

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: P196249

Luminaire Tested: **NAV-AF-01-D-UNV-T2-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196249
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-T2-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4030.4 lumens
Efficiency: N/A
Efficacy: 118.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 34
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

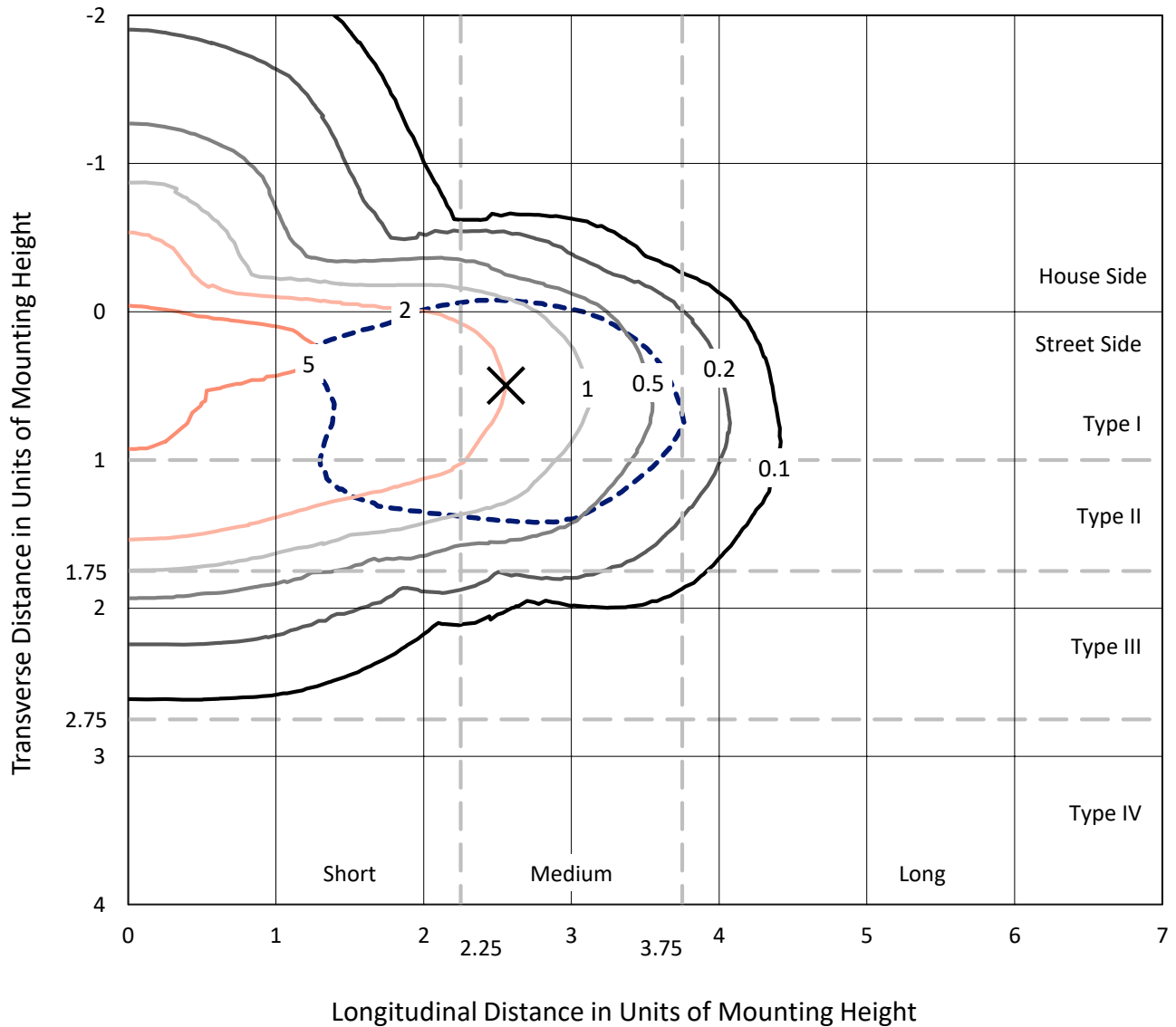


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Iso-Footcandle Lines of Horizontal Illumination

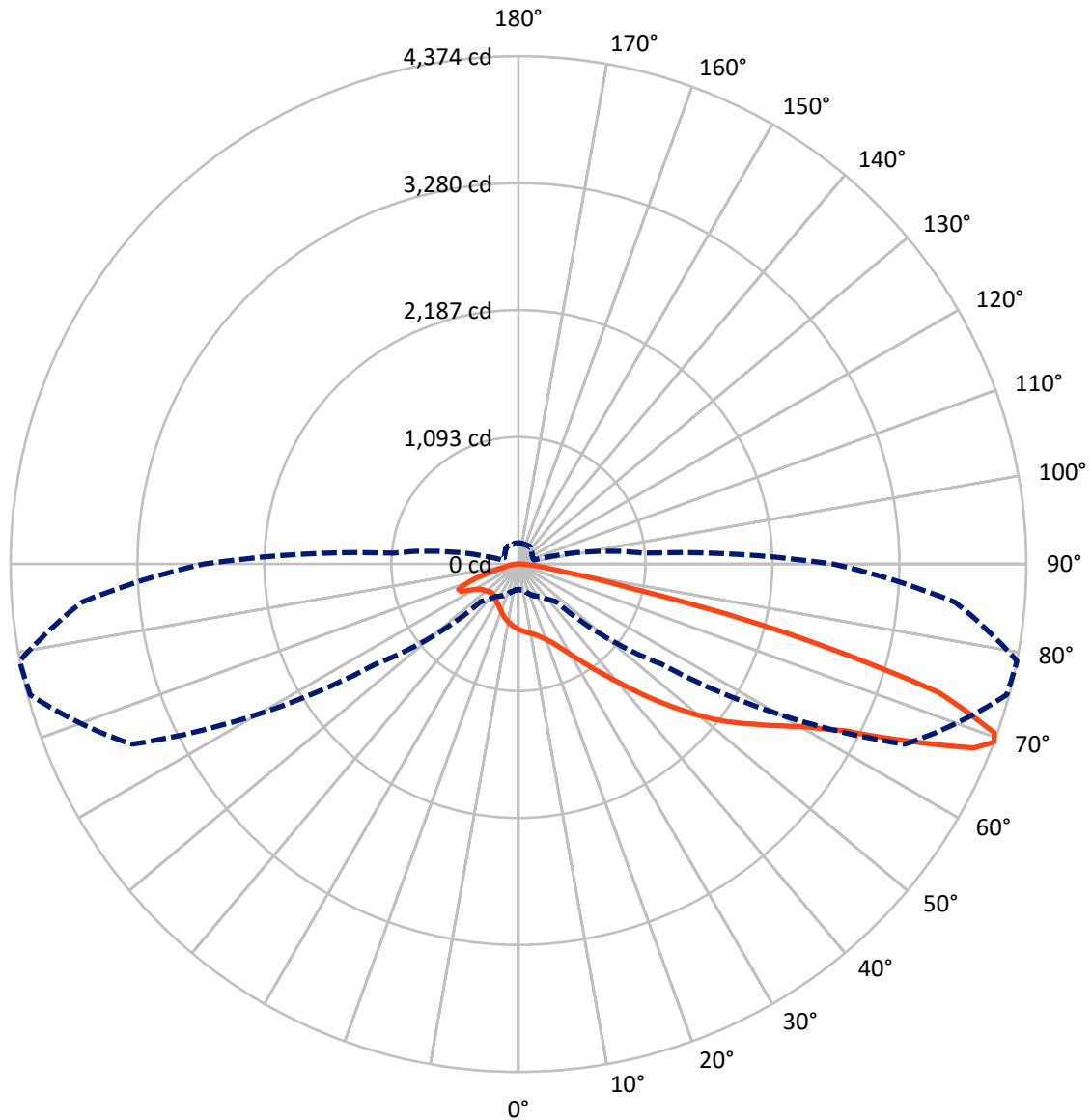
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.8 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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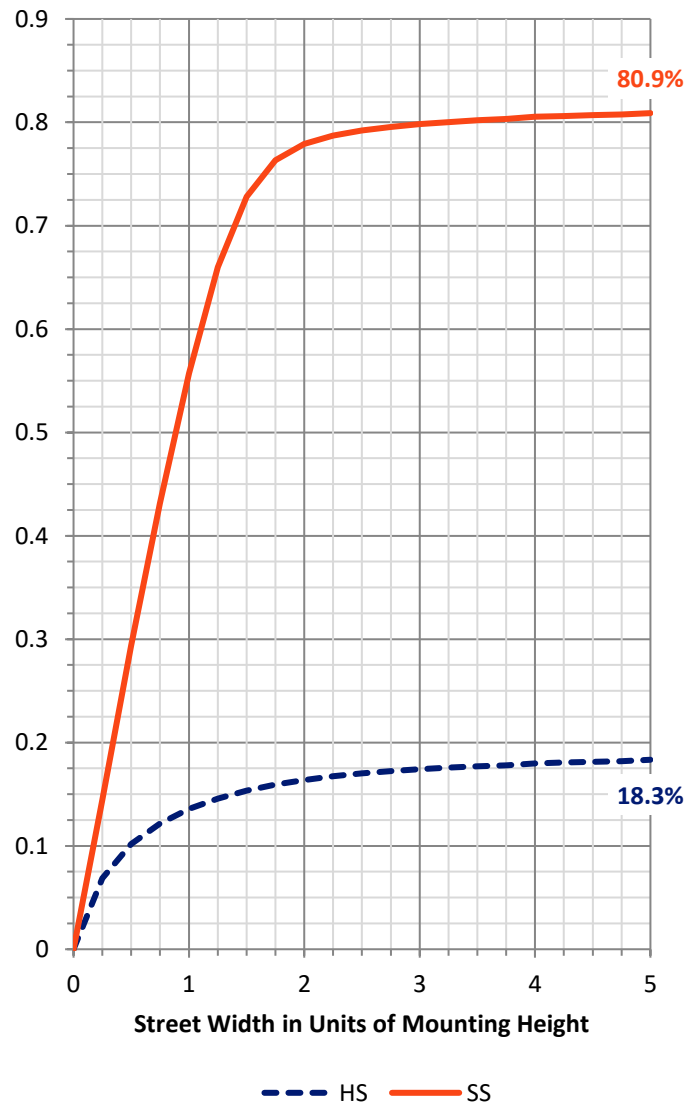
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	758.2	0.0	758.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	3272.2	0.0	3272.2
	% Fixture	81.2	0.0	81.2
Total	Lumens	4030.4	0.0	4030.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.4	1.3
10°-20°	150.3	3.7
20°-30°	248.4	6.2
30°-40°	402.2	10.0
40°-50°	642.6	15.9
50°-60°	920.2	22.8
60°-70°	1025.2	25.4
