

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: P270364

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270364
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8156.1 lumens
Efficiency: N/A
Efficacy: 96.0 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 - G3

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

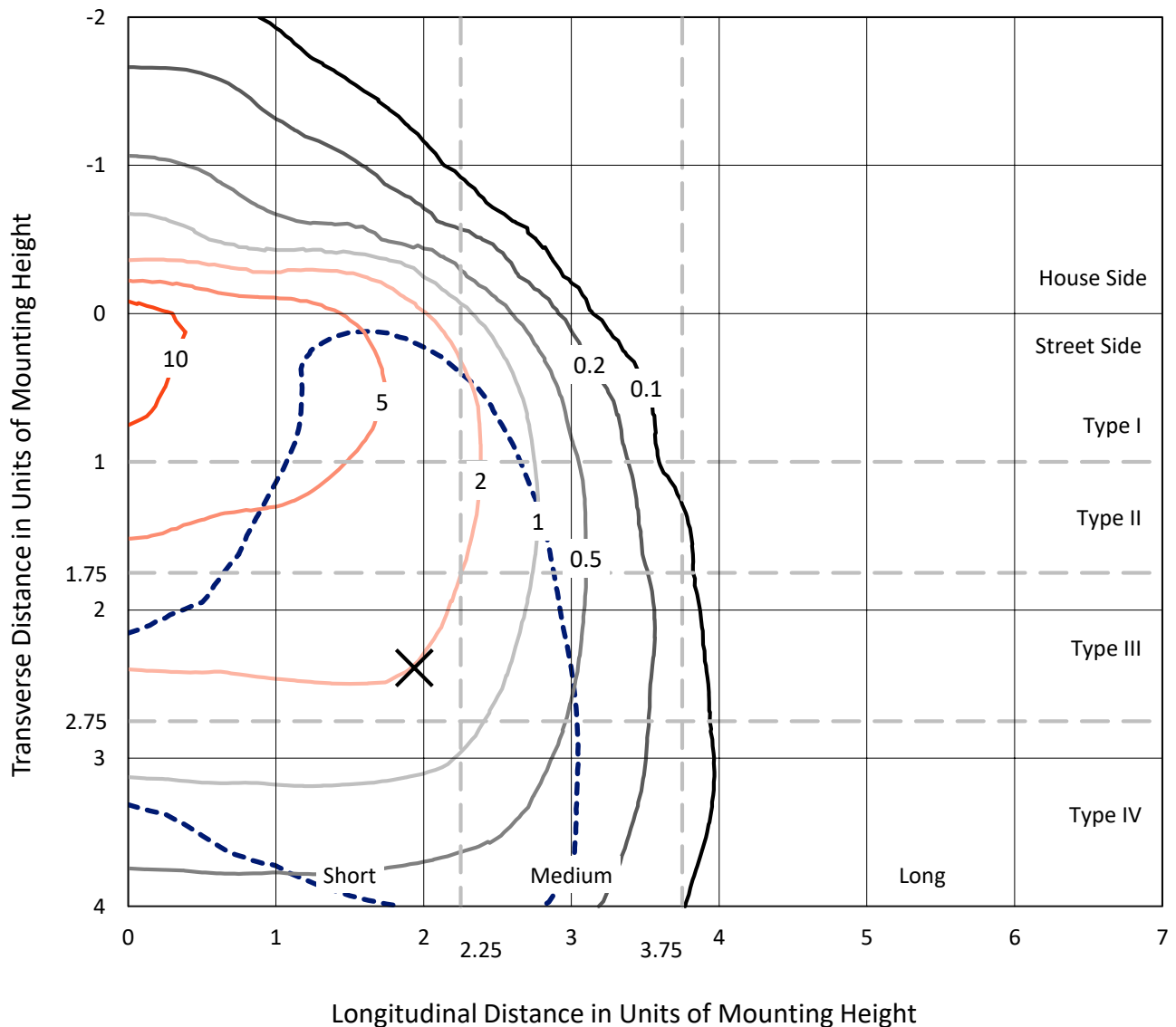


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Iso-Footcandle Lines of Horizontal Illumination

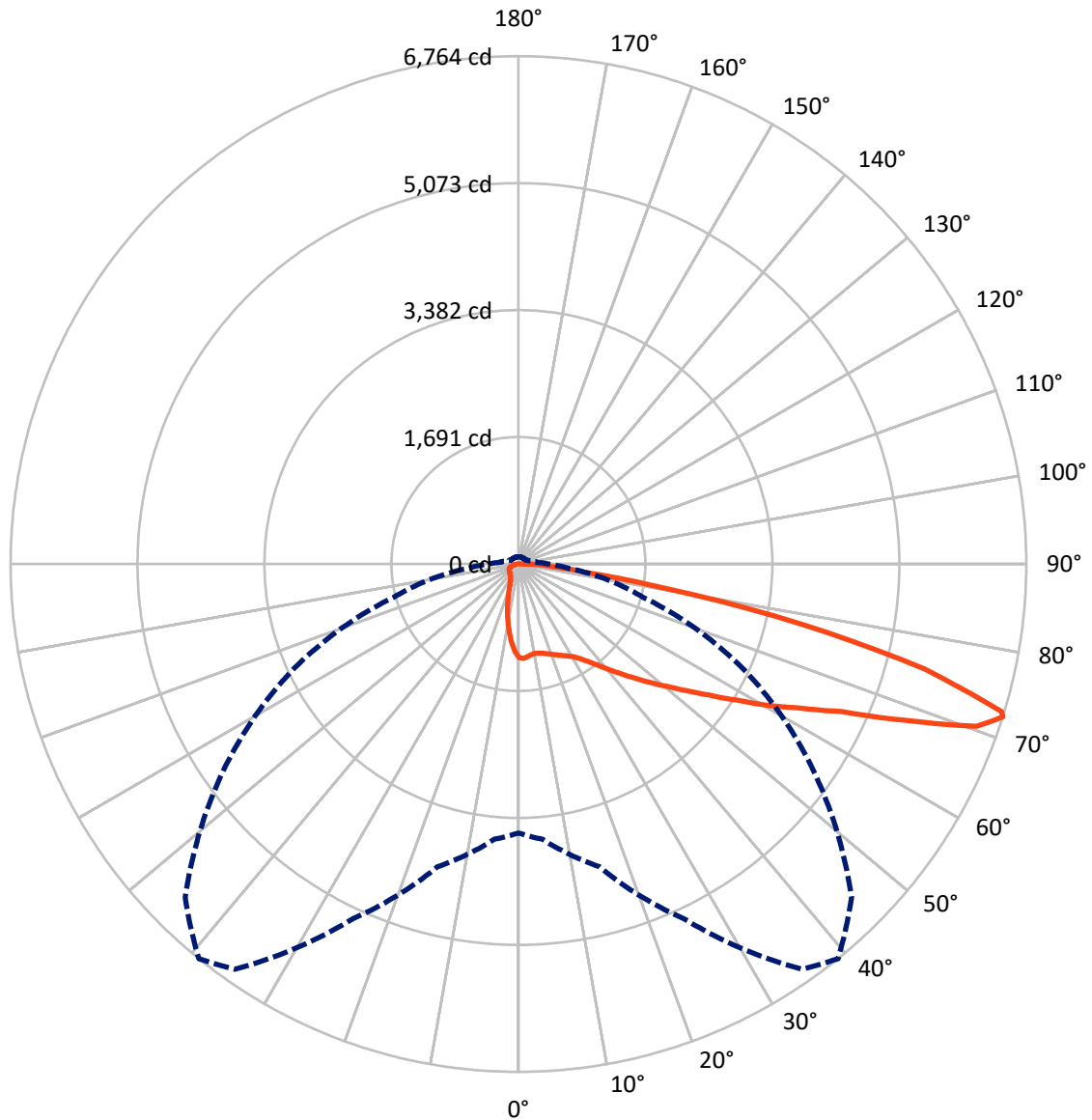
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	935.2	0.0	935.2
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	7220.9	0.0	7220.9
	% Fixture	88.5	0.0	88.5
Total	Lumens	8156.1	0.0	8156.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.0	1.3
10°-20°	269.0	3.3
20°-30°	419.2	5.1
30°-40°	645.4	7.9
40°-50°	1052.1	12.9
50°-60°	1634.9	20.0
60°-70°	2188.2	26.8
70°-80°	1573.6	19.3
80°-90°	266.8	3.3
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°	8156.1	100.0
0°-180°	8156.1	100.0



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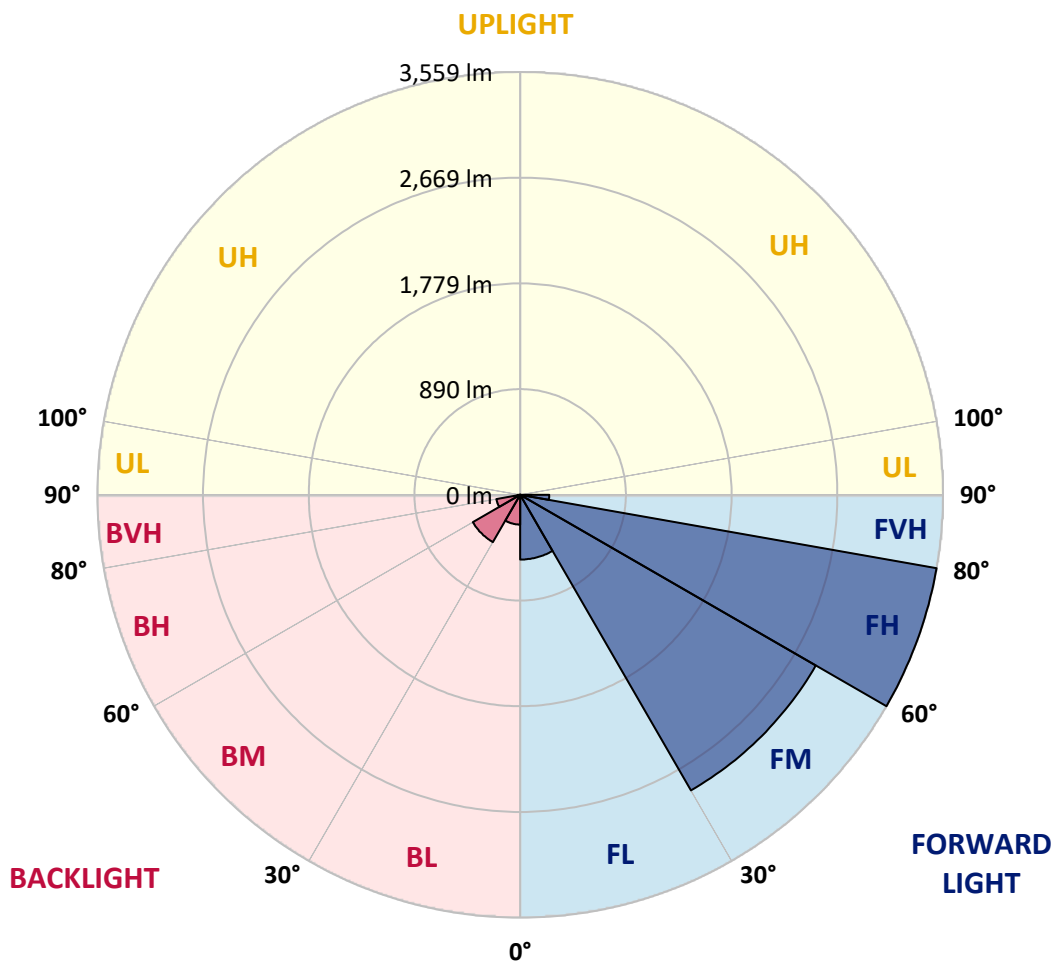
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	544.8	6.7			
FM	(30°-60°)	2872.7	35.2			
FH	(60°-80°)	3558.6	43.6			G2/5000
FVH	(80°-90°)	244.7	3.0			G3/500
BL	(0°-30°)	250.4	3.1	B1/500		
BM	(30°-60°)	459.6	5.6	B1/1000		
BH	(60°-80°)	203.2	2.5	B1/500		G1/500
