

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: P270379

Luminaire Tested: **NAV-AF-02-D-UNV-T2-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270379
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-02-D-UNV-T2-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8369.1 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

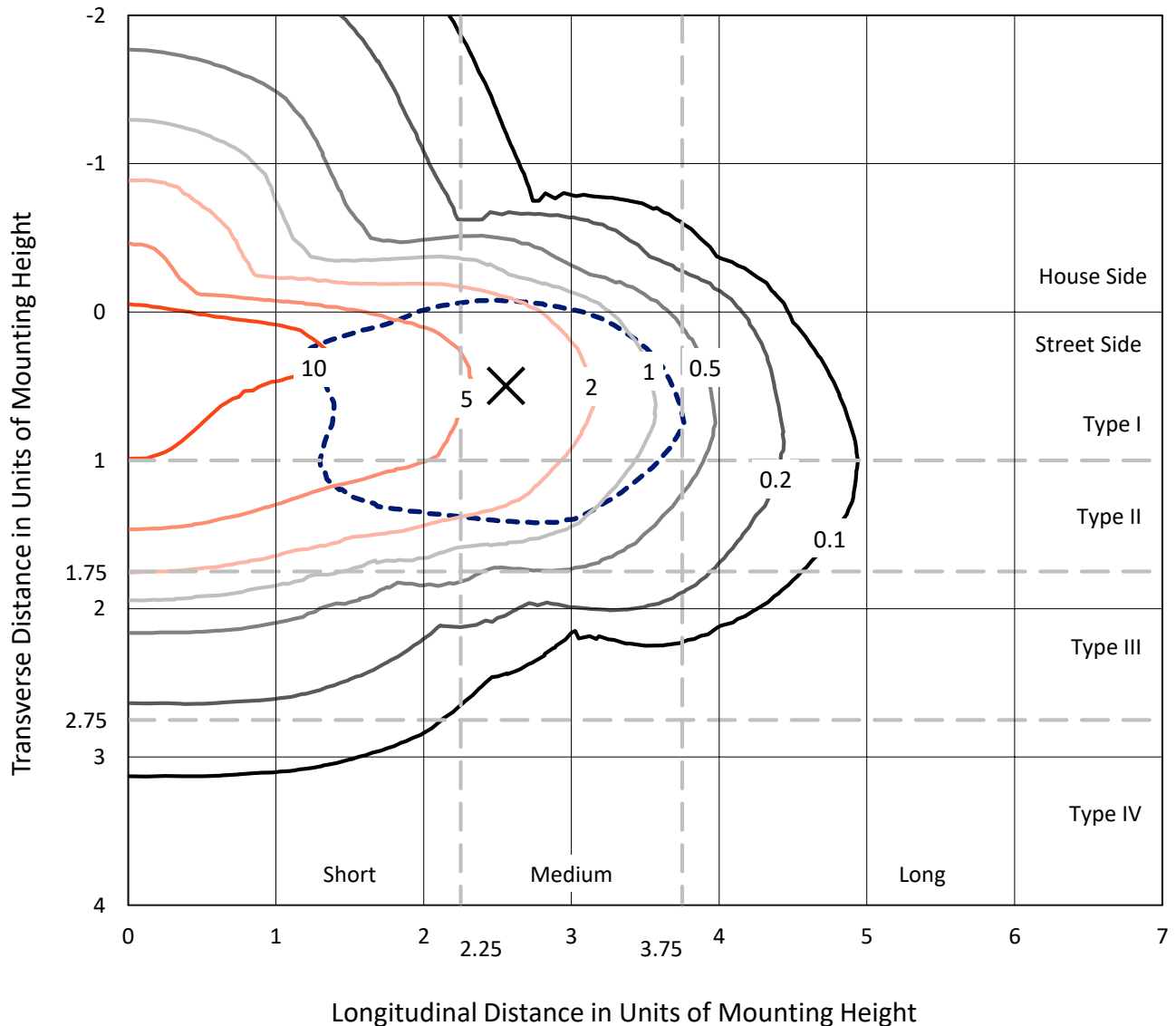
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

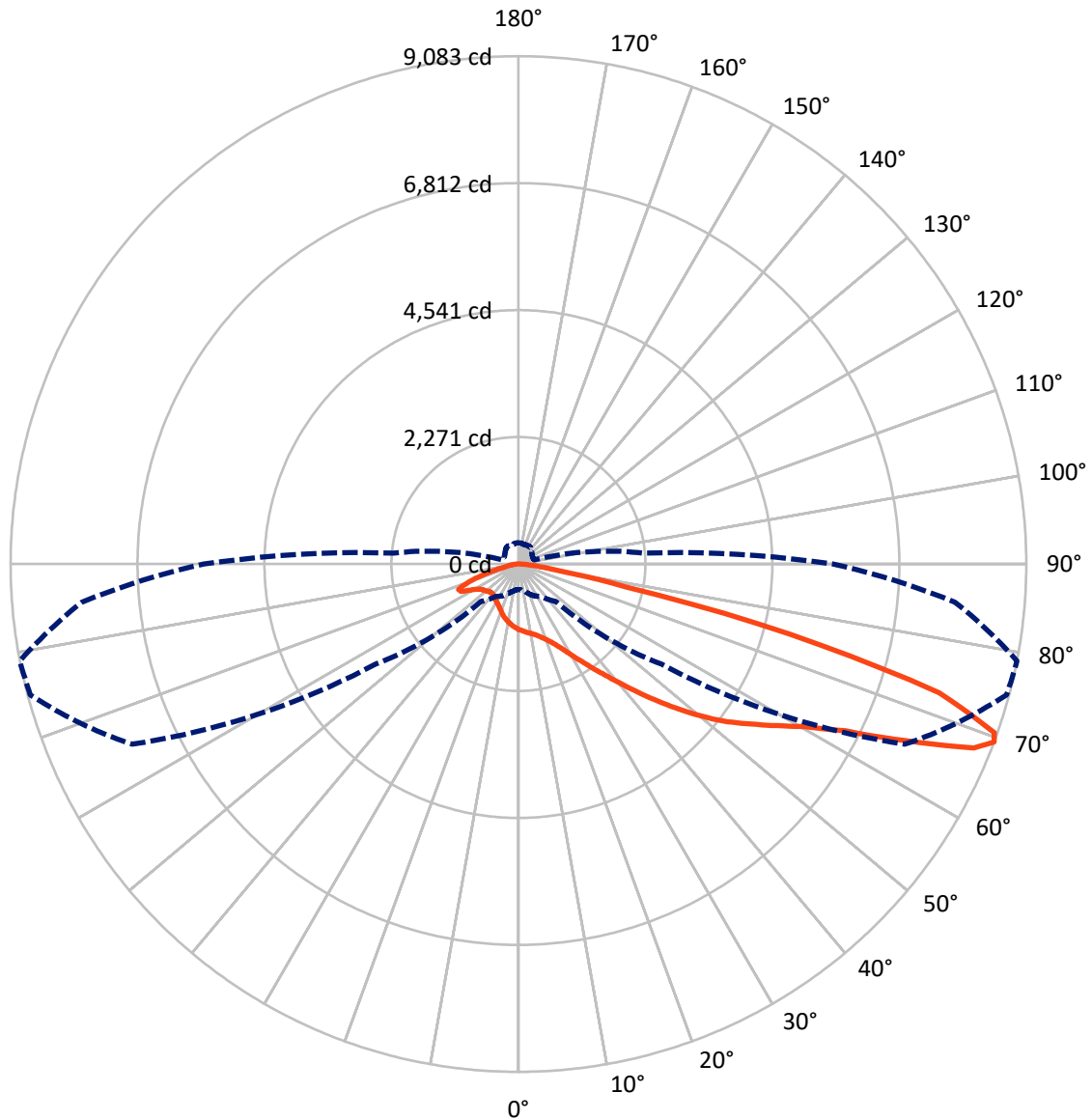
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.2 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	1574.4	0.0	1574.4
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	6794.7	0.0	6794.7
	% Fixture	81.2	0.0	81.2
Total	Lumens	8369.1	0.0	8369.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.9	1.3
10°-20°	312.1	3.7
20°-30°	515.8	6.2
30°-40°	835.2	10.0
40°-50°	1334.3	15.9
50°-60°	1910.8	22.8
60°-70°	2128.9	25.4
70°-80°	1065.1	12.7
80°-90°	158.1	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°	8369.1	100.0
0°-180°	8369.1	100.0



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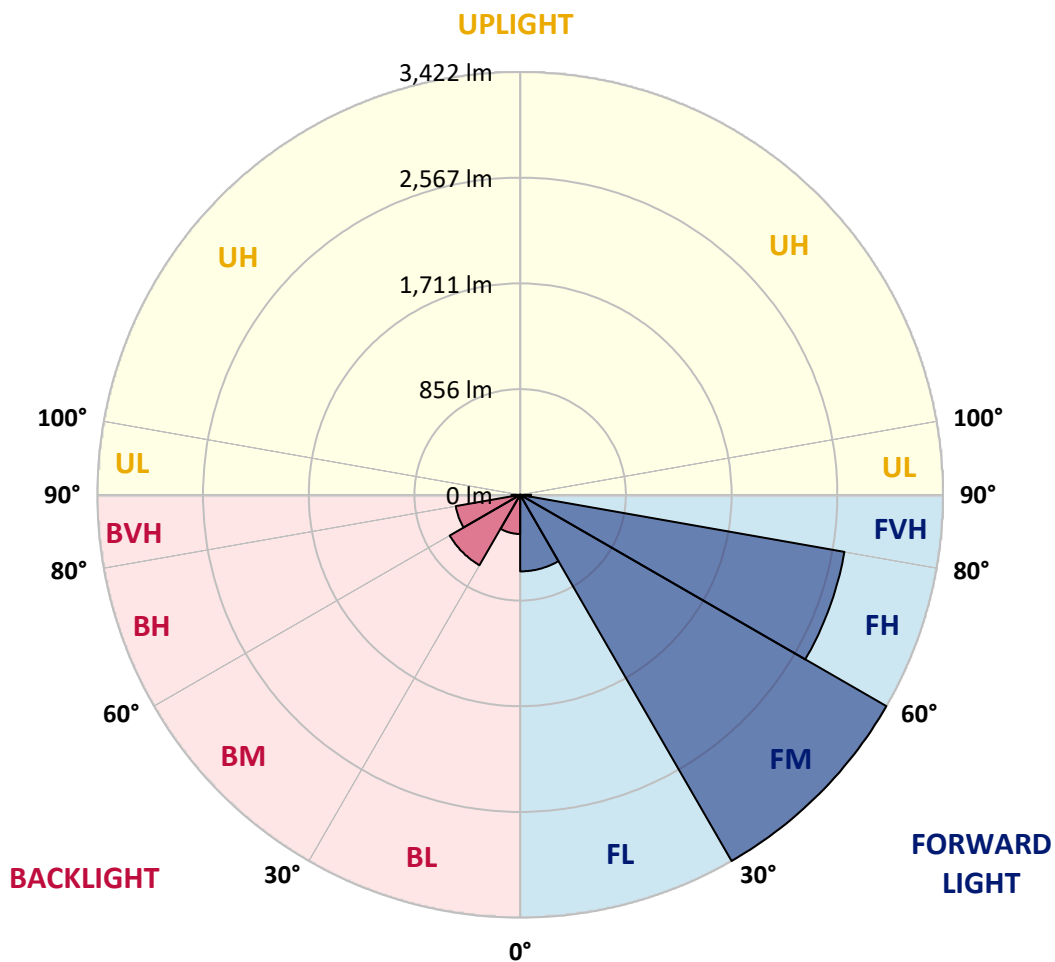
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	619.7	7.4			
FM (30°-60°)	3422.1	40.9			
FH (60°-80°)	2664.6	31.8			G2/5000
FVH (80°-90°)	88.3	1.1			G1/100
BL (0°-30°)	317.2	3.8	B1/500		
BM (30°-60°)	658.1	7.9	B1/1000		
BH (60°-80°)	529.4	6.3	B2/1000		G2/1000
