

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: STREETWORKS

Report Number: P239551

Luminaire Tested: **UTLD-AF24-20-D-U-SL3-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P239551
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1710-388-12-U0)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: UTLD-AF24-20-D-U-SL3-7030
Description: TRADITIONAIRE LED DOWNLIGHT LUMINAIRE
(1) 70 CRI, 3000K, 260mA LIGHT ENGINE WITH 24 LEDS AND TYPE III SPILL
LIGHT ELIMINATOR OPTICS
PHOTOMETRIC DATA REPORTED FOR LOWER HEMISPHERE ONLY. MINIMAL LIGHT IN
UPPER HEMISPHERE NOT REPORTED.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2274.8 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.21' x L: 1.21' x H: 0.96')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 21
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: 28.75 FT



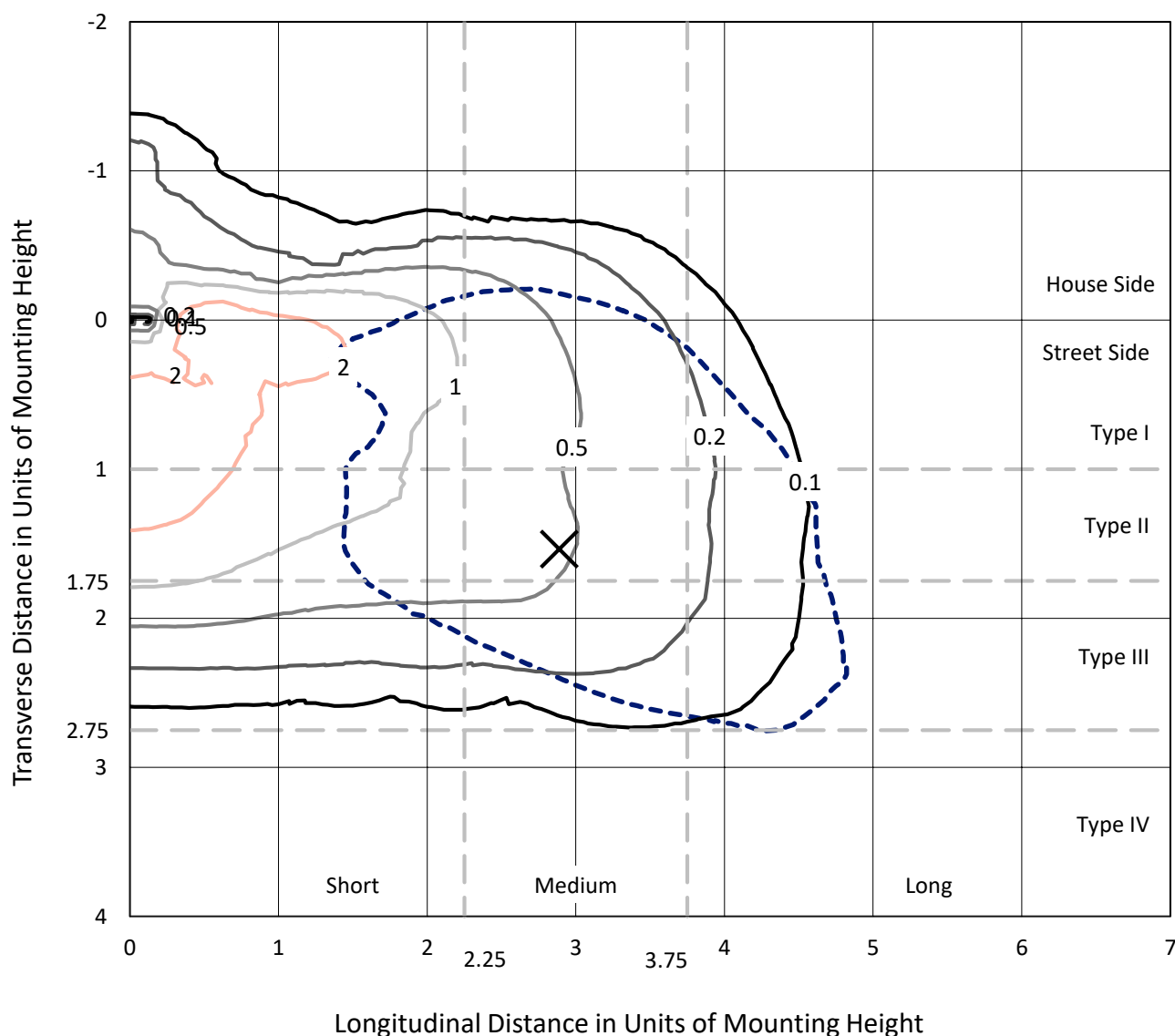
REPORT NUMBER: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

