

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: NEO-RAY

Report Number: P242630

Luminaire Tested: **S124DR-S795D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242630
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DR-S795D927-X4F0-XX-UDD-A-W
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2638.5 lumens
Efficiency: N/A
Efficacy: 99.9 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

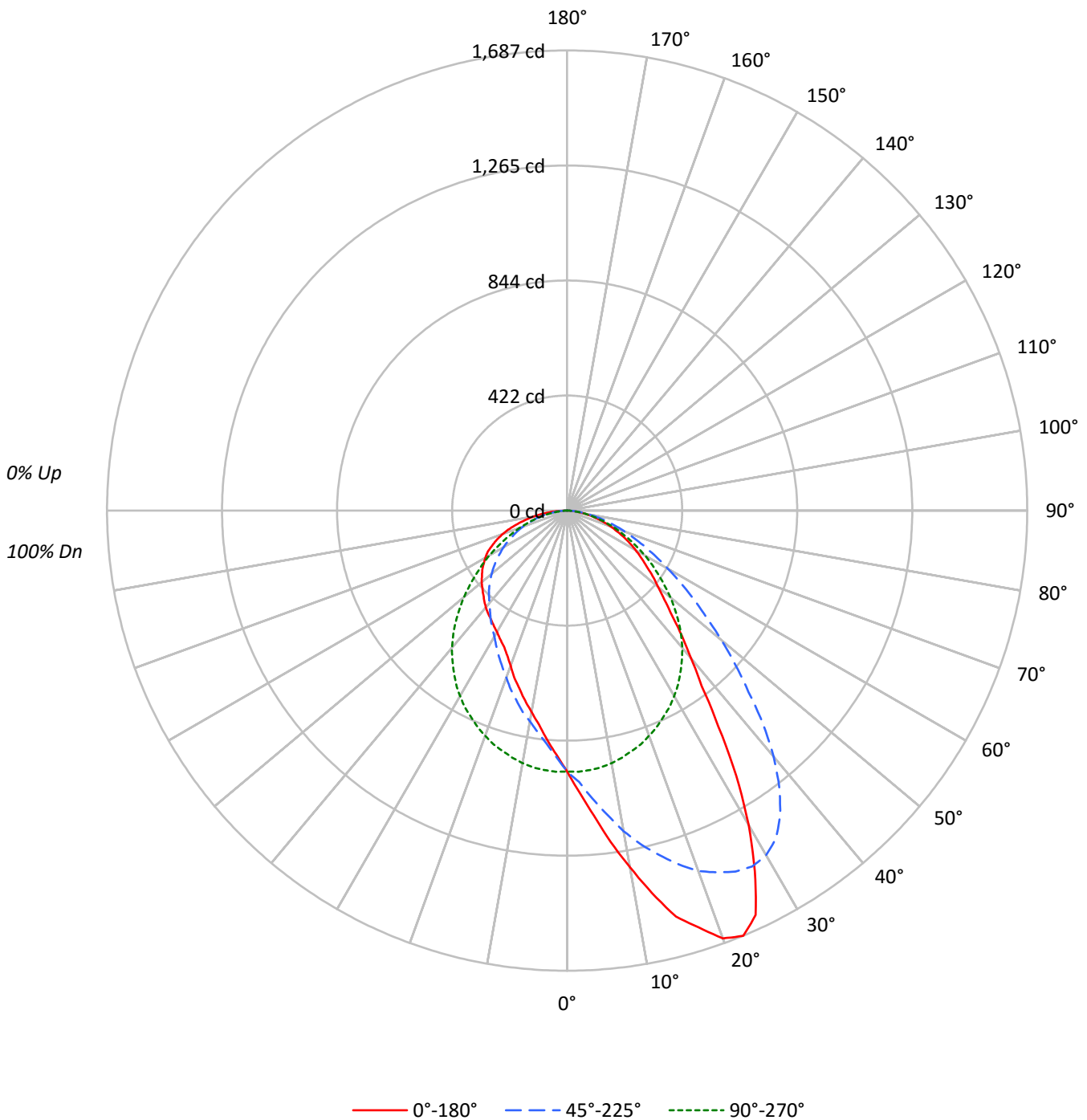
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62					62			
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46					46			
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8500	8500	8500
5°	10009	8521	7521
10°	11984	8484	6771
15°	14179	8398	6218
20°	15789	8310	5725
25°	16045	8182	5384
30°	13652	8058	5277
35°	10497	7857	5278
40°	8181	7620	5377
45°	6821	7265	5467
50°	6003	6830	5653
55°	5500	6311	5881
60°	5154	5845	6155
65°	4798	5323	6381
70°	4384	4808	6526
75°	3919	4231	6446
80°	3286	3466	6245
85°	2427	2509	5977