BVH (80°-90°)	69.7	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4
2.5°	1289.4	1286.7	1286.2	1277.8	1273.5	1264.3	1242.4	1219.9	1199.1	1188.2	1176.6
5°	1397.4	1391.8	1389.0	1375.3	1363.4	1342.5	1308.0	1272.4	1235.2	1216.0	1193.0
7.5°	1462.4	1463.0	1463.0	1452.0	1440.1	1414.8	1371.1	1322.2	1267.0	1241.7	1205.6
10°	1467.9	1468.5	1476.6	1479.4	1482.2	1469.0	1428.6	1367.2	1296.1	1263.1	1216.0
12.5°	1413.8	1417.5	1431.2	1450.9	1478.9	1493.2	1475.6	1415.4	1333.3	1293.3	1235.8
15°	1340.9	1344.8	1362.3	1392.4	1437.3	1484.9	1509.5	1470.6	1382.0	1334.9	1264.9
17.5°	1305.2	1309.6	1321.8	1345.8	1389.6	1453.6	1527.6	1529.9	1439.4	1385.2	1299.3
20°	1288.3	1291.7	1306.9	1326.6	1360.0	1421.4	1529.3	1592.2	1507.8	1445.0	1341.4
22.5°	1327.2	1328.4	1336.0	1346.9	1369.3	1416.4	1528.1	1656.8	1593.4	1519.9	1395.6
25°	1441.2	1434.0	1428.6	1414.8	1420.3	1453.6	1545.7	1725.9	1702.7	1618.4	1467.9
27.5°	1575.7	1574.6	1560.4	1528.6	1508.4	1529.9	1595.5	1803.0	1836.9	1743.9	1562.6
30°	1725.9	1726.4	1711.6	1672.7	1631.6	1633.8	1674.9	1892.3	1997.4	1895.1	1679.3
32.5°	1882.9	1892.8	1865.4	1826.6	1776.8	1760.9	1788.7	2000.2	2183.1	2073.5	1814.4
35°	2070.8	2072.4	2042.2	1985.3	1935.5	1910.3	1936.0	2134.8	2397.0	2283.2	1979.3
37.5°	2265.6	2266.8	2235.5	2162.7	2099.8	2083.3	2111.8	2298.6	2623.8	2521.9	2173.1
40°	2425.1	2436.6	2411.9	2343.4	2279.9	2270.0	2311.1	2494.6	2913.5	2804.5	2403.7
42.5°	2605.8	2618.7	2589.3	2518.0	2467.7	2464.4	2528.5	2717.9	3201.4	3131.3	2664.8
