

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: P197139

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197139
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-03-D-UNV-SL4-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 615mA 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: 9291 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 96
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

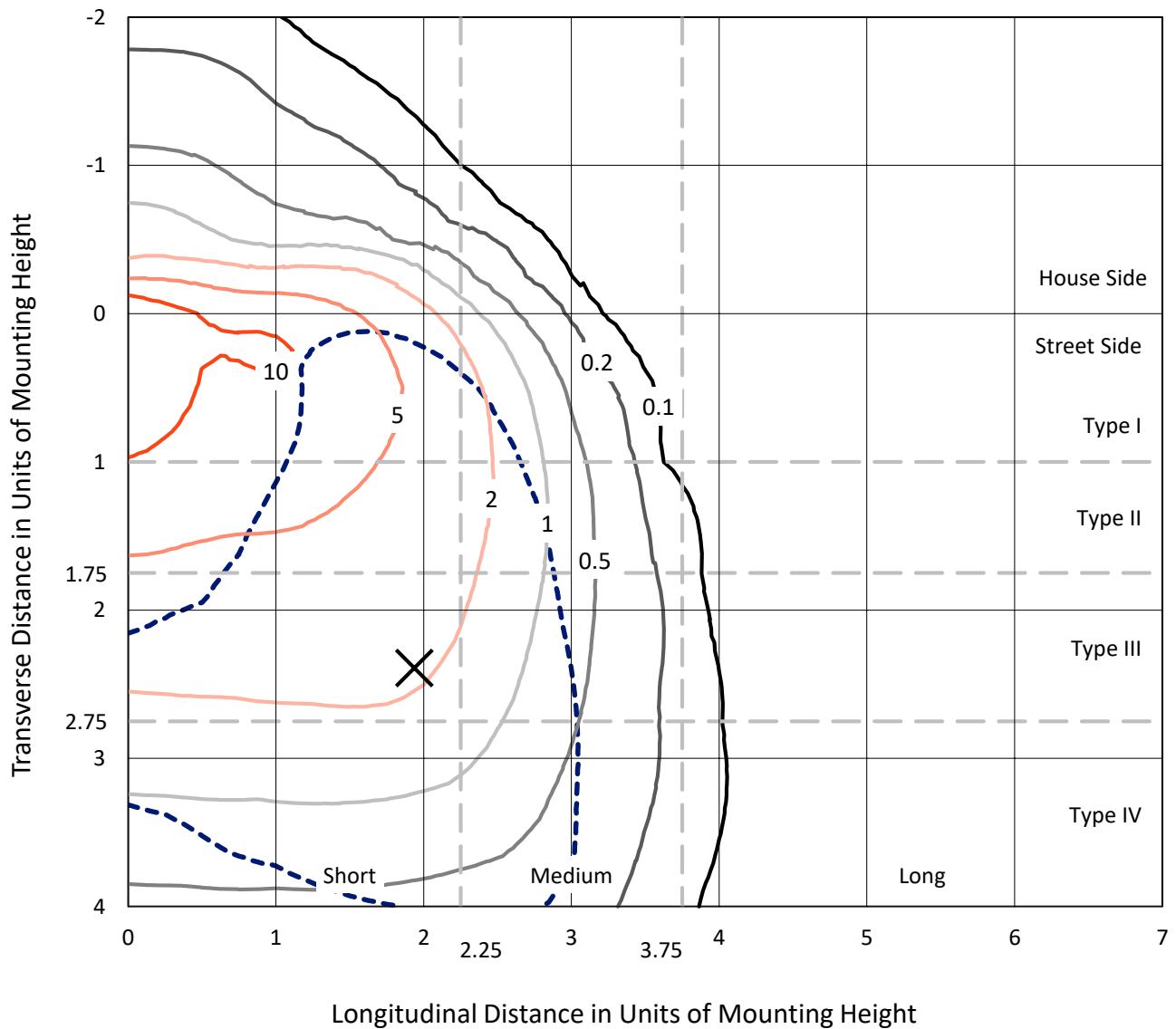


REPORT NUMBER: P197139

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-8030-600

Iso-Footcandle Lines of Horizontal Illumination

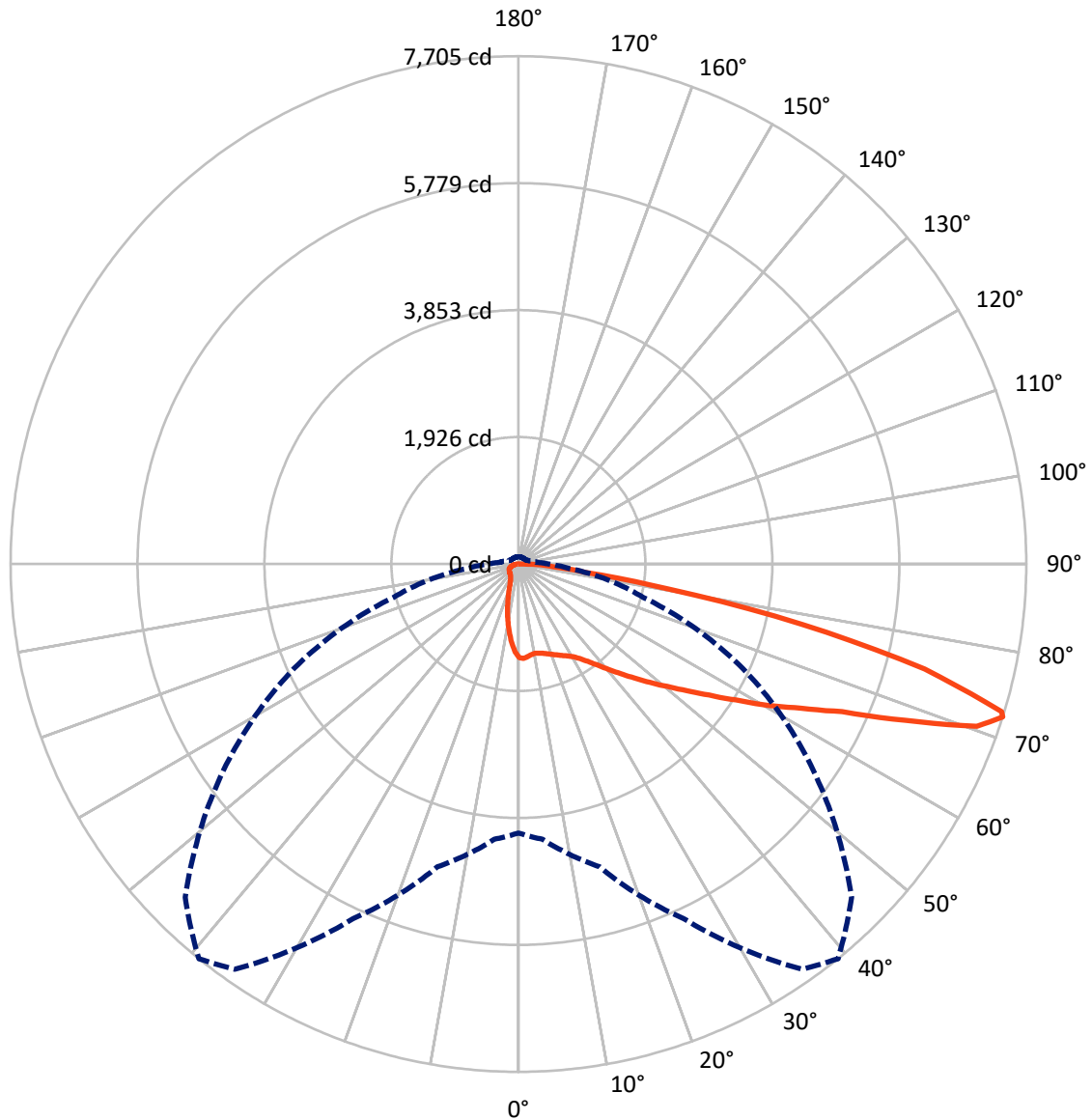
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.2 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P197139
CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-8030-600

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197139

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-8030-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1065.3	0.0	1065.3
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	8225.7	0.0	8225.7
	% Fixture	88.5	0.0	88.5
Total	Lumens	9291.0	0.0	9291.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.9	1.3
10°-20°	306.4	3.3
20°-30°	477.5	5.1
30°-40°	735.2	7.9
40°-50°	1198.5	12.9
50°-60°	1862.3	20.0
60°-70°	2492.7	26.8
70°-80°	1792.6	19.3
80°-90°	303.9	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°	9291.0	100.0
0°-180°	9291.0	100.0

