

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: P197024

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-8030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197024
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-8030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6551 lumens
Efficiency: N/A
Efficacy: 77.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-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

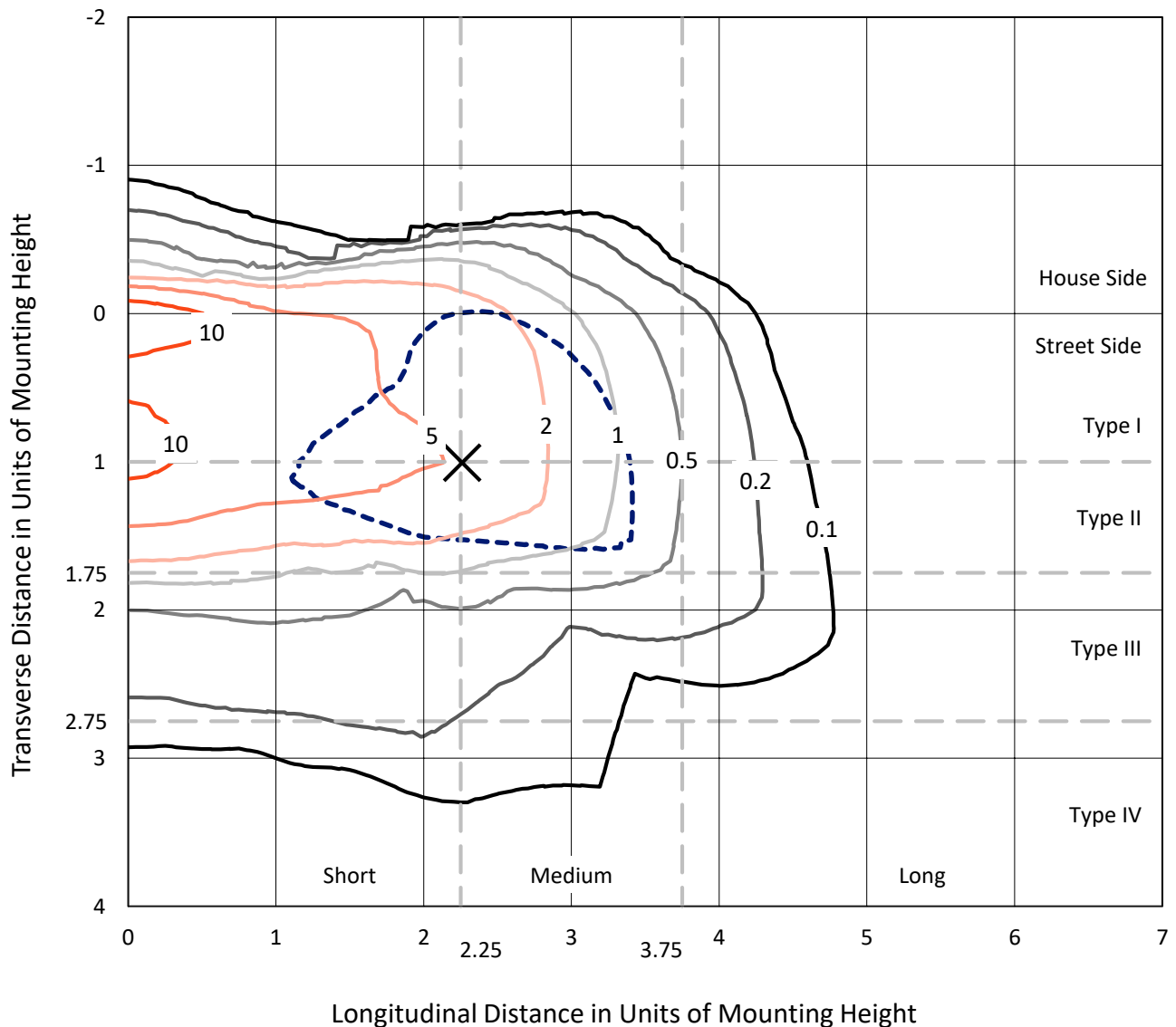


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
- - - 1/2 Max cd

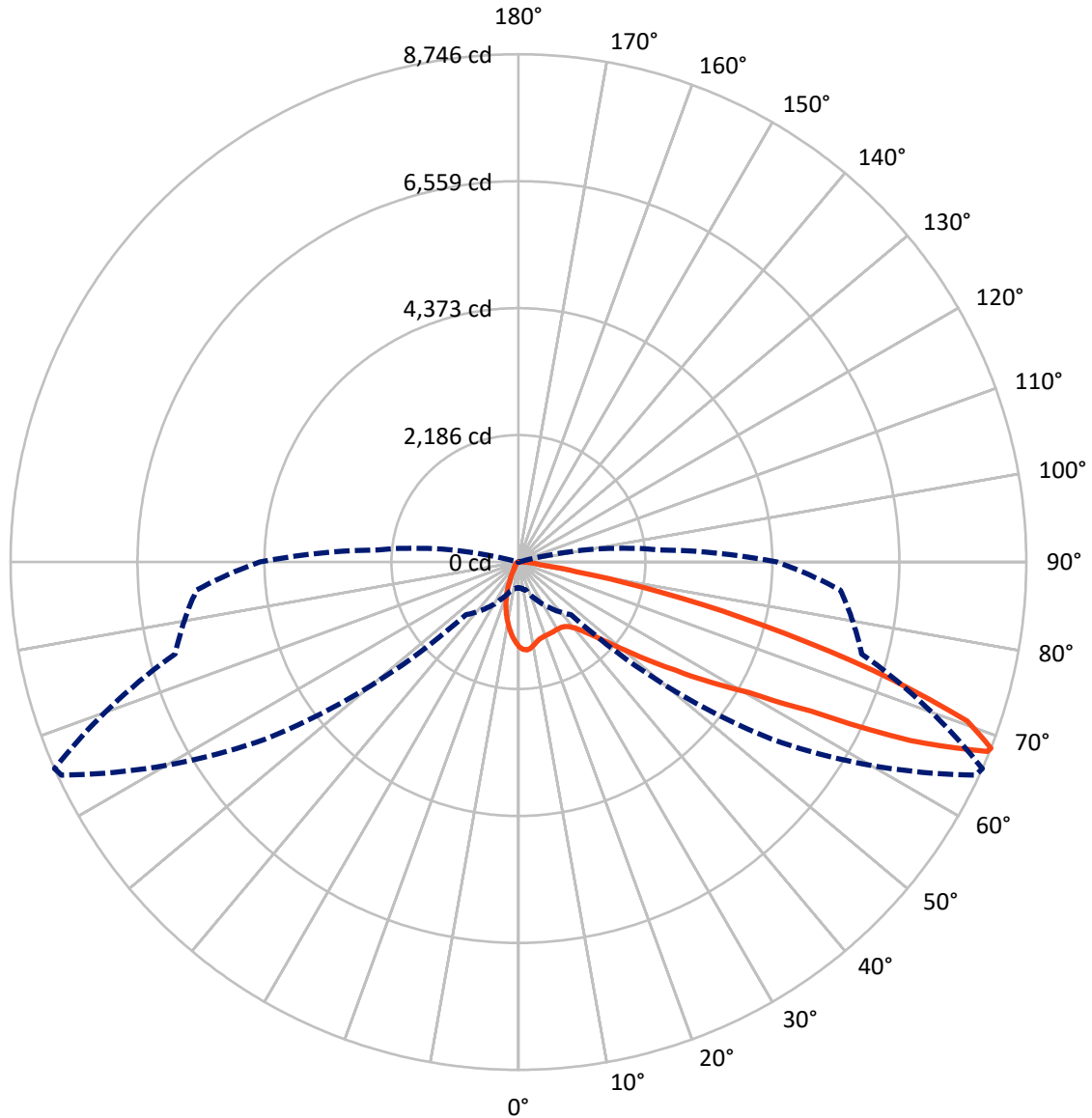


Based on 10 foot mounting height. Maximum calculated value = 14.6 fc
Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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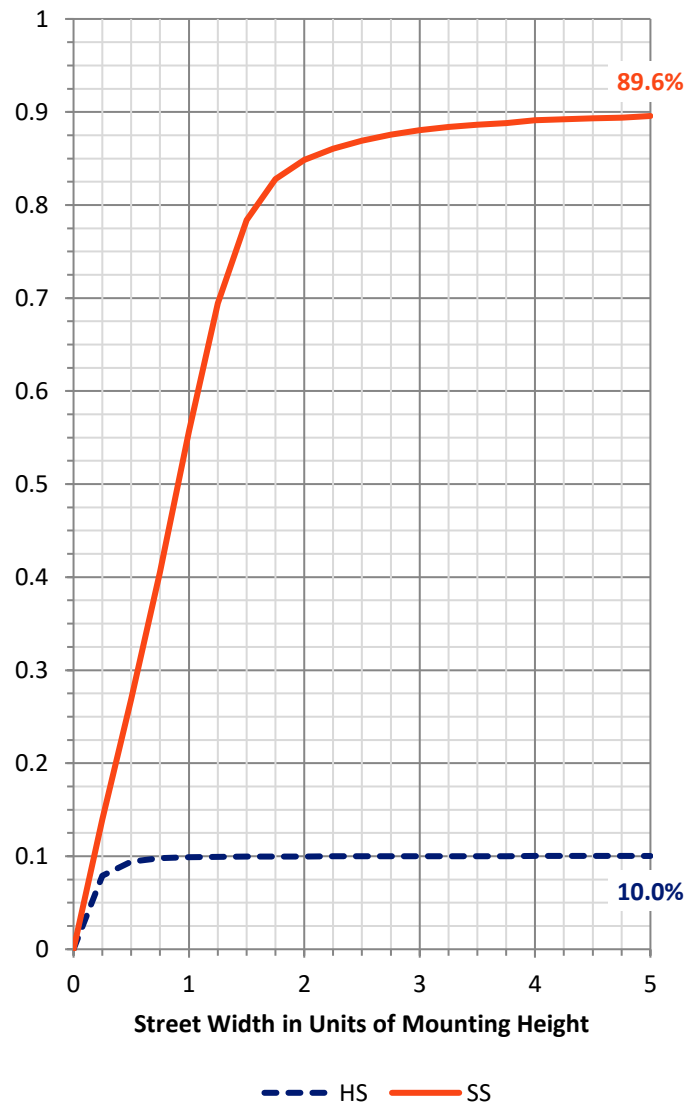
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	663.6	0.0	663.6
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	5887.5	0.0	5887.5
	% Fixture	89.9	0.0	89.9
Total	Lumens	6551.0	0.0	6551.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.6	1.8
10°-20°	257.4	3.9
20°-30°	373.1	5.7
30°-40°	571.1	8.7
40°-50°	976.8	14.9
50°-60°	1528.0	23.3