70°-80°	512.9	12.7
80°-90°	76.1	1.9
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°	4030.4	100.0
0°-180°	4030.4	100.0



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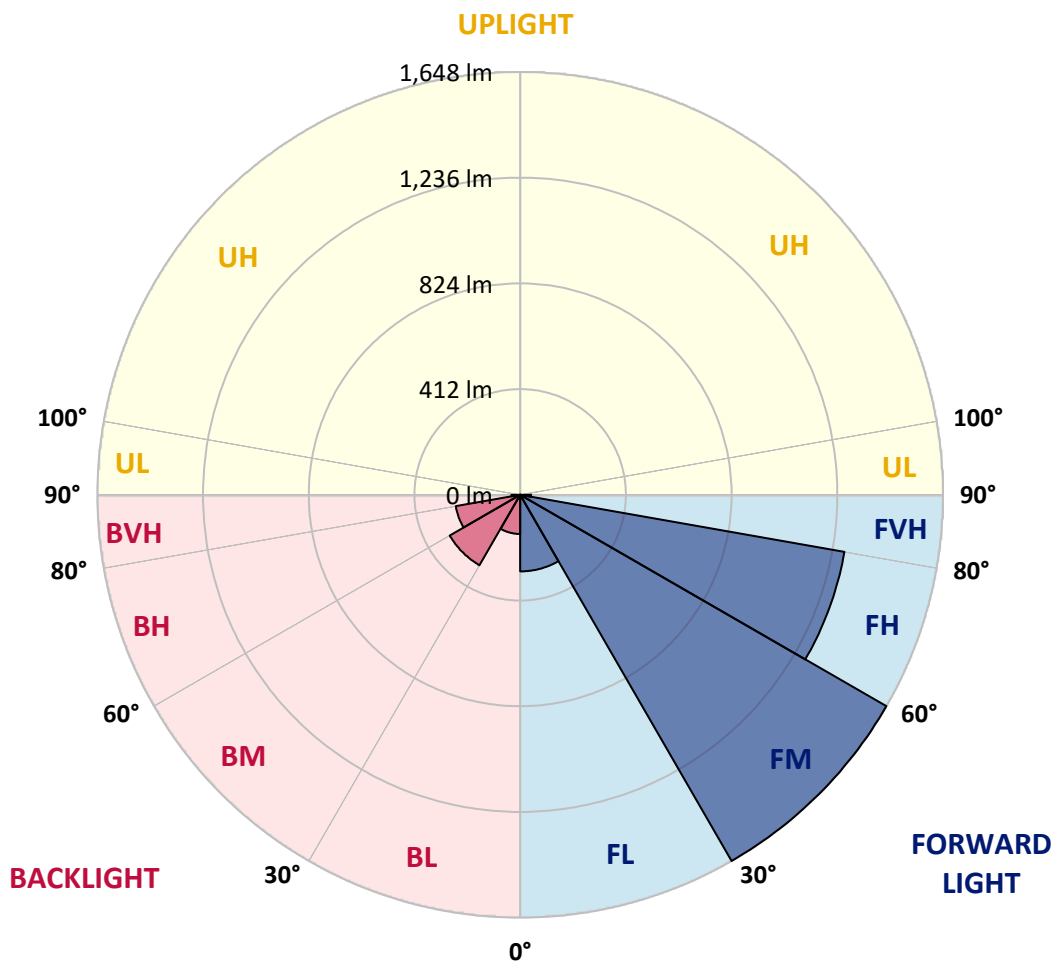
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	298.4	7.4			
FM (30°-60°)	1648.0	40.9			
FH (60°-80°)	1283.2	31.8			G1/1800
FVH (80°-90°)	42.5	1.1			G1/100
BL (0°-30°)	152.7	3.8	B1/500		
BM (30°-60°)	316.9	7.9	B1/1000		
BH (60°-80°)	254.9	6.3	B1/500		G1/500
BVH (80°-90°)	33.6	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6
2.5°	620.9	619.6	619.4	615.4	613.4	608.9	598.3	587.5	577.5	572.2	566.6
5°	672.9	670.2	669.0	662.4	656.5	646.5	629.9	612.7	594.8	585.6	574.6
7.5°	704.3	704.5	704.5	699.3	693.5	681.4	660.2	636.8	610.2	598.0	580.6
10°	707.0	707.2	711.2	712.5	713.8	707.5	687.9	658.4	624.1	608.3	585.6
12.5°	680.8	682.7	689.3	698.8	712.2	719.0	710.6	681.6	642.1	622.8	595.2
15°	645.8	647.6	656.0	670.5	692.1	715.1	727.0	708.3	665.5	642.8	609.1
17.5°	628.6	630.8	636.5	648.1	669.2	700.1	735.7	736.7	693.3	667.1	625.7
20°	620.4	622.1	629.4	638.9	655.0	684.6	736.4	766.8	726.2	695.8	646.0
22.5°	639.1	639.7	643.3	648.7	659.5	682.1	735.9	797.9	767.3	732.0	672.1