Coefficient of Utilization



REPORT NUMBER: P197139

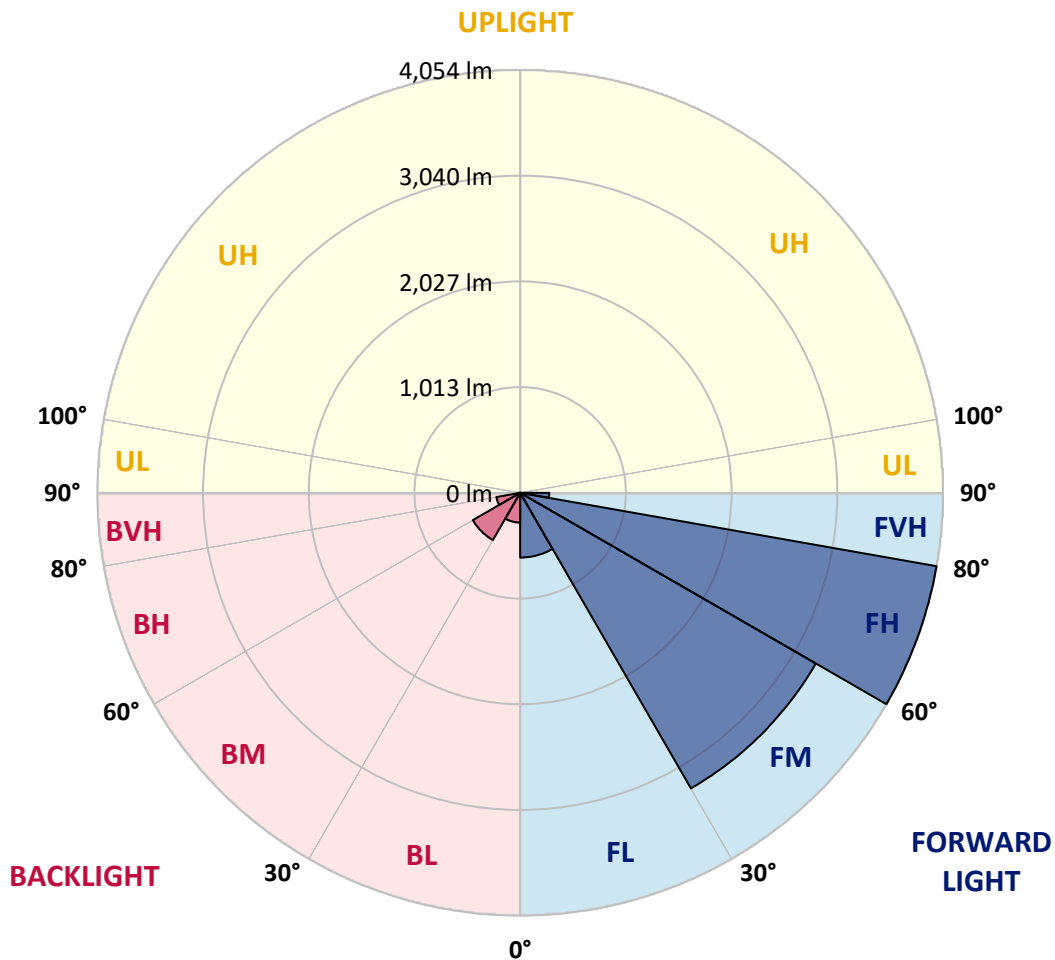
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	620.6	6.7			
FM (30°-60°)	3272.5	35.2			
FH (60°-80°)	4053.8	43.6			G2/5000
FVH (80°-90°)	278.8	3.0			G3/500
BL (0°-30°)	285.2	3.1	B1/500		
BM (30°-60°)	523.6	5.6	B1/1000		
BH (60°-80°)	231.5	2.5	B1/500		G1/500
BVH (80°-90°)	25.1	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