45°	2809.4	2828.0	2786.9	2707.0	2664.3	2736.5	2740.4	2965.5	3533.3	3497.0	2958.8
47.5°	3031.7	3047.1	3013.6	2927.7	2881.1	2985.6	2947.9	3233.2	3891.8	3889.1	3276.9
50°	3203.0	3220.1	3223.3	3185.5	3136.8	3149.9	3175.7	3514.6	4249.3	4292.1	3606.1
52.5°	3171.8	3188.3	3262.1	3361.3	3439.6	3405.7	3436.8	3813.6	4594.9	4685.2	3918.6
55°	2920.0	2928.7	3067.3	3302.7	3636.1	3798.3	3800.4	4138.9	4923.4	5049.8	4215.4
57.5°	2466.0	2467.1	2647.2	2994.4	3521.6	4052.9	4374.1	4547.2	5266.1	5452.8	4583.3
60°	1745.0	1749.4	1959.1	2412.9	3111.5	4022.2	4991.3	5278.3	5663.1	5905.6	5057.5
62.5°	1035.9	1045.7	1204.0	1568.1	2311.1	3628.0	5356.0	6578.6	6247.8	6569.8	5816.3
65°	674.0	682.3	776.9	959.7	1365.6	2639.6	5236.0	7837.9	7354.5	7614.5	6907.1
67.5°	519.1	525.6	600.1	710.6	837.7	1426.9	4186.5	8101.8	8701.3	8782.4	7827.6
69°	456.1	461.5	516.3	622.5	705.2	944.5	3119.9	7622.7	9038.0	9082.5	7839.0
70°	422.7	427.1	478.5	570.6	647.7	753.9	2387.8	7066.3	8914.9	9028.1	7612.9
72.5°	348.3	352.0	388.7	459.4	529.5	537.1	1057.8	5160.0	7506.5	7869.1	6442.3
75°	290.7	292.9	317.0	368.5	428.8	427.7	540.4	2922.7	4580.5	5012.6	3977.8
77.5°	242.5	244.2	260.1	291.8	338.4	336.8	380.5	1261.5	2022.5	1951.4	1369.3
80°	214.1	215.1	223.4	231.7	261.1	259.5	282.0	579.2	822.9	760.5	518.0
82.5°	162.7	164.7	206.4	210.3	202.6	195.6	196.5	337.3	421.7	383.8	278.1
85°	91.9	92.5	132.5	155.0	176.2	132.5	127.6	174.1	208.0	182.4	121.5