60°-70°	1759.4	26.9
70°-80°	880.4	13.4
80°-90°	85.3	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°	6551.0	100.0
0°-180°	6551.0	100.0



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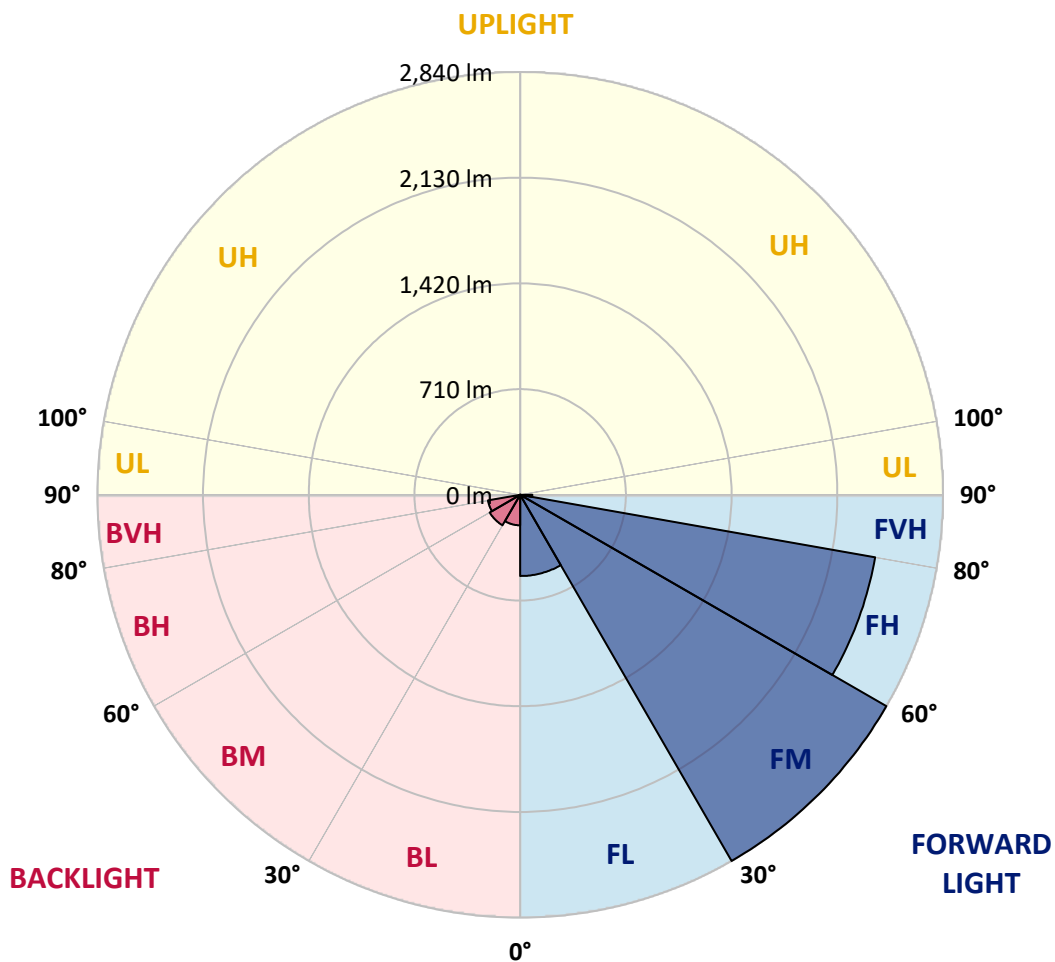
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	545.3	8.3			
FM	(30°-60°)	2839.5	43.3			
FH	(60°-80°)	2420.6	36.9			G2/5000
FVH	(80°-90°)	82.0	1.3			G1/100
BL	(0°-30°)	204.8	3.1	B1/500		
BM	(30°-60°)	236.3	3.6	B1/1000		
BH	(60°-80°)	219.2	3.3	B1/500		G1/500
BVH	(80°-90°)	3.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5
2.5°	1535.1	1536.1	1535.6	1537.2	1536.1	1528.4	1520.2	1502.7	1504.2	1481.6	1456.4
5°	1427.1	1435.8	1444.6	1453.3	1474.4	1492.9	1515.0	1520.2	1520.2	1500.6	1463.6
7.5°	1317.0	1317.6	1327.3	1339.2	1367.4	1401.4	1452.8	1499.1	1500.1	1505.3	1464.6
10°	1234.3	1236.8	1243.5	1256.4	1284.6	1318.1	1375.7	1448.2	1453.8	1491.9	1454.4
12.5°	1170.0	1173.1	1180.3	1195.2	1220.9	1255.3	1316.0	1398.8	1406.5	1479.0	1451.3
15°	1120.6	1124.7	1130.4	1145.3	1173.1	1209.6	1275.9	1365.9	1375.2	1473.9	1461.0
17.5°	1100.0	1100.0	1099.5	1109.8	1137.6	1174.6	1244.0	1348.4	1360.2	1478.0	1477.5
