

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: P195464

Luminaire Tested: **NAV-AF-02-D-UNV-5NQ-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195464
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10117 lumens
Efficiency: N/A
Efficacy: 119.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G1

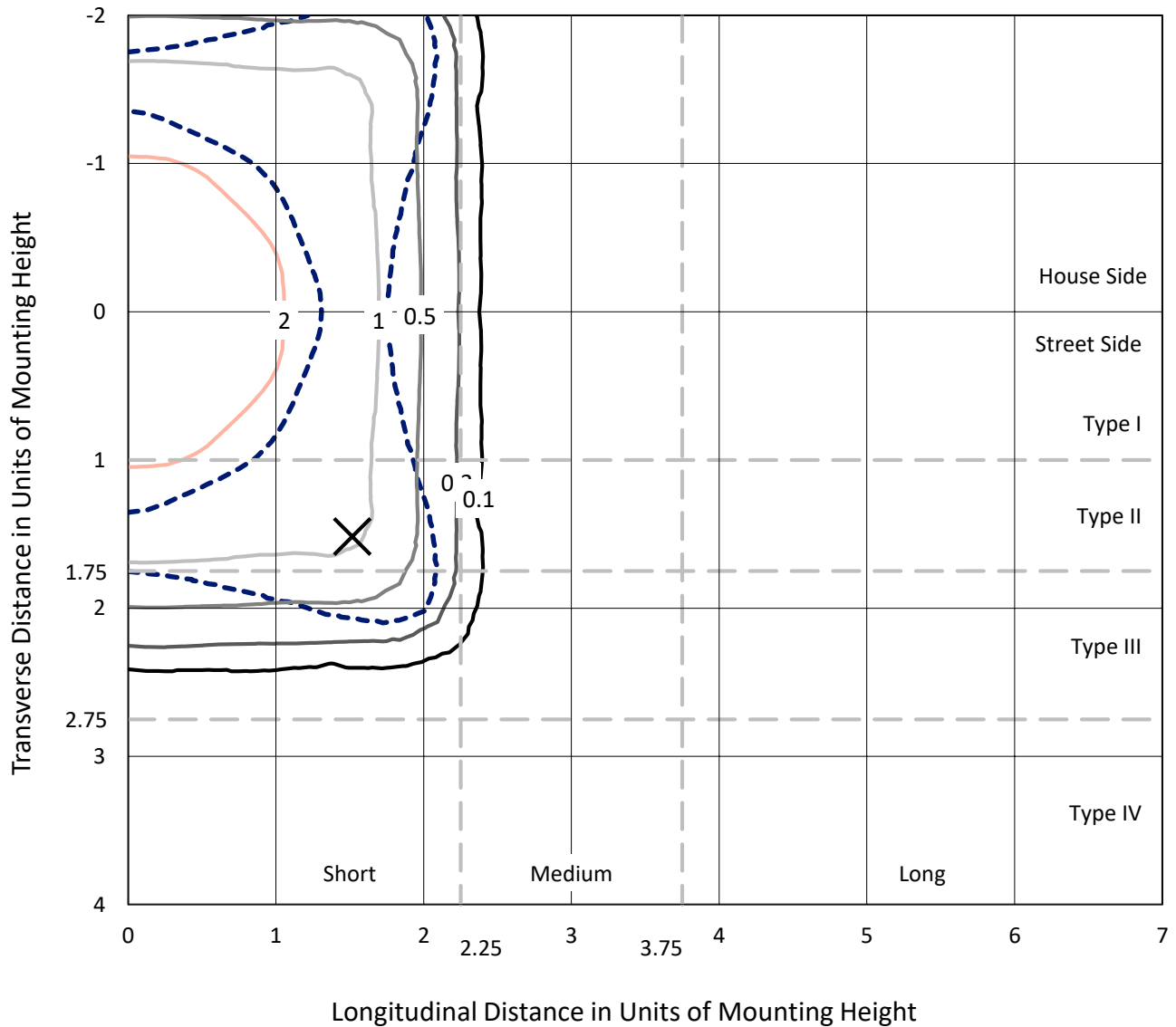
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

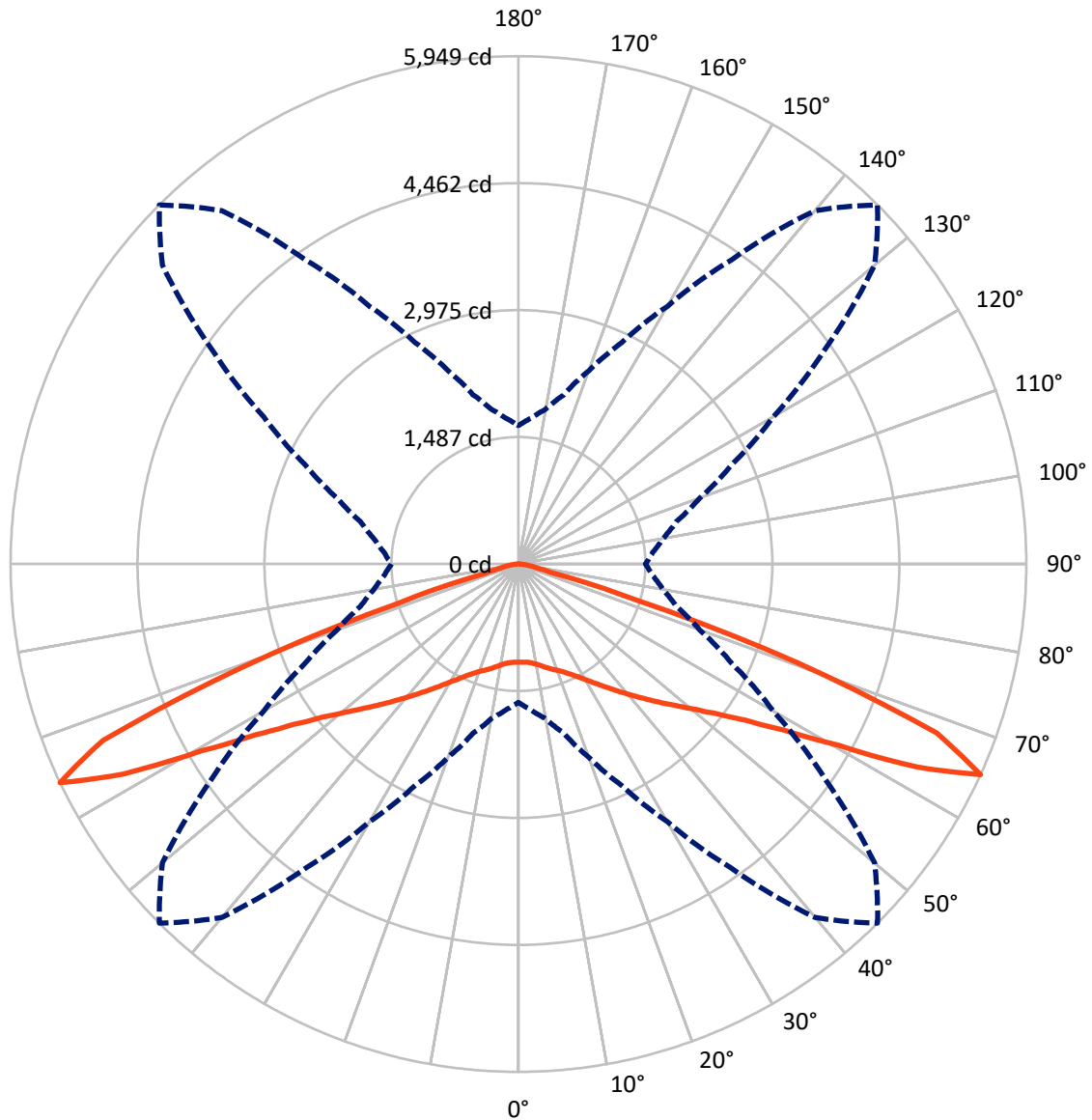
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.9 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5058.5	0.0	5058.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5058.5	0.0	5058.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	10117.0	0.0	10117.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.1	1.1
10°-20°	359.2	3.6
20°-30°	670.0	6.6
30°-40°	1129.8	11.2
40°-50°	1835.1	18.1
50°-60°	2875.3	28.4
60°-70°	2714.1	26.8
70°-80°	365.8	3.6
80°-90°	55.7	0.6
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°	10117.0	100.0
0°-180°	10117.0	100.0



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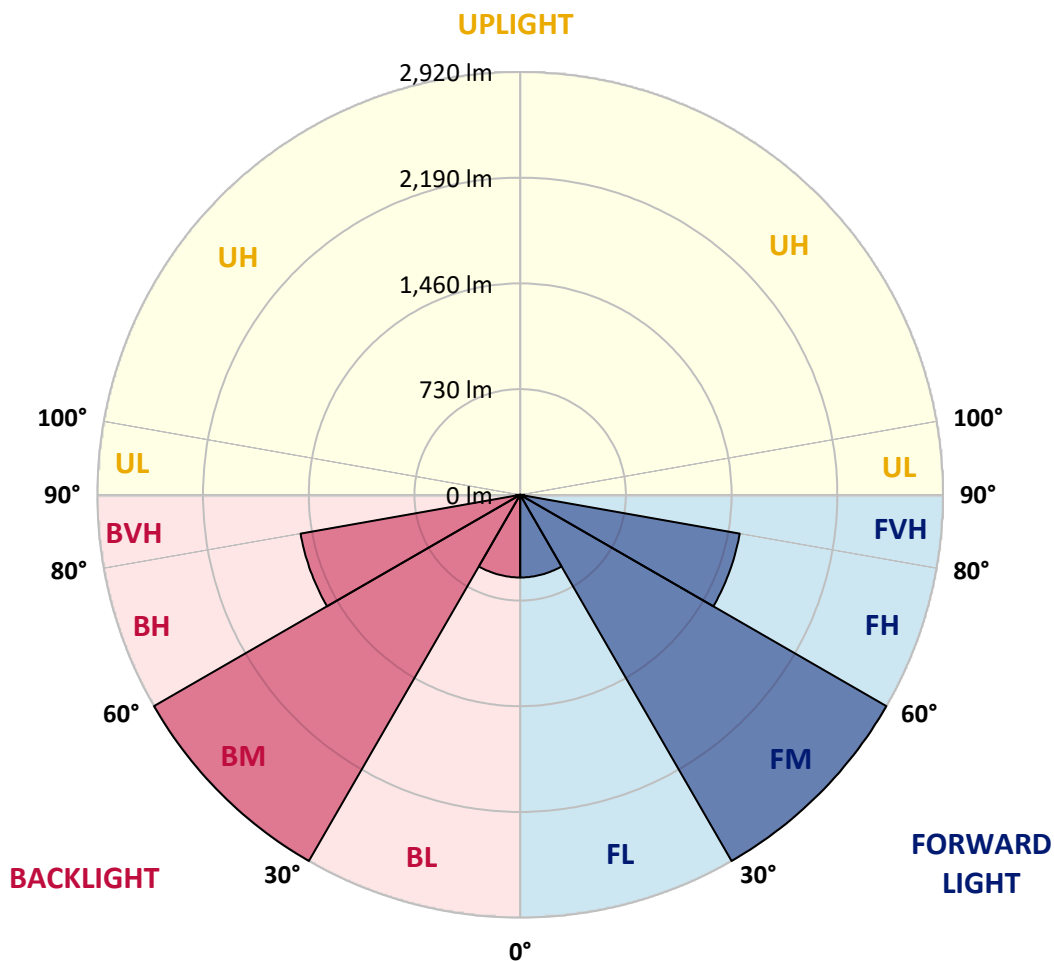
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	570.6	5.6			
FM	(30°-60°)	2920.1	28.9			
FH	(60°-80°)	1539.9	15.2			G1/1800
FVH	(80°-90°)	27.9	0.3			G1/100