BVH	(80°-90°)	22.1	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6
2.5°	1272.4	1273.0	1271.3	1266.4	1261.9	1259.9	1256.0	1249.5	1240.6	1234.6	1229.7
5°	1260.3	1261.9	1261.0	1252.6	1245.1	1240.6	1234.6	1225.3	1213.8	1208.8	1197.4
7.5°	1251.1	1252.1	1248.9	1239.5	1224.7	1219.3	1208.4	1196.4	1185.9	1178.8	1165.1
10°	1244.5	1245.6	1242.8	1233.6	1217.2	1210.6	1197.4	1184.2	1170.6	1161.8	1146.4
12.5°	1235.2	1237.3	1237.3	1233.1	1222.1	1217.7	1204.4	1190.3	1177.7	1168.3	1149.2
15°	1233.6	1236.2	1241.2	1240.6	1237.3	1234.1	1223.8	1209.5	1198.5	1187.6	1164.1
17.5°	1247.2	1253.2	1263.0	1266.4	1264.3	1257.1	1245.1	1231.8	1219.9	1209.5	1180.5
20°	1281.7	1285.0	1299.8	1306.3	1295.4	1285.0	1269.1	1252.1	1241.2	1233.1	1195.7
22.5°	1333.8	1338.1	1350.2	1350.7	1327.8	1315.1	1294.8	1274.1	1263.6	1260.3	1216.6
25°	1416.9	1415.9	1419.1	1405.5	1363.8	1349.1	1324.5	1300.3	1293.2	1299.8	1247.2
27.5°	1516.6	1513.9	1503.5	1467.9	1404.9	1385.7	1356.3	1334.8	1334.8	1350.2	1288.9
30°	1631.6	1628.8	1594.9	1535.3	1453.6	1431.8	1400.5	1378.1	1389.6	1419.1	1345.2
32.5°	1753.1	1743.3	1695.6	1615.7	1523.2	1499.1	1469.0	1446.0	1467.9	1518.2	1426.2
35°	1867.5	1862.0	1803.4	1708.8	1612.9	1592.8	1571.9	1543.5	1578.5	1656.7	1540.8
37.5°	1985.9	1981.4	1909.6	1808.9	1722.5	1708.8	1691.2	1671.6	1727.9	1830.8	1695.6
40°	2117.8	2109.0	2018.8	1917.9	1850.0	1843.4	1834.2	1828.7	1919.6	2072.8	1891.7
42.5°	2267.2	2250.3	2133.7	2037.8	1989.0	1994.5	1989.7	2011.6	2150.6	2352.1	2124.9