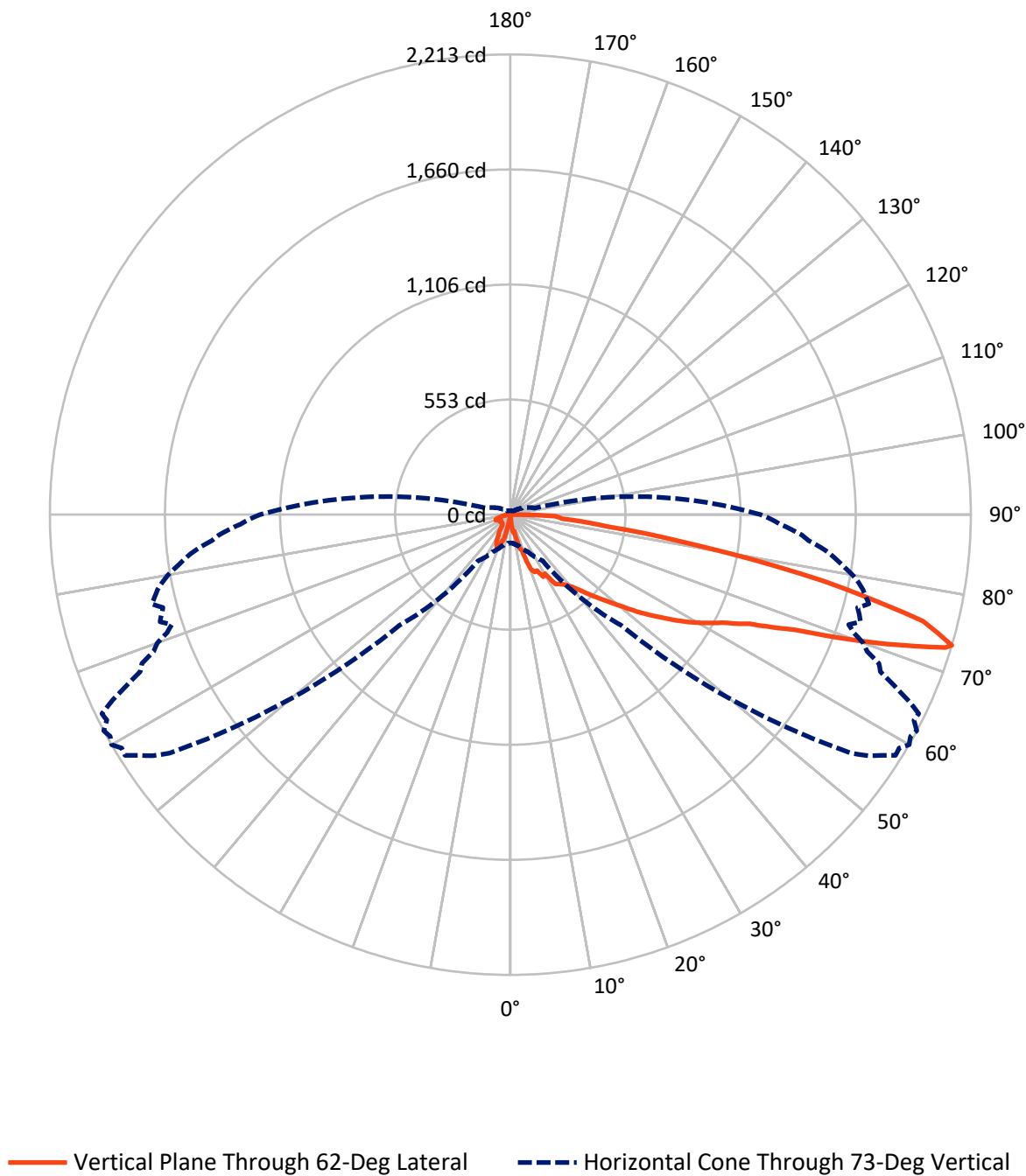


Based on 10 foot mounting height. Maximum calculated value = 3.6 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