20°	1108.8	1107.2	1096.4	1093.9	1110.8	1147.9	1218.8	1337.1	1350.5	1485.7	1497.6
22.5°	1155.1	1152.0	1127.8	1107.7	1102.6	1127.3	1201.9	1329.4	1345.3	1501.7	1524.3
25°	1253.3	1244.0	1210.6	1165.3	1124.7	1122.1	1190.0	1325.3	1342.2	1520.2	1553.6
27.5°	1380.8	1378.2	1324.8	1264.1	1185.9	1139.1	1186.4	1322.2	1339.2	1533.6	1577.3
30°	1539.2	1540.2	1478.5	1399.3	1281.0	1186.9	1197.7	1320.6	1338.1	1534.6	1587.6
32.5°	1702.8	1703.8	1652.4	1567.5	1411.2	1269.2	1229.6	1327.8	1343.8	1530.5	1587.0
35°	1860.1	1861.7	1830.8	1762.4	1585.0	1383.4	1289.8	1352.5	1363.8	1533.0	1586.0
37.5°	2059.1	2065.3	2027.3	1963.5	1803.0	1551.0	1388.0	1402.4	1411.7	1554.1	1593.7
40°	2398.6	2390.3	2281.3	2173.3	2039.6	1755.2	1530.0	1488.3	1491.4	1608.6	1623.0
42.5°	2794.0	2783.7	2597.1	2410.9	2282.8	2001.5	1711.5	1620.0	1619.4	1700.2	1686.8
45°	3134.5	3128.3	2931.9	2683.5	2552.3	2273.6	1935.2	1809.7	1803.5	1858.6	1803.0
47.5°	3376.2	3371.0	3222.4	2973.5	2864.0	2572.9	2214.5	2068.4	2055.5	2065.8	1991.8
50°	3399.8	3394.2	3342.2	3182.3	3228.1	3012.1	2559.5	2407.3	2390.8	2374.9	2277.2
52.5°	3178.7	3178.2	3205.5	3195.2	3483.2	3577.3	2982.8	2826.4	2806.9	2766.3	2669.1