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.1	3.5
10°-20°	287.2	10.9
20°-30°	456.3	17.3
30°-40°	507.0	19.2
40°-50°	461.1	17.5
50°-60°	376.8	14.3
60°-70°	269.0	10.2
70°-80°	148.0	5.6
80°-90°	40.0	1.5
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°-30°	836.6	31.7
0°-40°	1343.6	50.9
0°-60°	2181.5	82.7
0°-90°	2638.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2638.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	956	956	956	956	956	
5°	1122	1060	955	858	843	114
15°	1541	1308	913	719	676	435
25°	1636	1460	834	591	549	726
35°	967	1362	724	488	486	612
45°	543	940	578	405	435	426
55°	355	566	407	316	380	320
65°	228	315	253	220	303	226
75°	114	147	123	122	188	121
85°	24	30	25	35	59	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2
2.5°	1033.0	1032.6	1028.7	1027.9	1025.1	1021.5	1020.7	1014.4	1001.7	995.8	994.2
5°	1121.7	1129.7	1119.4	1117.4	1116.2	1103.1	1096.4	1088.5	1070.2	1059.6	1051.2
7.5°	1225.5	1225.9	1221.6	1217.2	1209.7	1198.6	1183.5	1166.1	1145.1	1123.7	1108.7
10°	1327.7	1330.9	1325.7	1324.9	1304.7	1292.1	1266.7	1245.3	1220.8	1193.4	1168.5
12.5°	1435.4	1429.1	1427.1	1406.1	1406.5	1380.8	1350.3	1328.1	1286.9	1254.4	1219.2
15°	1540.8	1532.1	1526.5	1503.2	1491.7	1459.6	1428.3	1404.2	1354.6	1307.5	1271.9
17.5°	1601.8	1612.5	1598.2	1588.7	1557.4	1536.4	1505.2	1455.6	1418.8	1360.2	1319.4
20°	1669.1	1669.9	1662.8	1652.9	1629.5	1601.0	1566.2	1510.7	1464.4	1406.1	1344.3
22.5°	1687.4	1687.4	1685.4	1676.3	1660.0	1638.2	1603.0	1559.0	1500.4	1435.8	1374.0
25°	1635.9	1634.3	1637.8	1648.1	1641.4	1634.3	1614.1	1579.6	1527.3	1460.4	1393.9
27.5°	1490.1	1500.4	1521.8	1547.1	1565.4	1581.6	1580.4	1565.8	1528.5	1470.7	1399.8
30°	1330.1	1343.5	1358.6	1384.0	1433.1	1461.2	1492.1	1515.5	1502.4	1458.4	1393.5
32.5°	1154.2	1155.0	1179.2	1208.9	1252.8	1313.4	1366.9	1420.4	1443.4	1425.5	1374.0
35°	967.3	972.8	997.0	1025.5	1080.5	1146.7	1220.4	1286.1	1340.4	1362.2	1334.4
37.5°	810.4	827.8	846.1	878.5	928.8	988.6	1067.9	1149.9	1229.5	1277.8	1282.9
40°	705.0	714.9	727.2	750.6	791.8	850.4	916.2	1013.6	1099.6	1177.2	1202.5
42.5°	621.9	626.6	633.0	653.6	682.5	740.7	799.3	882.1	968.4	1065.1	1111.8
45°	542.6	548.6	561.3	573.5	597.3	637.7	693.6	764.1	850.8	940.3	1018.8