REPORT NUMBER: P197139
 CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-8030-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9
2.5°	1449.5	1450.1	1448.2	1442.6	1437.6	1435.1	1430.8	1423.3	1413.3	1406.4	1400.8
5°	1435.7	1437.6	1436.4	1427.0	1418.3	1413.3	1406.4	1395.8	1382.7	1377.1	1364.0
7.5°	1425.1	1426.4	1422.6	1412.0	1395.2	1389.0	1376.5	1362.8	1350.9	1342.8	1327.2
10°	1417.7	1418.9	1415.8	1405.2	1386.5	1379.0	1364.0	1349.0	1333.5	1323.5	1306.0
12.5°	1407.1	1409.5	1409.5	1404.6	1392.1	1387.1	1372.1	1355.9	1341.6	1331.0	1309.1
15°	1405.2	1408.3	1413.9	1413.3	1409.5	1405.8	1394.0	1377.7	1365.3	1352.8	1326.0
17.5°	1420.8	1427.6	1438.9	1442.6	1440.1	1432.0	1418.3	1403.3	1389.6	1377.7	1344.7
20°	1460.1	1463.8	1480.6	1488.1	1475.7	1463.8	1445.7	1426.4	1413.9	1404.6	1362.1
22.5°	1519.3	1524.3	1538.0	1538.7	1512.5	1498.1	1475.0	1451.3	1439.5	1435.7	1385.8
25°	1614.1	1612.9	1616.6	1601.0	1553.6	1536.8	1508.7	1481.3	1473.2	1480.6	1420.8
27.5°	1727.6	1724.5	1712.7	1672.1	1600.4	1578.6	1544.9	1520.6	1520.6	1538.0	1468.2
30°	1858.6	1855.5	1816.8	1748.8	1655.9	1631.0	1595.4	1569.8	1582.9	1616.6	1532.4
32.5°	1997.1	1985.8	1931.6	1840.5	1735.1	1707.7	1673.4	1647.2	1672.1	1729.5	1624.7
35°	2127.4	2121.2	2054.4	1946.5	1837.4	1814.3	1790.6	1758.2	1798.1	1887.3	1755.1
37.5°	2262.1	2257.1	2175.4	2060.7	1962.1	1946.5	1926.6	1904.1	1968.4	2085.6	1931.6
40°	2412.4	2402.5	2299.6	2184.8	2107.5	2100.0	2089.4	2083.1	2186.7	2361.3	2154.9
42.5°	2582.7	2563.4	2430.5	2321.4	2265.9	2272.1	2266.5	2291.4	2449.9	2679.4	2420.6
45°	2777.3	2738.6	2560.9	2466.7	2441.1	2466.1	2477.9	2541.6	2761.1	3046.7	2717.4
47.5°	2959.4	2909.5	2703.7	2624.5	2638.8	2681.9	2715.6	2827.8	3102.3	3409.7	3020.5
50°	3127.2	3071.1	2856.5	2787.9	2857.8	2918.9	2988.7	3147.2	3465.2	3783.3	3298.7
52.5°	3251.3	3210.8	3009.3	2966.3	3109.1	3190.2	3301.8	3502.0	3832.0	4139.5	3546.9
55°	3347.4	3325.5	3158.4	3170.9	3393.5	3509.5	3644.9	3875.0	4219.9	4458.8	3746.5
57.5°	3458.4	3442.2	3328.7	3417.8	3746.5	3892.5	4052.1	4307.9	4589.1	4740.1	3903.1
60°	3575.6	3575.6	3518.3	3715.3	4188.1	4355.3	4514.3	4713.3	4957.1	4993.3	3966.7
62.5°	3664.2	3687.3	3707.9	4032.2	4607.2	4814.9	4989.5	5180.4	5338.2	5118.0	3817.0
65°	3792.7	3842.0	3958.0	4398.3	5126.1	5398.1	5633.8	5794.1	5646.9	5018.9	3328.7
67.5°	4013.5	4086.4	4333.4	4943.4	5920.7	6328.0	6556.9	6280.0	5586.4	4394.5	2549.7
70°	4212.4	4315.3	4737.6	5635.1	6953.6	7376.4	7271.0	6167.1	4865.4	3221.4	1568.6
72°	4080.2	4192.5	4756.3	5936.3	7505.5	7705.1	7149.4	5465.4	3759.6	1965.9	773.4
72.5°	3993.5	4110.1	4695.8	5928.8	7520.5	7663.3	6980.4	5186.6	3412.9	1720.1	625.6
75°	3336.1	3435.9	4037.8	5254.6	6627.4	6365.4	5447.3	3356.7	1568.6	555.7	321.8
77.5°	2178.6	2254.7	2784.2	3640.5	4642.2	4390.2	3315.6	1571.7	588.1	337.4	242.0
80°	1094.6	1148.8	1490.0	1914.1	2505.4	2305.2	1530.5	760.3	393.6	243.9	190.2
82.5°	761.5	811.4	1026.0	977.3	1047.2	1013.5	719.7	634.3	294.4	154.1	99.8
85°	638.7	690.4	848.8	696.7	570.1	519.5	515.8	599.4	194.6	76.1	84.2
87.5°	557.0	635.5	700.4	508.9	391.1	344.9	379.8	549.5	61.7	41.8	25.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P197139