25°	694.0	690.6	687.9	681.4	683.9	700.1	744.4	831.1	820.1	779.5	707.0
27.5°	758.8	758.3	751.5	736.2	726.4	736.7	768.3	868.3	884.6	839.8	752.6
30°	831.1	831.4	824.3	805.6	785.7	786.9	806.6	911.2	961.9	912.6	808.7
32.5°	906.8	911.6	898.4	879.6	855.6	848.0	861.4	963.2	1051.3	998.6	873.8
35°	997.3	998.0	983.6	956.2	932.1	919.9	932.4	1028.1	1154.4	1099.6	953.2
37.5°	1091.1	1091.6	1076.7	1041.6	1011.2	1003.3	1017.0	1106.9	1263.5	1214.5	1046.6
40°	1167.8	1173.4	1161.6	1128.5	1097.9	1093.2	1113.0	1201.4	1403.1	1350.6	1157.6
42.5°	1254.9	1261.2	1247.0	1212.7	1188.4	1186.8	1217.7	1308.9	1541.8	1508.0	1283.3
45°	1353.0	1362.0	1342.1	1303.6	1283.1	1317.9	1319.7	1428.1	1701.6	1684.1	1425.0
47.5°	1460.0	1467.4	1451.3	1409.9	1387.5	1437.9	1419.7	1557.0	1874.3	1872.9	1578.1
50°	1542.5	1550.7	1552.3	1534.1	1510.6	1516.9	1529.3	1692.6	2046.4	2067.0	1736.6
52.5°	1527.5	1535.4	1571.0	1618.7	1656.5	1640.1	1655.1	1836.5	2212.8	2256.3	1887.1
55°	1406.3	1410.4	1477.1	1590.5	1751.1	1829.1	1830.2	1993.1	2371.0	2432.0	2030.0
57.5°	1187.6	1188.2	1274.9	1442.1	1696.0	1951.8	2106.6	2189.8	2536.1	2626.0	2207.3
60°	840.4	842.5	943.5	1162.1	1498.5	1937.0	2403.7	2541.9	2727.3	2844.1	2435.6