Luminous Intensity Polar Plot



REPORT NUMBER: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

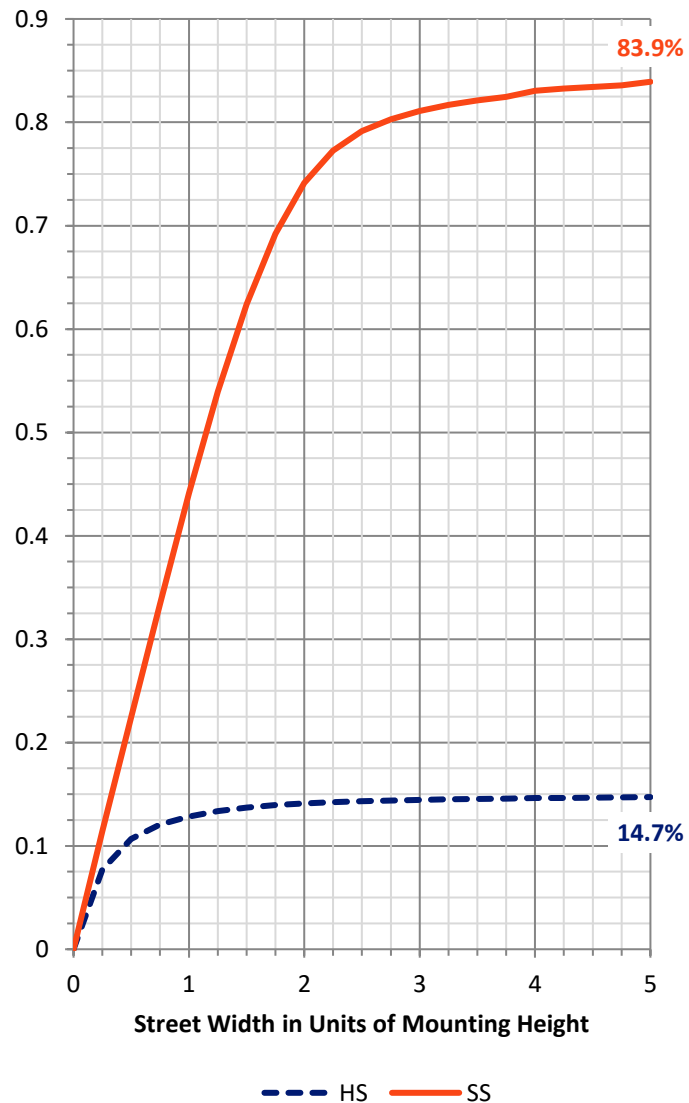
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	340.3	0.0	340.3
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	1934.5	0.0	1934.5
	% Fixture	85.0	0.0	85.0
Total	Lumens	2274.8	0.0	2274.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.6	0.2
10°-20°	39.9	1.8
20°-30°	106.3	4.7
30°-40°	191.9	8.4
40°-50°	310.4	13.6
50°-60°	476.1	20.9
60°-70°	587.8	25.8
70°-80°	473.9	20.8
80°-90°	84.8	3.7
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°	2274.8	100.0
0°-180°	2274.8	100.0

Coefficient of Utilization



REPORT NUMBER: P239551

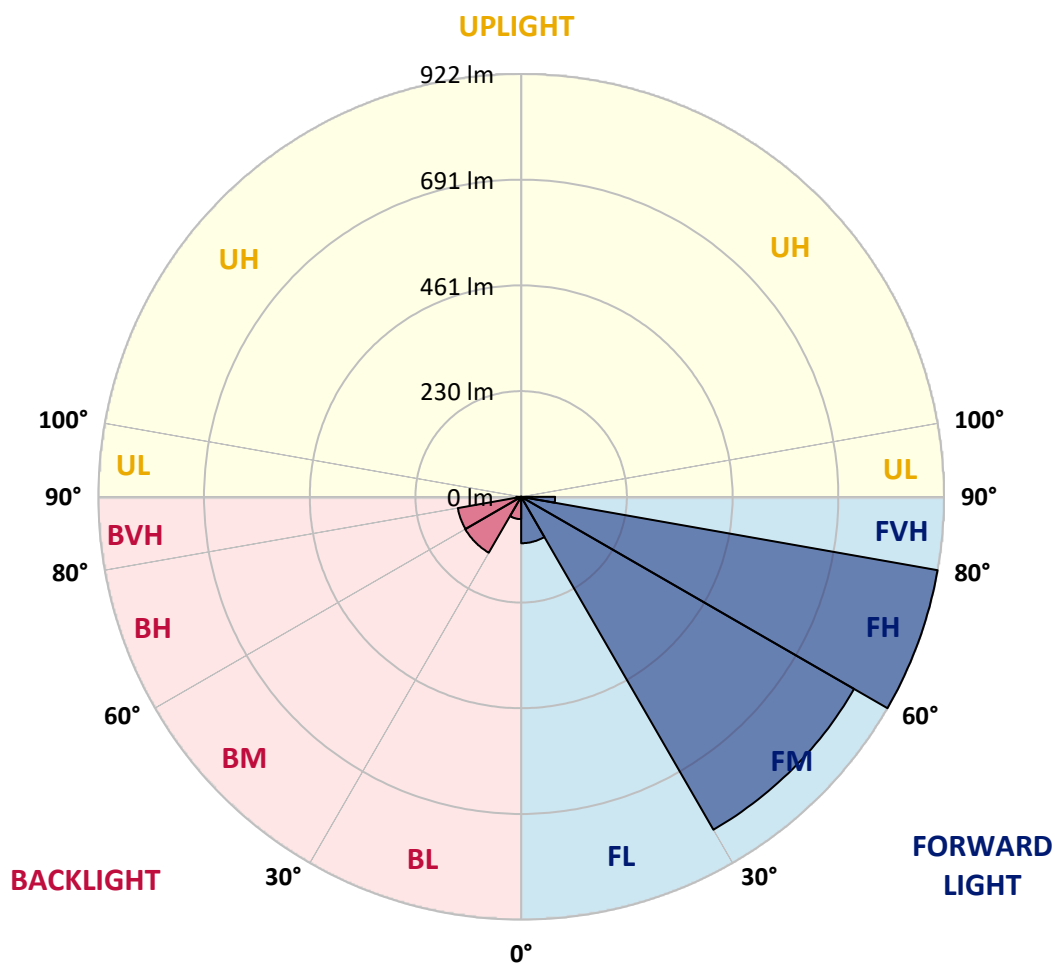
CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	101.2	4.4			
FM	(30°-60°)	837.7	36.8			
FH	(60°-80°)	921.5	40.5			G1/1800
FVH	(80°-90°)	74.1	3.3			G1/100
BL	(0°-30°)	48.6	2.1	B0/110		
BM	(30°-60°)	140.7	6.2	B0/220		
BH	(60°-80°)	140.2	6.2	B1/500		G1/500
BVH	(80°-90°)	10.8	0.5			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 III Medium