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-8030-600

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9	1418.9
2.5°	1391.5	1389.6	1380.2	1365.9	1355.3	1348.4	1335.3	1334.7	1336.0	1324.7	1329.1
5°	1352.2	1344.7	1320.4	1287.3	1260.5	1234.9	1206.8	1197.5	1189.4	1172.5	1174.4
7.5°	1311.0	1297.9	1255.5	1201.2	1149.5	1102.1	1055.3	1032.2	1014.7	992.9	992.9
10°	1286.7	1266.1	1201.2	1122.0	1039.7	970.5	900.6	858.8	828.3	800.2	798.3
12.5°	1285.4	1254.2	1163.8	1054.7	941.8	844.5	749.1	684.8	639.3	606.2	603.1
15°	1295.4	1251.8	1132.6	991.7	849.5	722.9	605.0	523.3	465.3	428.5	424.7
17.5°	1304.1	1248.6	1098.9	925.6	759.7	605.6	474.6	389.8	334.9	305.0	301.9
20°	1312.3	1241.8	1055.9	855.7	660.5	495.8	371.1	302.5	266.3	249.5	247.6
22.5°	1324.1	1235.5	1011.0	777.1	563.2	403.5	306.2	257.0	237.6	229.5	228.3
25°	1343.4	1236.2	967.3	696.7	474.0	336.2	265.1	234.5	223.9	218.3	218.3
27.5°	1371.5	1243.6	924.3	615.0	398.5	290.0	240.7	222.7	215.8	211.4	210.2
30°	1412.7	1257.4	878.8	537.6	338.7	258.2	226.4	215.2	209.6	205.8	205.2
32.5°	1472.5	1281.7	830.8	467.1	293.1	235.8	215.8	208.9	204.6	201.5	200.8
35°	1561.7	1324.7	784.0	407.3	260.7	219.5	207.1	201.5	199.0	197.7	197.1
37.5°	1692.7	1394.0	739.7	360.5	239.5	208.9	198.3	195.2	194.0	194.0	194.0
40°	1857.4	1485.0	699.8	327.4	227.6	200.8	192.1	189.6	189.6	190.2	190.2
42.5°	2057.6	1599.1	665.5	305.0	220.8	195.2	187.7	186.5	185.9	185.9	186.5
45°	2290.2	1733.9	644.3	287.5	215.8	192.1	184.6	184.0	181.5	180.2	180.2
47.5°	2524.1	1877.9	643.0	277.5	209.6	188.4	181.5	181.5	176.5	174.0	174.6
50°	2742.4	2007.0	656.7	275.0	205.8	182.7	178.4	179.0	172.1	169.0	168.4
52.5°	2918.3	2105.6	673.6	278.2	205.8	177.8	172.8	175.9	168.4	164.7	164.0
55°	3054.2	2174.2	679.8	285.0	208.3	173.4	167.8	172.8	167.1	162.2	162.2
57.5°	3151.5	2196.0	653.0	288.1	212.1	172.8	162.8	172.1	169.0	162.8	162.8
60°	3116.0	2069.4	553.2	276.3	211.4	171.5	159.0	173.4	175.3	168.4	168.4
62.5°	2838.4	1731.4	444.1	249.5	200.8	167.1	154.7	172.1	179.6	177.1	175.9
65°	2310.8	1269.8	344.3	217.7	182.7	157.8	145.3	160.9	169.6	172.1	172.8
67.5°	1628.5	803.9	267.6	185.2	160.3	144.1	134.7	142.2	145.3	146.6	149.1
70°	890.6	435.3	212.7	155.9	137.2	130.4	123.5	124.1	122.9	121.6	122.9
72°	447.2	284.4	179.6	135.3	121.6	117.3	114.1	112.3	112.3	110.4	111.0
72.5°	384.8	264.4	173.4	130.4	117.9	114.1	111.6	109.8	109.1	107.9	108.5
75°	256.3	209.6	144.7	109.1	100.4	97.9	99.2	97.3	97.9	96.7	97.3
77.5°	207.1	180.2	122.9	92.3	86.1	82.3	84.8	85.4	86.7	85.4	84.8
80°	173.4	153.4	102.9	76.1	71.7	68.6	69.9	74.2	74.8	71.1	70.5
82.5°	112.3	123.5	81.1	59.3	54.9	53.6	56.8	61.1	62.4	57.4	56.1
85°	94.2	99.2	58.6	40.5	36.2	34.9	41.2	45.5	48.6	43.7	42.4
87.5°	26.2	48.6	28.7	19.3	16.2	16.2	20.0	23.7	28.1	28.7	28.7
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)