62.5°	498.9	503.6	579.8	755.1	1113.0	1747.2	2579.4	3168.1	3008.9	3163.9	2801.0
65°	324.6	328.6	374.2	462.3	657.7	1271.2	2521.6	3774.6	3541.8	3667.0	3326.3
67.5°	250.0	253.2	289.0	342.3	403.5	687.1	2016.1	3901.7	4190.4	4229.5	3769.6
69°	219.6	222.3	248.7	299.8	339.6	454.8	1502.4	3671.0	4352.6	4373.9	3775.1
70°	203.6	205.7	230.5	274.8	311.9	363.0	1149.9	3403.1	4293.2	4347.8	3666.3
72.5°	167.7	169.5	187.2	221.3	255.0	258.7	509.4	2485.0	3615.1	3789.6	3102.5
75°	140.0	141.1	152.6	177.5	206.4	205.9	260.2	1407.6	2206.0	2414.0	1915.7
77.5°	116.8	117.6	125.2	140.6	163.0	162.1	183.2	607.5	974.1	939.8	659.5
80°	103.1	103.6	107.6	111.5	125.8	125.0	135.7	279.0	396.3	366.2	249.4
82.5°	78.4	79.4	99.4	101.3	97.6	94.1	94.6	162.4	203.1	184.8	133.9
85°	44.3	44.6	63.8	74.6	84.9	63.8	61.5	83.9	100.2	87.8	58.5
87.5°	19.7	20.6	30.6	35.3	45.9	37.4	35.1	35.6	43.3	35.9	23.2
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°	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6	565.6
2.5°	561.4	556.9	546.4	535.5	524.8	517.9	510.8	504.1	501.6	501.2	496.2
5°	563.7	553.2	529.2	502.9	477.8	458.3	441.9	431.4	421.1	419.2	414.8
7.5°	564.6	547.4	508.4	466.2	428.0	401.1	384.7	377.6	372.6	371.2	369.7