55°	2726.7	2724.1	2827.5	2977.6	3477.5	4160.5	3628.2	3325.3	3299.6	3218.3	3090.8
57.5°	1992.3	1978.9	2194.9	2513.2	3233.2	4415.5	4653.1	3945.0	3902.3	3644.6	3448.2
60°	1100.0	1105.2	1382.9	1759.8	2654.7	4365.1	5596.3	4667.5	4555.4	4012.3	3814.3
62.5°	616.6	629.5	836.2	1143.7	1692.5	3956.3	6102.3	5911.0	5641.0	4441.2	4277.2
65°	466.4	474.2	578.0	882.5	1067.1	2764.7	6183.1	7649.8	7416.8	5091.3	5014.1
67.5°	439.2	445.4	496.3	731.8	972.0	1433.8	5575.2	8678.3	8707.6	5977.9	5585.0
68°	442.3	450.0	500.9	704.0	970.4	1282.6	5316.0	8683.5	8745.7	6120.9	5565.4
70°	406.3	408.3	529.7	690.7	940.6	1010.5	3845.7	8088.5	8200.0	6291.1	5052.2
72.5°	155.3	155.8	237.6	598.1	985.3	1016.2	1937.3	6392.9	6398.6	5474.9	3938.8
75°	80.7	67.9	74.6	187.2	941.1	990.5	972.0	4365.1	4337.9	3702.8	2413.5
77.5°	55.5	47.3	49.9	64.8	391.4	990.0	702.0	2510.2	2504.5	1575.2	688.6
80°	31.4	27.3	29.8	54.5	137.3	929.3	654.2	1078.9	1016.7	276.7	111.6
82.5°	15.9	13.4	15.9	45.8	85.4	584.7	636.2	423.2	377.0	65.8	72.5
85°	4.1	4.1	7.7	31.9	53.0	191.8	570.3	305.5	274.6	28.8	51.4
87.5°	1.0	0.5	3.1	11.8	19.0	41.7	316.3	170.2	146.6	14.9	29.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5	1459.5