REPORT NUMBER: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2.5°	9.5	7.5	7.0	5.4	3.5	1.3	0.5	0.5	0.5	0.5	0.5
5°	94.3	94.3	94.3	95.0	95.0	87.2	10.8	10.5	10.3	9.5	8.0
7.5°	90.4	90.2	90.4	91.0	91.6	92.4	94.0	94.0	93.8	93.8	94.3
10°	170.1	170.7	138.0	98.9	90.8	90.8	92.1	92.4	92.1	92.1	92.1
12.5°	165.5	165.0	165.5	166.6	169.6	95.9	92.7	93.8	94.5	95.4	95.4
15°	171.2	169.4	164.0	162.4	164.8	151.6	178.0	178.5	176.4	173.7	163.2
17.5°	227.4	226.6	228.3	220.9	164.2	220.3	214.1	213.4	200.9	168.0	163.2
20°	223.7	223.3	223.7	225.0	259.8	215.8	212.3	212.8	203.1	208.2	234.5
22.5°	292.9	292.5	291.7	228.5	254.5	245.0	264.7	266.8	268.2	270.9	286.0
25°	304.2	302.0	296.8	275.5	252.5	284.4	260.1	262.8	264.4	275.0	287.9
27.5°	407.0	401.1	351.4	299.3	284.7	280.6	306.0	324.1	329.0	333.0	336.5
30°	462.9	449.7	416.2	375.2	311.2	303.3	319.8	323.1	334.2	343.0	331.4
32.5°	619.6	594.7	511.0	413.2	364.1	343.8	322.6	328.3	363.3	369.2	372.1
35°	655.2	633.9	574.2	500.5	399.5	369.0	371.9	378.4	390.6	377.6	396.7
37.5°	657.0	651.1	621.4	550.6	464.6	416.5	397.8	410.3	411.9	400.8	418.7
40°	664.2	666.8	685.5	607.5	518.3	478.1	437.6	452.5	436.2	449.2	452.5
42.5°	699.8	707.7	742.2	678.0	578.5	535.9	498.0	510.8	486.4	503.6	492.4
45°	794.1	799.4	813.6	732.5	649.9	591.7	573.7	581.3	556.1	572.8	548.6
47.5°	911.9	904.5	892.9	783.5	713.6	653.6	649.5	634.7	633.0	637.2	618.5
50°	1002.6	992.1	947.5	834.3	766.8	715.2	730.6	702.5	721.6	705.2	705.2
52.5°	1039.0	1028.0	980.2	868.1	808.4	777.6	817.3	782.4	808.1	774.1	795.2
55°	1034.1	1028.5	993.7	886.2	840.5	839.9	902.9	875.3	896.2	855.9	888.4
57.5°	1001.3	1001.0	989.9	903.1	869.7	896.5	992.1	979.4	987.4	967.0	985.5
60°	913.2	915.4	940.5	904.0	911.0	954.8	1079.8	1092.3	1081.6	1076.9	1091.0
62.5°	743.8	748.2	815.4	849.7	936.0	1038.0	1166.6	1201.1	1166.6	1193.7	1191.4
65°	489.9	506.8	612.8	737.4	908.8	1152.2	1319.7	1349.7	1295.0	1329.1	1318.9
67.5°	258.0	264.7	339.2	513.7	799.4	1217.0	1631.9	1644.1	1571.3	1604.6	1567.7
70°	179.0	181.0	199.1	273.5	540.2	1149.7	1935.0	1996.8	1967.3	1987.7	1932.8
72.5°	141.5	144.2	162.4	201.5	285.7	860.2	2016.3	2097.8	2135.0	2193.7	2185.8
73°	136.1	137.7	155.5	196.3	270.9	752.2	1998.2	2072.6	2124.0	2183.1	2179.4
75°	100.0	106.2	132.3	180.8	246.3	407.5	1743.2	1830.2	1916.1	1980.4	1990.8
77.5°	51.4	51.4	60.5	145.0	231.5	261.1	1172.3	1263.5	1394.2	1444.2	1466.4
80°	42.4	42.7	45.4	63.7	212.1	256.9	627.9	738.5	835.7	894.5	921.6
82.5°	32.1	35.6	39.7	44.0	98.9	262.2	310.7	371.9	424.4	453.5	475.4
85°	24.2	26.2	34.9	37.0	50.8	314.1	257.5	260.4	262.0	262.2	269.4
87.5°	14.1	15.1	27.0	30.5	35.9	263.1	287.9	270.6	254.5	243.3	228.3
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: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