45°	2438.1	2404.1	2248.1	2165.5	2142.9	2164.8	2175.2	2231.1	2423.8	2674.6	2385.4
47.5°	2598.0	2554.2	2373.4	2304.0	2316.5	2354.3	2383.8	2482.3	2723.3	2993.2	2651.5
50°	2745.2	2696.0	2507.6	2447.3	2508.6	2562.3	2623.7	2762.7	3042.0	3321.3	2895.7
52.5°	2854.2	2818.6	2641.7	2603.9	2729.3	2800.6	2898.6	3074.3	3364.0	3633.9	3113.6
55°	2938.4	2919.3	2772.6	2783.6	2979.0	3080.8	3199.7	3401.7	3704.4	3914.2	3288.9
57.5°	3035.9	3021.7	2922.0	3000.3	3288.9	3417.1	3557.2	3781.7	4028.5	4161.0	3426.3
60°	3138.9	3138.9	3088.6	3261.6	3676.6	3823.2	3962.9	4137.6	4351.6	4383.4	3482.2
62.5°	3216.7	3237.0	3255.0	3539.6	4044.4	4226.7	4380.0	4547.6	4686.2	4492.9	3350.8
65°	3329.4	3372.6	3474.6	3861.1	4500.0	4738.6	4945.7	5086.4	4957.1	4405.7	2922.0
67.5°	3523.2	3587.3	3804.1	4339.5	5197.6	5554.9	5756.0	5512.9	4904.0	3857.7	2238.2
70°	3698.0	3788.2	4159.0	4946.7	6104.3	6475.4	6382.8	5413.7	4271.1	2827.9	1377.0
72°	3581.8	3680.4	4175.3	5211.2	6588.7	6764.0	6276.1	4797.8	3300.5	1725.7	678.8
72.5°	3505.7	3608.1	4122.2	5204.6	6601.9	6727.2	6127.7	4553.1	2995.9	1510.1	549.1
75°	2928.7	3016.1	3544.6	4612.7	5817.9	5587.8	4781.9	2946.7	1377.0	487.8	282.4
77.5°	1912.4	1979.2	2444.1	3195.8	4075.2	3853.9	2910.6	1379.7	516.3	296.3	212.4
80°	960.8	1008.4	1308.0	1680.3	2199.3	2023.6	1343.5	667.4	345.5	214.1	166.9
82.5°	668.5	712.3	900.6	857.9	919.2	889.7	631.8	556.8	258.4	135.3	87.7
85°	560.6	606.0	745.1	611.6	500.4	456.1	452.7	526.1	170.8	66.8	73.9