87.5°	41.1	42.7	63.5	73.4	95.3	77.8	72.9	73.9	89.8	74.5	48.1
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°	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4	1174.4
2.5°	1165.7	1156.4	1134.5	1112.0	1089.6	1075.4	1060.5	1046.9	1041.3	1040.9	1030.4
5°	1170.6	1148.8	1098.8	1044.1	992.1	951.7	917.7	895.8	874.4	870.5	861.2
7.5°	1172.3	1136.6	1055.7	968.1	888.7	832.8	798.9	784.1	773.7	770.9	767.6
10°	1171.7	1121.4	1007.4	887.5	797.2	755.0	742.4	745.8	750.2	752.3	752.3
12.5°	1180.5	1114.2	959.3	812.0	738.0	717.8	727.6	744.7	757.8	763.3	764.4
15°	1196.4	1109.9	906.2	746.3	696.5	701.3	725.6	750.2	768.7	776.9	779.1
17.5°	1216.0	1103.7	844.9	692.1	672.4	689.3	720.5	751.7	774.2	784.6	786.2
20°	1238.0	1095.0	781.3	651.6	651.0	672.4	703.6	738.6	762.8	774.2	773.7
22.5°	1267.5	1086.9	722.1	621.9	627.5	647.1	672.9	704.7	727.1	737.5	735.4
25°	1306.9	1079.1	669.1	595.8	600.6	613.8	631.9	655.9	671.8	677.3	673.5
27.5°	1360.0	1073.1	627.5	571.6	571.1	577.2	588.0	601.1	608.8	607.3	601.1
30°	1425.3	1067.1	596.8	550.2	542.5	542.0	547.0	554.7	559.6	549.8	544.8
32.5°	1498.1	1056.8	569.4	531.6	518.0	513.0	515.2	525.6	545.9	536.0	532.2
35°	1584.0	1044.6	542.0	511.3	501.0	491.7	493.3	515.7	577.2	570.0	566.1
37.5°	1687.5	1033.7	516.9	489.4	488.9	477.4	476.3	503.2	585.3	570.0	566.7
40°	1811.8	1031.6	494.3	465.4	474.1	469.8	466.0	482.4	539.8	508.7	502.6
42.5°	1961.8	1041.3	478.0	442.4	457.1	467.6	460.6	464.3	487.9	459.9	455.0