CANDELA DISTRIBUTION (continued):

	60°	61°	62°	63°	64°	65°	66°	67°	68°	69°	70°
0°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2.5°	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.2	0.2	0.2
5°	7.3	5.9	5.9	4.6	4.1	3.3	2.1	1.8	1.3	1.1	0.8
7.5°	94.3	92.1	74.3	60.2	39.2	14.5	11.6	10.8	10.0	9.0	7.5
10°	92.1	92.1	88.1	78.0	73.4	73.8	73.4	73.4	73.4	70.3	55.0
12.5°	88.6	79.4	81.8	106.6	112.1	115.6	136.7	139.5	181.3	182.4	183.4
15°	159.8	160.9	168.0	180.4	181.3	182.0	182.4	183.1	184.7	185.8	187.0
17.5°	164.4	174.5	180.2	179.8	180.8	181.8	183.7	185.5	187.0	189.0	190.6
20°	274.5	291.9	278.5	262.8	266.0	267.9	269.6	271.4	273.3	275.3	268.2
22.5°	293.6	296.3	299.3	301.1	289.7	288.8	279.2	275.5	274.7	264.2	278.7
25°	291.7	294.9	298.2	288.5	290.6	325.1	361.6	365.2	360.5	363.3	367.0
27.5°	338.9	342.5	337.6	342.5	357.4	360.5	361.6	358.4	374.3	372.7	365.7
30°	334.4	335.8	329.2	348.4	353.6	357.4	351.7	378.1	409.7	414.8	446.3
32.5°	388.6	381.5	398.1	405.7	409.7	403.2	420.7	424.9	430.8	440.0	448.1
35°	396.5	392.1	410.0	412.7	412.1	416.5	424.6	422.2	437.8	445.9	455.1
37.5°	407.3	423.8	426.7	428.7	418.7	435.6	431.9	447.0	453.5	460.7	481.7
40°	438.9	455.6	457.2	452.2	458.2	462.9	466.7	473.2	478.9	491.0	521.8
42.5°	494.0	502.1	499.7	485.6	504.0	493.5	509.3	513.4	520.0	548.1	558.9
45°	566.1	564.6	557.8	551.5	559.4	557.4	562.3	565.5	584.0	611.6	613.4
47.5°	637.6	635.3	619.1	631.5	617.2	629.9	629.4	631.7	667.3	672.0	679.6
50°	712.5	709.0	691.9	706.8	693.6	704.4	704.1	718.0	745.7	745.1	752.5
52.5°	791.4	782.2	782.0	776.0	781.1	776.0	778.2	811.6	815.4	819.8	827.8
55°	877.1	853.2	868.4	844.6	859.3	853.8	860.0	891.9	887.5	886.9	892.4
57.5°	975.8	947.8	965.1	948.6	945.3	935.4	963.1	970.4	963.6	964.5	967.5
60°	1072.8	1063.1	1056.9	1053.4	1041.2	1032.8	1070.0	1049.9	1041.2	1040.9	1061.8
62.5°	1164.3	1167.7	1143.8	1145.5	1134.1	1135.8	1161.1	1136.6	1121.1	1111.7	1133.0
65°	1284.6	1300.7	1266.5	1260.3	1238.9	1266.2	1253.8	1228.9	1208.1	1217.0	1207.4
67.5°	1518.1	1510.6	1478.2	1450.4	1417.2	1449.0	1416.3	1381.8	1358.3	1379.6	1374.8
70°	1911.0	1875.2	1838.5	1792.3	1740.5	1738.6	1667.6	1623.8	1565.6	1563.8	1565.1
72.5°	2208.7	2182.9	2185.3	2144.2	2122.4	2072.4	1976.8	1882.0	1853.1	1804.8	1772.8
73°	2212.6	2198.6	2212.8	2176.5	2183.4	2108.0	2016.5	1932.2	1909.9	1836.3	1804.8
75°	2030.0	2033.0	2049.7	2057.6	2129.7	2087.0	2016.0	1947.1	1913.0	1858.0	1779.7
77.5°	1506.0	1550.3	1544.9	1557.4	1601.6	1559.2	1529.5	1512.8	1466.4	1455.0	1383.4
80°	921.0	941.6	938.9	970.2	960.7	912.5	897.6	838.7	819.8	760.3	707.7
82.5°	482.7	485.3	472.4	467.8	450.4	418.1	376.3	333.2	301.1	261.4	225.3
85°	265.5	254.1	250.4	239.3	224.7	203.9	187.2	162.0	141.3	116.4	96.1
87.5°	225.3	219.3	218.5	209.9	196.6	179.6	158.9	139.5	115.0	90.4	71.9
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: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