87.5°	488.9	557.8	614.9	446.7	343.3	302.8	333.5	482.4	54.2	36.7	22.5
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°	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6	1245.6
2.5°	1221.4	1219.9	1211.6	1199.1	1189.7	1183.7	1172.2	1171.7	1172.7	1162.9	1166.8
5°	1187.0	1180.5	1159.1	1130.1	1106.5	1084.1	1059.5	1051.2	1044.1	1029.3	1031.0
7.5°	1150.9	1139.4	1102.1	1054.5	1009.1	967.5	926.4	906.1	890.8	871.6	871.6
10°	1129.4	1111.5	1054.5	985.0	912.7	852.0	790.6	753.9	727.1	702.5	700.8
12.5°	1128.5	1101.1	1021.6	925.9	826.7	741.3	657.6	601.1	561.3	532.2	529.5
15°	1137.2	1098.8	994.2	870.5	745.8	634.6	531.1	459.4	408.4	376.1	372.8
17.5°	1144.8	1096.1	964.7	812.4	666.8	531.6	416.6	342.3	294.0	267.8	265.0
20°	1151.9	1090.2	927.0	751.3	579.9	435.3	325.7	265.5	233.7	218.9	217.4
22.5°	1162.3	1084.7	887.5	682.3	494.3	354.2	268.9	225.6	208.5	201.5	200.4
25°	1179.4	1085.2	849.2	611.6	416.2	295.2	232.8	205.8	196.5	191.6	191.6
27.5°	1204.0	1091.7	811.3	539.8	349.9	254.6	211.3	195.4	189.5	185.6	184.5
30°	1240.1	1103.7	771.5	472.0	297.2	226.6	198.7	189.0	184.0	180.6	180.1
32.5°	1292.8	1125.1	729.2	410.0	257.4	207.0	189.5	183.4	179.7	176.8	176.2
35°	1371.0	1162.9	688.2	357.5	228.9	192.7	181.7	176.8	174.7	173.6	173.1
37.5°	1485.9	1223.8	649.4	316.5	210.3	183.4	174.1	171.3	170.3	170.3	170.3
40°	1630.5	1303.6	614.4	287.5	199.9	176.2	168.6	166.5	166.5	166.9	166.9