2.5°	1446.1	1431.7	1403.4	1371.6	1348.9	1324.2	1309.8	1292.4	1279.0	1267.2	1275.9
5°	1441.0	1413.2	1350.5	1280.0	1220.9	1164.3	1122.1	1082.0	1051.7	1032.7	1040.4
7.5°	1427.6	1386.5	1284.6	1174.6	1077.9	986.9	912.8	846.5	795.1	767.3	776.0
10°	1405.0	1346.9	1210.1	1057.3	922.1	793.5	683.5	584.7	510.2	475.2	483.4
12.5°	1388.5	1311.9	1132.9	944.2	766.3	583.7	437.6	324.5	266.4	231.4	234.5
15°	1381.3	1284.6	1060.9	824.9	596.0	374.9	236.6	171.3	151.2	144.0	144.5
17.5°	1382.4	1263.0	992.5	701.0	424.3	215.5	145.0	130.6	127.5	126.0	126.0
20°	1384.9	1241.5	921.6	571.9	271.5	138.9	120.9	116.2	114.7	112.6	113.1
22.5°	1392.6	1225.0	850.1	442.3	167.1	113.1	107.0	102.9	100.3	97.2	97.7
25°	1404.5	1212.7	779.6	318.3	117.8	98.7	93.1	87.4	82.8	79.2	79.7
27.5°	1411.7	1195.2	704.6	217.0	97.7	86.4	78.7	71.0	65.8	62.7	62.2
30°	1406.5	1166.9	619.2	142.5	86.4	74.6	65.3	56.6	51.4	48.9	48.9
32.5°	1392.6	1130.4	525.1	103.9	76.6	64.3	53.0	45.3	41.7	40.1	40.6
35°	1376.7	1092.3	424.8	87.9	68.9	54.5	43.2	37.0	35.5	35.0	35.0
37.5°	1368.0	1059.4	328.6	79.7	61.7	45.3	35.5	31.9	30.3	30.3	30.3
40°	1377.7	1034.2	243.3	73.5	54.5	37.5	29.8	27.3	26.7	26.7	26.7
42.5°	1419.4	1025.5	177.9	68.4	47.3	31.4	25.7	23.7	23.1	23.7	23.7