CANDELA DISTRIBUTION (continued):

	71°	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°
0°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
5°	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
7.5°	5.9	4.4	3.5	2.4	1.6	1.1	1.1	1.1	0.8	0.8	0.5
10°	34.5	15.7	10.0	8.6	7.3	5.9	4.4	3.9	3.3	2.4	2.4
12.5°	183.9	184.7	185.3	168.6	144.0	129.2	128.3	127.0	126.4	126.0	126.0
15°	188.3	189.0	190.1	187.2	175.1	170.7	155.2	135.6	133.2	132.3	130.7
17.5°	191.5	183.4	175.3	177.4	178.0	179.6	180.8	203.7	189.3	173.9	191.5
20°	269.4	283.6	286.6	289.0	291.4	294.5	296.8	300.6	311.2	303.3	282.8
22.5°	283.8	286.8	290.1	294.1	296.8	302.0	316.0	309.8	306.6	307.7	306.8
25°	371.7	376.7	381.9	387.6	399.8	415.4	416.5	418.7	421.0	421.8	421.0
27.5°	371.4	376.5	384.0	402.9	413.0	415.9	420.2	423.5	424.9	424.6	410.0
30°	453.5	465.1	489.9	498.6	505.7	512.7	517.5	520.7	534.9	527.5	539.0
32.5°	458.7	484.0	493.2	501.8	511.6	518.9	526.6	539.4	542.0	548.6	544.5
35°	481.7	493.5	504.0	515.3	524.2	534.3	549.7	557.8	564.3	560.4	556.1
37.5°	501.8	509.9	521.8	535.1	546.4	569.1	578.8	590.1	588.3	586.4	580.1
40°	525.1	537.2	551.8	567.2	598.5	605.9	623.7	627.7	626.6	621.8	632.1
42.5°	568.8	582.4	597.9	630.4	640.1	666.8	675.6	678.0	676.9	687.9	688.5
45°	625.5	639.2	663.6	683.1	716.3	732.2	738.1	744.6	754.1	768.1	758.1
47.5°	692.2	706.6	741.1	764.4	789.7	807.3	818.9	831.6	854.6	849.0	838.1
50°	764.0	794.4	804.9	847.6	867.0	886.7	903.5	939.4	940.7	935.4	952.3
52.5°	835.2	864.4	899.4	922.3	945.3	962.0	1006.1	1029.6	1033.1	1037.8	1053.4
55°	926.9	933.9	970.4	996.1	1018.0	1046.3	1096.3	1105.4	1113.4	1146.7	1135.8
57.5°	994.5	1027.1	1041.8	1064.4	1084.4	1145.5	1167.3	1176.8	1217.5	1218.1	1207.9
60°	1062.0	1093.9	1108.8	1126.6	1160.6	1214.1	1226.8	1246.2	1282.9	1278.7	1273.2
62.5°	1150.6	1158.7	1169.5	1187.6	1250.8	1272.7	1286.7	1336.7	1339.6	1338.9	1330.8
65°	1240.5	1240.8	1250.0	1282.3	1335.0	1350.5	1387.5	1419.4	1428.2	1426.9	1422.9
67.5°	1371.5	1372.3	1380.7	1448.8	1464.9	1477.6	1538.0	1548.4	1549.3	1551.9	1545.3
70°	1544.9	1534.4	1561.5	1609.5	1608.7	1638.7	1674.8	1680.5	1675.7	1670.0	1655.8
72.5°	1725.3	1695.6	1743.4	1735.6	1724.5	1775.9	1760.1	1741.0	1721.1	1690.0	1661.7
73°	1745.1	1709.9	1760.1	1744.3	1727.8	1775.6	1753.7	1732.7	1703.8	1670.8	1627.3
75°	1711.0	1676.5	1686.8	1654.3	1658.3	1660.8	1620.6	1581.6	1529.3	1495.5	1431.2
77.5°	1348.3	1329.3	1314.0	1300.1	1290.5	1241.8	1169.0	1136.0	1067.9	1025.8	946.6
80°	679.8	669.5	627.9	615.0	582.4	507.5	475.1	433.5	390.3	351.7	304.7
82.5°	199.1	176.7	159.4	150.4	139.5	125.1	113.4	107.5	98.9	96.1	90.2
85°	82.4	74.9	72.1	71.3	68.1	65.9	61.0	59.4	57.6	54.8	52.1
87.5°	60.2	53.4	49.3	46.4	44.2	42.7	40.2	38.7	36.7	35.4	34.3
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: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

