992.1	1028.6	1068.8	1110.7	1121.0	1146.7
7.5°	882.9	883.8	884.8	894.1	908.2	931.1	967.7	1022.3	1092.1	1109.2	1154.7
10°	887.7	886.2	881.4	879.4	885.2	899.9	931.7	987.7	1076.5	1102.9	1168.7
12.5°	964.3	961.4	945.3	921.8	900.4	895.1	917.0	970.1	1069.2	1102.9	1192.7
15°	1095.6	1097.5	1065.9	1016.9	960.9	922.8	919.9	963.7	1066.8	1105.8	1220.5
17.5°	1266.5	1267.4	1223.4	1152.6	1059.5	980.9	939.9	963.7	1066.8	1108.8	1247.3
20°	1447.9	1441.1	1391.3	1302.5	1181.4	1061.5	976.4	969.6	1069.7	1113.2	1272.8
22.5°	1603.6	1597.3	1545.0	1451.8	1313.2	1156.6	1025.8	989.3	1085.8	1131.2	1308.4
25°	1739.7	1743.7	1692.9	1588.0	1444.5	1263.9	1099.4	1034.1	1119.5	1163.9	1352.3
27.5°	1905.2	1897.9	1839.3	1739.3	1579.7	1375.2	1191.7	1090.7	1159.5	1203.4	1405.9
30°	2096.4	2093.1	2013.9	1911.1	1728.5	1499.7	1282.9	1151.7	1211.6	1257.6	1473.3
32.5°	2328.8	2328.4	2243.4	2117.0	1895.8	1640.2	1390.9	1235.1	1287.8	1334.2	1562.6
35°	2591.8	2591.3	2503.4	2336.6	2088.7	1795.9	1517.7	1336.7	1382.0	1430.9	1668.9
37.5°	2774.3	2771.4	2725.5	2563.5	2302.0	1976.9	1676.2	1473.3	1488.8	1543.7	1797.4
40°	2809.5	2827.1	2866.5	2771.0	2534.7	2178.0	1835.4	1620.2	1634.8	1705.1	1958.9
42.5°	2771.4	2794.3	2925.6	2952.4	2767.5	2421.5	2034.5	1823.6	1842.2	1929.6	2148.7
45°	2738.2	2758.2	2922.6	3053.0	2997.3	2687.0	2282.9	2072.1	2107.2	2215.6	2365.4
47.5°	2681.7	2700.2	2865.1	3071.1	3128.6	2942.7	2582.1	2370.7	2431.2	2562.5	2612.3
50°	2678.7	2687.0	2786.5	3010.5	3174.0	3137.0	2913.4	2720.1	2812.9	2964.2	2885.6
52.5°	2604.5	2662.5	2752.9	2914.0	3175.0	3250.1	3239.9	3103.3	3246.2	3413.6	3185.2
55°	2150.7	2217.5	2640.6	2866.5	3169.2	3347.2	3538.1	3510.7	3734.3	3910.4	3521.0
57.5°	2008.1	2036.5	2316.7	2880.7	3217.9	3507.8	3836.2	3948.5	4292.5	4484.8	3923.6
60°	1969.1	1998.9	2251.8	2887.5	3350.2	3800.1	4240.8	4442.8	4948.9	5152.8	4380.9
62.5°	1925.7	1964.3	2256.5	2893.8	3582.5	4232.4	4777.6	4979.2	5622.8	5804.8	4809.4
65°	1798.9	1850.1	2166.3	2853.9	3836.7	4775.1	5487.2	5538.4	6179.6	6295.3	5068.0
67°	1558.2	1614.3	1918.4	2622.5	3813.2	5140.6	6054.7	5888.3	6416.4	6430.5	4984.1
67.5°	1482.1	1540.1	1834.5	2526.4	3746.4	5188.5	6155.2	5936.6	6414.4	6398.8	4906.0
70°	998.0	1063.4	1299.1	1854.9	3005.1	4828.8	6130.9	5787.8	5993.8	5814.7	4214.9
72.5°	495.4	497.2	648.1	1016.0	1820.8	3463.4	5114.3	4951.3	4858.6	4520.4	3093.0
75°	238.6	243.0	306.0	448.9	767.6	1788.0	3487.8	3340.9	2844.6	2463.0	1547.9
77.5°	182.0	186.4	237.6	292.3	320.1	583.1	1727.5	1396.3	824.3	658.3	436.3
80°	140.5	148.8	200.6	224.5	211.8	233.7	543.1	427.5	320.6	294.2	216.3
82.5°	109.8	114.7	170.3	170.3	146.4	156.7	252.8	246.9	199.1	179.6	116.2
85°	77.6	87.4	137.1	126.8	96.1	97.1	151.4	145.0	102.4	82.5	45.4
87.5°	34.6	44.4	97.6	82.9	51.3	39.6	62.0	53.2	40.5	31.2	21.0