BL	(0°-30°)	570.6	5.6	B2/1000		
BM	(30°-60°)	2920.1	28.9	B3/5000		
BH	(60°-80°)	1539.9	15.2	B3/2500		G1/1800
BVH	(80°-90°)	27.9	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8
2.5°	1160.3	1160.3	1162.1	1161.5	1159.0	1157.1	1155.2	1152.7	1151.4	1150.2	1149.5
5°	1166.6	1166.6	1168.4	1167.8	1165.9	1163.4	1162.1	1160.3	1158.4	1157.1	1157.7
7.5°	1182.3	1182.9	1183.6	1182.9	1181.0	1179.2	1176.6	1176.0	1173.5	1171.6	1172.9
10°	1206.3	1206.3	1206.9	1207.5	1206.3	1201.8	1201.8	1200.6	1198.1	1195.5	1196.2
12.5°	1232.7	1232.7	1233.4	1233.4	1233.4	1230.8	1231.5	1230.8	1227.7	1226.4	1227.7
15°	1258.6	1259.2	1259.2	1260.5	1260.5	1261.1	1263.6	1263.6	1262.3	1261.7	1261.7
17.5°	1288.8	1290.1	1290.7	1292.6	1293.2	1294.5	1297.0	1297.6	1298.3	1296.4	1297.0
20°	1329.2	1329.8	1331.7	1332.3	1334.8	1334.8	1336.1	1335.5	1334.2	1331.7	1331.7
22.5°	1374.5	1375.8	1379.6	1379.6	1382.7	1380.8	1381.5	1379.6	1376.4	1375.2	1373.9
25°	1433.8	1435.7	1438.8	1437.6	1438.8	1435.7	1435.7	1435.7	1433.8	1431.9	1431.2
27.5°	1508.8	1505.6	1508.8	1506.2	1505.6	1503.1	1503.7	1502.5	1500.6	1499.9	1497.4
30°	1586.9	1583.1	1585.0	1585.7	1584.4	1583.8	1581.2	1579.4	1576.2	1576.8	1574.9
32.5°	1676.4	1672.6	1674.5	1675.1	1673.9	1675.1	1674.5	1670.1	1666.3	1668.8	1668.8