45°	1500.6	1044.5	134.7	63.3	40.6	25.7	22.1	20.6	20.6	21.1	21.1
47.5°	1638.5	1093.3	110.6	58.1	33.9	21.6	19.0	18.0	18.0	18.5	18.5
50°	1852.4	1183.9	99.3	52.5	28.3	18.5	15.9	15.4	15.4	15.9	16.5
52.5°	2177.4	1356.1	93.6	46.8	23.1	15.4	13.4	12.9	13.4	13.9	13.9
55°	2539.0	1576.8	86.9	41.1	19.5	12.9	10.8	10.8	11.3	12.3	12.3
57.5°	2875.8	1789.7	80.7	33.9	17.0	10.3	8.7	8.7	9.8	10.8	10.8
60°	3231.7	1998.5	72.5	27.3	14.4	8.2	7.2	7.2	8.7	9.8	10.3
62.5°	3671.4	2241.2	61.7	21.6	11.3	6.2	5.1	6.7	8.2	9.8	9.8
65°	4307.0	2543.1	48.3	17.0	8.7	4.6	4.1	6.2	7.7	9.3	9.8
67.5°	4537.9	2504.5	36.5	13.9	6.7	3.6	3.6	5.7	7.7	9.3	9.3
68°	4453.6	2420.2	35.0	13.4	6.2	3.6	3.6	5.7	7.7	9.3	9.3
70°	3880.7	1978.4	28.8	10.3	5.1	3.1	3.1	5.1	7.7	8.7	9.3
72.5°	2905.6	1314.5	24.7	6.7	4.6	3.1	2.6	5.1	7.2	8.7	8.7
75°	1666.8	545.6	21.1	5.1	4.1	2.6	2.6	4.6	7.2	8.7	8.7
77.5°	471.1	127.5	17.0	4.1	3.6	2.6	2.1	4.6	6.7	8.2	8.2
80°	86.4	38.1	13.4	3.6	3.1	2.6	2.1	4.6	6.7	8.2	8.2
82.5°	57.1	18.0	9.8	3.6	3.1	2.6	2.1	4.1	6.2	7.7	7.7
85°	42.7	12.9	6.2	3.6	3.1	2.6	2.1	4.1	6.2	7.7	7.7
87.5°	23.7	5.7	4.6	4.1	3.6	2.6	2.1	3.6	5.7	7.2	7.2
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)