10°	564.3	540.0	485.2	427.4	383.9	363.7	357.5	359.2	361.2	362.3	362.3
12.5°	568.5	536.6	462.0	391.1	355.5	345.7	350.5	358.6	364.9	367.5	368.1
15°	576.1	534.5	436.4	359.4	335.4	337.8	349.3	361.2	370.2	374.2	375.2
17.5°	585.6	531.6	406.8	333.3	323.8	331.9	347.0	362.0	372.9	377.9	378.7
20°	596.2	527.3	376.2	313.7	313.5	323.8	338.8	355.7	367.3	372.9	372.6
22.5°	610.4	523.4	347.8	299.5	302.2	311.7	324.1	339.3	350.2	355.2	354.1
25°	629.4	519.8	322.2	286.8	289.3	295.6	304.3	315.9	323.6	326.2	324.4
27.5°	655.0	516.8	302.2	275.3	275.0	277.9	283.2	289.5	293.2	292.5	289.5
30°	686.4	513.9	287.4	265.0	261.3	261.1	263.4	267.1	269.4	264.7	262.4
32.5°	721.4	508.9	274.3	256.0	249.4	247.0	248.2	253.2	262.9	258.2	256.2
35°	762.8	503.1	261.1	246.3	241.3	236.8	237.5	248.4	277.9	274.5	272.6
37.5°	812.6	497.9	248.9	235.7	235.5	230.0	229.4	242.3	281.9	274.5	272.9
40°	872.5	496.7	238.1	224.1	228.3	226.3	224.4	232.3	260.0	245.0	242.0
42.5°	944.8	501.6	230.2	213.1	220.1	225.2	221.8	223.6	235.0	221.5	219.1
45°	1029.2	514.4	224.4	203.3	211.4	224.4	220.4	218.8	220.7	213.3	211.8
47.5°	1127.5	537.4	220.4	195.1	203.3	222.3	219.9	216.8	215.9	211.8	210.7
50°	1232.8	568.2	217.8	187.7	195.9	218.6	219.6	215.1	213.8	212.0	211.4