35°	1782.9	1780.4	1785.4	1787.3	1783.5	1781.7	1779.1	1774.1	1768.4	1772.2	1772.8
37.5°	1910.9	1907.7	1911.5	1916.5	1909.6	1905.8	1895.7	1888.2	1884.4	1886.3	1888.8
40°	2043.8	2044.5	2055.2	2056.4	2048.9	2044.5	2034.4	2023.0	2012.3	2012.3	2015.5
42.5°	2183.7	2185.6	2198.2	2202.6	2200.1	2191.9	2178.1	2164.2	2150.3	2152.9	2156.6
45°	2341.9	2339.4	2352.6	2363.4	2361.5	2358.9	2345.7	2320.5	2307.9	2307.3	2313.6
47.5°	2508.3	2513.4	2527.2	2545.5	2544.9	2538.6	2521.5	2498.2	2474.9	2476.8	2484.4
50°	2702.4	2709.4	2732.7	2750.9	2753.5	2751.6	2731.4	2704.3	2671.5	2673.4	2683.5
52.5°	2876.4	2886.4	2913.5	2951.4	2974.7	2985.4	2972.2	2946.9	2913.5	2915.4	2926.1
55°	3033.9	3049.7	3090.0	3141.7	3188.3	3231.8	3251.3	3250.7	3226.1	3231.8	3245.7
57.5°	3132.9	3154.9	3216.1	3299.2	3391.9	3479.5	3555.1	3626.3	3642.1	3671.7	3671.7
60°	2999.9	3051.6	3132.9	3275.3	3457.4	3654.1	3867.1	4074.4	4208.0	4313.3	4256.6
62.5°	2505.2	2581.4	2695.5	2883.3	3166.9	3517.9	3945.9	4428.0	4930.9	5238.5	5012.8
65°	1620.9	1716.7	1840.9	2052.0	2409.4	2861.2	3484.5	4351.1	5403.6	5949.4	5445.2
67.5°	642.2	707.1	782.7	932.7	1242.8	1686.5	2386.0	3454.9	4771.5	5286.4	4721.0
70°	306.9	317.6	332.1	364.3	441.8	596.2	958.6	1702.2	2926.1	3468.8	2856.2
72.5°	221.8	223.7	230.7	241.4	264.1	295.6	359.2	520.6	1009.0	1467.2	1010.3