CANDELA DISTRIBUTION (continued):

	82°	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°
0°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
5°	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
7.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10°	2.7	2.7	2.9	2.7	2.4	2.9	2.4	2.7	2.9	2.1	1.6
12.5°	126.0	125.8	126.4	127.0	126.4	127.0	127.2	128.1	131.7	147.5	124.5
15°	130.2	129.9	130.7	138.5	148.6	150.7	150.7	150.4	150.4	148.6	137.7
17.5°	211.5	235.8	215.8	239.6	255.0	227.7	251.2	256.9	235.0	231.2	143.4
20°	279.8	278.5	276.5	275.8	274.7	273.9	277.1	286.6	287.9	274.1	219.1
22.5°	293.1	288.5	286.0	285.7	296.0	304.4	296.5	293.9	290.8	273.3	210.5
25°	412.5	401.3	411.6	409.5	405.0	401.3	396.5	391.9	401.6	372.5	283.8
27.5°	415.9	418.4	414.1	410.0	405.5	402.9	411.9	407.5	401.3	365.2	259.6
30°	534.3	529.2	523.7	517.8	525.6	522.0	513.7	505.7	509.1	460.7	299.5
32.5°	539.6	533.7	532.3	537.4	527.5	519.4	515.9	516.9	506.8	446.3	266.3
35°	549.1	555.6	554.8	545.9	536.9	544.0	533.9	523.2	510.2	439.2	234.0
37.5°	589.4	586.4	576.4	567.5	573.7	561.8	548.1	533.9	519.6	436.2	201.5
40°	629.0	619.3	608.8	616.1	602.0	587.7	573.2	556.1	538.3	440.6	171.0
42.5°	677.1	672.0	678.7	662.7	644.4	628.5	608.8	590.4	569.9	452.7	143.1
45°	748.7	759.3	742.2	724.9	702.0	682.8	662.2	640.1	616.9	477.8	118.9
47.5°	849.9	838.9	822.4	799.2	780.5	758.4	735.2	708.2	679.8	518.6	102.0
50°	950.8	931.9	915.9	889.7	865.9	841.9	812.2	787.1	755.7	569.1	93.8
52.5°	1040.1	1021.5	1001.5	980.2	955.9	928.6	901.8	869.9	838.7	631.5	91.6
55°	1122.0	1104.2	1079.8	1060.4	1036.7	1009.1	978.0	949.1	916.4	700.2	94.8
57.5°	1196.0	1179.5	1157.0	1135.2	1108.4	1084.4	1054.0	1022.0	986.6	762.2	105.1
60°	1257.6	1241.8	1223.2	1200.5	1174.1	1149.7	1121.4	1091.9	1059.9	830.1	134.3
62.5°	1320.0	1306.4	1293.5	1277.8	1251.9	1233.2	1206.8	1181.1	1156.0	924.8	176.9
65°	1412.2	1408.3	1391.2	1381.2	1363.4	1349.9	1330.8	1301.3	1276.7	1036.4	202.7
67.5°	1536.8	1528.7	1516.8	1493.3	1476.1	1456.7	1431.6	1402.4	1369.1	1100.7	189.6
70°	1637.8	1619.4	1593.5	1566.8	1534.1	1499.2	1462.9	1425.5	1381.8	1063.6	153.4
72.5°	1621.6	1582.0	1531.4	1489.9	1443.7	1402.1	1349.2	1294.5	1244.9	892.4	127.0
73°	1589.5	1547.3	1499.8	1439.6	1404.0	1352.3	1296.2	1254.9	1202.0	839.4	121.5
75°	1378.6	1328.3	1289.1	1220.3	1169.7	1124.4	1072.1	1019.3	971.0	622.0	106.6
77.5°	898.3	853.6	774.3	745.1	684.9	651.5	599.9	576.7	512.1	308.4	89.7
80°	270.6	270.9	240.7	218.0	209.6	197.4	182.4	175.1	167.5	125.3	69.9
82.5°	89.4	85.9	82.4	81.3	81.6	82.6	83.1	82.6	85.3	71.9	45.4
85°	49.1	48.1	47.0	45.7	44.8	44.6	44.2	44.0	45.2	42.9	29.2
87.5°	33.0	32.1	31.5	31.3	31.3	30.8	31.3	30.8	31.5	28.4	21.1
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: P239551