45°	2137.0	1068.3	466.0	422.2	439.1	466.0	457.7	454.5	458.2	443.0	439.7
47.5°	2341.3	1115.9	457.7	405.1	422.2	461.5	456.7	450.1	448.4	439.7	437.5
50°	2559.7	1180.0	452.2	389.9	406.8	454.0	456.1	446.7	444.0	440.2	439.1
52.5°	2776.5	1249.5	445.6	376.7	394.3	444.7	456.7	443.6	439.7	437.5	436.3
55°	2992.3	1321.8	433.6	365.3	385.0	433.6	456.1	439.1	434.7	434.7	434.7
57.5°	3272.0	1431.8	417.7	355.9	372.8	419.4	449.0	434.2	428.1	428.8	429.3
60°	3676.1	1616.3	400.3	345.5	356.9	403.0	438.1	425.4	418.3	420.4	421.0
62.5°	4351.2	1938.8	376.1	330.7	340.5	385.5	423.8	413.4	406.8	410.6	411.2
65°	5251.3	2329.1	344.4	312.2	323.6	365.7	405.8	399.1	392.0	401.4	400.9
67.5°	5800.5	2443.6	311.1	292.4	307.2	344.9	383.2	380.5	375.6	392.0	390.9
69°	5620.3	2236.7	291.8	279.8	295.6	330.7	369.1	367.9	364.2	380.1	378.8
70°	5340.7	2043.4	279.8	271.6	289.7	322.0	359.7	359.7	355.9	369.7	366.9
72.5°	4289.9	1515.6	251.9	250.7	268.9	297.9	334.6	337.3	335.1	340.0	337.3
75°	2518.7	913.2	224.4	227.8	243.6	272.1	306.6	308.7	306.6	306.1	306.6
77.5°	873.3	409.5	198.2	203.1	216.9	245.9	276.0	280.4	277.0	273.3	274.3
80°	341.6	238.2	169.7	176.8	188.4	216.3	245.2	248.0	243.1	242.5	238.2
82.5°	205.4	145.0	132.0	143.5	157.7	187.7	211.9	210.8	207.0	229.3	201.0
85°	89.2	80.5	96.4	107.8	115.1	140.8	179.0	174.1	164.7	145.0	141.8
87.5°	36.1	41.6	53.1	64.0	69.0	90.9	122.7	118.2	120.0	98.5	98.1
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)