75°	168.3	170.8	174.6	180.2	192.2	207.3	231.3	277.3	345.4	398.3	344.7
77.5°	127.9	130.5	133.6	139.3	145.6	156.3	165.1	183.4	212.4	223.7	222.5
80°	93.3	97.7	102.7	107.8	112.2	117.2	117.9	126.7	143.1	153.8	150.6
82.5°	59.2	63.0	76.3	81.9	82.6	83.8	83.2	83.8	92.6	100.2	97.7
85°	37.8	40.3	47.3	53.6	52.3	54.8	54.8	53.6	49.8	42.9	51.0
87.5°	18.9	19.5	22.7	28.4	27.1	23.9	23.3	23.3	17.0	14.5	15.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8	1150.8
2.5°	1147.6	1148.9	1147.0	1147.0	1146.4	1147.6	1145.8	1145.8
5°	1156.5	1158.4	1157.7	1157.7	1159.0	1160.3	1159.6	1159.0
7.5°	1172.2	1173.5	1174.7	1175.4	1176.6	1176.0	1177.3	1176.6
10°	1196.2	1194.9	1196.8	1194.9	1195.5	1194.3	1194.9	1194.9
12.5°	1226.4	1224.5	1223.3	1222.0	1222.0	1219.5	1219.5	1220.1
15°	1261.1	1257.9	1255.4	1254.2	1252.9	1252.9	1251.0	1252.3
17.5°	1295.1	1292.0	1287.6	1287.6	1285.7	1284.4	1283.1	1286.3
20°	1331.0	1327.9	1325.4	1324.7	1321.0	1319.7	1320.3	1324.1
22.5°	1372.6	1370.7	1370.7	1369.5	1367.0	1365.1	1365.1	1369.5
25°	1428.7	1424.9	1425.6	1426.2	1424.9	1424.9	1423.7	1426.8
27.5°	1497.4	1494.3	1496.2	1497.4	1496.2	1498.1	1496.2	1498.7
30°	1578.1	1576.2	1578.1	1580.0	1576.8	1576.8	1575.6	1577.5
32.5°	1674.5	1672.0	1673.3	1673.3	1668.8	1665.1	1660.0	1663.8