CATALOG NUMBER: UTLD-AF24-20-D-U-SL3-7030

CANDELA DISTRIBUTION (continued):

	115°	125°	135°	145°	155°	165°	175°	180°
0°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2.5°	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0
5°	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0
7.5°	0.5	0.5	0.5	0.5	44.6	80.6	81.8	83.1
10°	1.1	1.1	73.4	83.7	83.5	82.4	80.8	80.8
12.5°	58.0	58.9	78.0	75.6	71.9	69.9	69.2	68.3
15°	106.6	147.2	73.4	64.6	101.1	100.5	96.9	96.7
17.5°	133.8	134.0	114.2	81.3	79.4	74.0	71.6	71.9
20°	197.4	120.7	118.5	82.6	59.6	80.2	88.8	89.7
22.5°	179.8	148.6	92.1	69.4	66.7	79.6	86.5	87.5
25°	177.2	116.7	80.2	68.7	63.0	74.3	100.7	102.6
27.5°	166.6	94.5	70.5	61.8	72.4	81.1	88.1	88.6
30°	134.0	72.8	58.4	60.5	64.8	69.2	81.8	83.1
32.5°	120.1	58.6	52.5	53.4	60.2	68.1	75.6	76.7
35°	91.0	56.2	48.6	49.7	55.6	62.8	77.8	79.4
37.5°	71.9	53.0	47.3	48.3	54.0	60.7	67.7	69.2
40°	62.8	51.4	47.0	45.9	50.5	53.7	59.4	60.2
42.5°	59.6	50.3	45.9	43.4	45.7	47.8	61.8	63.0
45°	58.9	49.9	44.6	40.0	41.3	42.9	74.6	77.8
47.5°	59.4	49.7	41.8	36.5	37.8	42.9	84.2	86.8
50°	60.5	49.3	38.9	34.3	39.2	49.1	82.1	82.4
52.5°	62.4	49.1	36.2	37.0	44.2	45.4	62.4	61.8
55°	64.0	47.5	37.2	37.2	35.6	35.1	43.2	42.7
57.5°	61.6	44.6	37.0	31.5	29.9	30.5	37.0	37.2
60°	58.0	42.9	33.6	29.4	28.4	29.4	38.9	39.2
62.5°	58.6	42.4	31.3	28.1	26.8	28.1	33.0	33.6
65°	67.3	44.0	30.5	25.6	25.3	26.2	25.9	25.9
67.5°	78.0	48.6	29.7	24.8	24.0	23.8	23.5	23.8
70°	85.3	51.4	29.2	24.0	22.4	21.9	21.7	21.9
72.5°	80.6	47.5	27.6	22.7	20.5	20.0	19.4	19.4
73°	78.3	46.4	27.0	21.9	20.2	19.4	19.2	19.4
75°	69.4	40.5	24.0	20.0	18.7	18.1	17.6	17.6
77.5°	55.4	32.1	20.2	17.6	16.5	16.2	15.7	15.7
80°	41.6	25.3	16.5	15.7	14.9	14.5	13.7	13.2
82.5°	30.3	21.1	13.5	14.3	13.2	12.4	11.9	10.8
85°	21.9	18.1	11.9	13.7	12.1	11.0	9.5	7.8
87.5°	15.7	15.7	11.0	14.5	10.8	8.4	5.4	3.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)