52.5°	1337.1	601.7	214.6	181.4	189.9	214.1	219.9	213.6	211.8	210.7	210.1
55°	1441.0	636.5	208.9	175.8	185.4	208.9	219.6	211.4	209.4	209.4	209.4
57.5°	1575.8	689.6	201.2	171.3	179.5	201.9	216.3	209.1	206.2	206.4	206.7
60°	1770.3	778.4	192.7	166.3	172.0	194.1	210.9	204.9	201.4	202.5	202.7
62.5°	2095.5	933.6	181.2	159.3	164.0	185.7	204.1	199.1	195.9	197.7	198.0
65°	2528.9	1121.7	165.8	150.3	155.8	176.2	195.4	192.2	188.8	193.2	193.0
67.5°	2793.5	1176.8	149.8	140.8	147.9	166.1	184.5	183.2	180.9	188.8	188.2
69°	2706.7	1077.2	140.6	134.7	142.4	159.3	177.7	177.2	175.3	183.0	182.5
70°	2571.9	984.1	134.7	130.8	139.5	155.1	173.3	173.3	171.3	178.0	176.7
72.5°	2066.0	729.9	121.3	120.8	129.5	143.4	161.1	162.4	161.4	163.8	162.4
75°	1212.9	439.9	108.1	109.7	117.3	131.0	147.6	148.7	147.6	147.4	147.6
77.5°	420.5	197.2	95.4	97.8	104.4	118.4	132.9	135.0	133.4	131.6	132.1
80°	164.5	114.7	81.7	85.2	90.7	104.1	118.2	119.5	117.0	116.8	114.7
82.5°	98.9	69.9	63.5	69.0	75.9	90.4	102.1	101.5	99.6	110.5	96.8
85°	43.0	38.8	46.4	52.0	55.3	67.7	86.2	83.9	79.4	69.9	68.3
87.5°	17.4	20.0	25.6	30.9	33.2	43.8	59.0	57.0	57.8	47.5	47.2
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)