35°	1780.4	1777.2	1779.8	1781.7	1776.6	1772.8	1765.3	1768.4
37.5°	1897.0	1898.2	1901.4	1909.6	1908.3	1902.0	1896.4	1898.9
40°	2027.4	2033.7	2047.6	2053.3	2052.0	2045.7	2038.2	2039.4
42.5°	2174.9	2183.1	2197.6	2207.1	2202.6	2193.8	2184.4	2188.2
45°	2335.6	2348.2	2367.1	2376.6	2370.9	2361.5	2348.2	2355.2
47.5°	2505.8	2531.0	2556.2	2568.8	2566.9	2553.7	2536.7	2538.6
50°	2709.4	2742.8	2774.9	2787.5	2778.0	2757.9	2733.9	2733.3
52.5°	2962.7	2998.6	3025.1	3021.9	2998.6	2967.1	2940.0	2938.8
55°	3279.1	3291.1	3287.3	3260.2	3219.2	3170.0	3135.4	3129.7
57.5°	3661.6	3621.3	3562.0	3480.1	3388.1	3294.8	3231.8	3208.5
60°	4129.3	3947.1	3735.4	3512.3	3308.7	3156.2	3059.8	3001.1
62.5°	4515.6	3988.1	3514.8	3127.2	2810.2	2621.7	2490.0	2408.7
65°	4383.2	3445.5	2759.8	2260.0	1914.0	1719.3	1580.0	1487.3
67.5°	3386.2	2302.2	1602.0	1110.5	842.0	712.8	622.7	564.1
70°	1707.3	882.9	535.1	377.5	322.7	300.0	284.9	276.0
72.5°	501.0	334.7	277.9	245.8	226.3	212.4	203.6	199.2
75°	277.3	226.3	199.8	181.5	168.9	159.4	153.8	150.0
77.5°	191.0	164.5	151.3	139.3	129.2	122.3	117.9	114.1
80°	133.6	120.4	114.7	108.4	100.8	95.2	88.9	86.3
82.5°	88.9	83.2	81.9	76.9	72.5	66.2	54.8	51.0
85°	52.3	51.7	51.7	49.8	46.6	41.0	32.8	32.8
87.5°	18.3	18.9	19.5	20.8	20.2	17.0	13.9	13.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)