42.5°	1806.2	1403.8	584.2	267.8	193.9	171.3	164.7	163.8	163.1	163.1	163.8
45°	2010.4	1522.1	565.6	252.5	189.5	168.6	162.1	161.5	159.3	158.2	158.2
47.5°	2215.8	1648.6	564.5	243.6	184.0	165.4	159.3	159.3	155.0	152.7	153.3
50°	2407.4	1761.8	576.5	241.5	180.6	160.3	156.6	157.2	151.2	148.4	147.9
52.5°	2561.7	1848.4	591.4	244.2	180.6	156.0	151.6	154.4	147.9	144.5	144.0
55°	2681.1	1908.5	596.7	250.2	182.8	152.3	147.3	151.6	146.8	142.3	142.3
57.5°	2766.6	1927.9	573.3	253.0	186.2	151.6	142.9	151.2	148.4	142.9	142.9
60°	2735.3	1816.6	485.7	242.5	185.6	150.6	139.5	152.3	153.9	147.9	147.9
62.5°	2491.7	1519.9	389.9	218.9	176.2	146.8	135.7	151.2	157.7	155.4	154.4
65°	2028.6	1114.7	302.2	191.1	160.3	138.5	127.6	141.3	148.8	151.2	151.6
67.5°	1429.6	705.8	234.8	162.7	140.8	126.5	118.2	124.9	127.6	128.6	130.9
70°	781.9	382.1	186.7	136.9	120.5	114.4	108.4	109.0	107.8	106.8	107.8
72°	392.6	249.6	157.7	118.8	106.8	102.9	100.3	98.5	98.5	96.8	97.5
72.5°	337.9	232.1	152.3	114.4	103.5	100.3	98.1	96.4	95.8	94.7	95.3
75°	225.0	184.0	127.0	95.8	88.2	86.0	87.0	85.3	86.0	84.9	85.3
77.5°	181.7	158.2	107.8	81.0	75.5	72.3	74.5	75.0	76.0	75.0	74.5
80°	152.3	134.7	90.3	66.8	63.1	60.2	61.4	65.1	65.7	62.4	61.9
82.5°	98.5	108.4	71.1	52.0	48.1	47.2	49.9	53.7	54.7	50.3	49.2
85°	82.6	87.0	51.5	35.7	31.8	30.6	36.1	40.0	42.7	38.3	37.2
87.5°	22.9	42.7	25.2	17.0	14.3	14.3	17.5	20.8	24.7	25.2	25.2
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)