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°	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0	1162.0
2.5°	1154.1	1162.0	1174.1	1181.4	1191.3	1195.1	1199.0	1205.9	1211.2	1209.7	1207.4
5°	1164.9	1178.1	1193.2	1198.0	1198.0	1193.2	1190.3	1190.7	1189.3	1188.3	1185.4
7.5°	1180.5	1198.6	1209.3	1204.4	1189.3	1170.2	1152.1	1141.4	1131.2	1124.9	1126.8
10°	1202.4	1222.5	1222.9	1201.6	1165.4	1123.8	1088.2	1065.3	1043.3	1033.6	1036.6
12.5°	1234.2	1254.2	1237.2	1190.7	1127.3	1062.4	997.0	949.7	907.2	896.9	894.1
15°	1268.3	1283.9	1245.9	1167.8	1072.6	965.8	855.9	785.2	737.8	729.6	726.7
17.5°	1298.1	1306.8	1241.5	1126.8	986.3	818.0	690.1	642.2	632.5	637.3	637.3
20°	1324.4	1321.5	1222.5	1063.4	850.1	653.9	579.7	579.3	592.4	604.6	605.7
22.5°	1357.6	1334.7	1192.2	969.1	687.6	545.6	532.8	545.6	560.3	573.9	575.4
25°	1397.2	1349.4	1151.7	835.0	553.0	495.4	500.7	511.5	520.7	531.4	532.0
27.5°	1436.6	1360.6	1094.6	677.4	479.7	463.2	468.9	473.4	475.9	482.6	482.6
30°	1482.5	1369.3	1012.2	542.7	446.0	434.9	431.3	429.5	431.3	440.7	441.2
32.5°	1540.1	1385.0	899.4	465.6	430.4	414.8	397.2	387.5	394.3	411.0	413.9
35°	1605.6	1403.6	764.3	434.9	425.0	405.1	372.8	357.8	360.1	375.3	377.7
37.5°	1687.5	1427.5	631.0	427.5	430.4	404.0	361.6	340.2	329.4	329.9	329.4
40°	1792.5	1451.3	525.5	429.5	442.2	406.6	356.3	322.6	300.1	301.1	303.0
42.5°	1902.2	1467.0	458.8	435.3	456.2	409.9	354.3	305.5	285.9	302.5	317.7
45°	2030.6	1462.6	424.0	440.7	467.0	411.4	347.0	303.5	287.5	337.2	365.5
47.5°	2178.0	1443.6	404.6	443.1	470.0	411.0	341.7	309.9	299.6	386.0	418.3
50°	2338.0	1413.7	389.0	439.2	468.5	408.9	347.5	317.7	304.5	396.7	421.6
52.5°	2513.3	1386.4	372.8	430.4	461.2	403.0	354.8	314.2	290.8	365.5	384.6
55°	2720.7	1380.1	354.8	415.3	448.9	396.7	350.8	303.5	275.8	324.1	335.8
57.5°	2957.8	1419.6	331.4	396.7	432.3	384.0	341.7	297.7	270.3	294.8	301.1
60°	3258.8	1507.0	306.5	377.3	411.9	365.0	333.3	299.2	271.8	290.4	291.8
62.5°	3494.1	1585.6	284.1	353.4	384.6	342.1	324.5	300.6	276.2	296.2	293.8
65°	3579.6	1547.0	256.2	317.7	346.1	316.8	312.4	301.5	276.2	299.6	294.2
67°	3404.3	1363.0	229.9	282.1	309.4	294.2	300.6	297.7	271.3	299.2	289.9
67.5°	3320.9	1298.1	223.0	276.2	299.6	287.5	297.7	295.8	269.9	298.2	287.5
70°	2738.7	931.1	188.4	231.8	250.9	253.3	279.6	283.1	258.2	280.1	260.6
72.5°	1948.6	582.7	162.5	179.6	202.5	216.7	255.2	265.9	242.5	243.5	227.4
75°	964.3	312.8	145.0	138.5	157.7	180.6	222.6	242.5	219.6	203.0	197.6
77.5°	325.5	177.1	122.5	111.8	122.5	145.0	184.4	211.8	193.7	171.7	168.4
80°	168.4	128.8	95.6	89.8	96.5	112.2	144.4	176.1	165.4	166.4	137.1
82.5°	104.9	78.5	68.9	68.3	73.2	85.9	106.4	143.0	142.0	121.5	88.3
85°	48.8	45.4	43.9	45.4	46.9	48.8	69.3	102.0	107.8	65.4	58.1
87.5°	20.5	20.0	17.6	19.0	21.0	20.5	27.9	43.4	60.5	41.0	37.5
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)