47.5°	483.2	487.2	495.1	508.6	530.0	557.3	604.8	664.6	749.4	836.2	920.1
50°	434.1	437.3	443.2	455.1	470.6	494.3	531.6	586.6	649.6	737.1	819.1
52.5°	395.3	396.1	400.1	407.2	418.7	437.7	466.6	509.8	567.2	642.9	724.5
55°	354.9	356.5	360.4	366.4	377.1	389.8	413.1	447.2	498.3	566.0	636.9
57.5°	321.6	323.2	326.4	328.8	338.3	349.0	368.0	392.5	432.5	492.7	557.3
60°	289.9	289.1	293.1	295.1	301.0	309.7	323.6	347.0	380.6	427.0	485.2
62.5°	259.0	257.9	261.0	263.8	266.6	273.7	284.4	301.4	327.2	368.0	416.3
65°	228.1	226.6	228.5	231.7	234.9	238.8	247.2	263.4	285.2	315.3	353.7
67.5°	196.5	198.4	198.4	200.4	202.4	207.9	213.9	226.6	242.0	266.6	300.6
70°	168.7	169.1	170.7	170.7	171.9	176.7	181.4	188.1	203.2	225.4	251.9
72.5°	141.0	143.0	141.8	143.4	144.2	147.0	150.1	156.5	168.7	183.8	205.2
75°	114.1	115.3	115.3	115.7	116.8	118.0	120.8	125.6	134.7	147.0	162.4
77.5°	87.9	87.9	88.7	90.3	90.3	92.3	94.7	98.2	103.4	112.5	122.4
80°	64.2	65.0	64.6	65.4	65.4	66.9	67.7	72.5	74.5	80.0	87.5
82.5°	42.8	43.6	43.6	44.8	45.6	45.6	46.7	47.9	49.9	54.7	56.6
85°	23.8	24.6	23.8	24.6	25.7	26.1	27.3	27.7	29.3	30.5	33.3
87.5°	8.7	9.9	9.9	10.3	11.1	11.5	11.9	11.5	13.1	13.5	15.1
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2
2.5°	994.6	989.0	985.1	981.9	973.2	968.1	964.1	958.5	952.2	945.5	937.2
5°	1042.9	1029.4	1019.5	1004.5	990.2	978.4	966.1	955.0	941.5	926.9	916.2
7.5°	1092.4	1073.8	1048.9	1029.4	1006.1	985.9	968.1	949.4	929.6	910.6	892.8
10°	1139.2	1113.4	1084.9	1051.2	1019.5	991.4	965.3	939.9	915.4	890.8	869.8
12.5°	1189.5	1155.8	1110.3	1069.5	1033.0	993.0	960.1	927.7	896.8	870.6	845.3
15°	1233.4	1187.1	1138.4	1085.7	1039.0	995.0	951.8	912.6	879.3	845.3	821.5
17.5°	1261.2	1203.7	1151.4	1096.4	1042.5	987.5	942.7	898.7	857.5	824.3	794.6
20°	1288.5	1231.5	1162.1	1107.1	1039.7	982.7	928.8	878.5	835.0	798.9	768.0
22.5°	1312.3	1244.1	1174.8	1098.0	1031.0	969.6	909.4	858.7	814.0	775.6	746.2
25°	1317.8	1242.1	1166.9	1094.8	1018.8	947.1	893.6	834.2	786.6	746.6	714.9
27.5°	1319.8	1239.8	1156.2	1077.8	999.3	934.0	864.3	812.4	763.3	720.9	690.8
30°	1315.4	1231.1	1139.6	1052.8	974.0	901.5	842.9	785.1	734.8	692.8	661.1
32.5°	1301.6	1212.8	1118.2	1025.1	942.7	872.2	811.2	756.9	708.2	667.0	633.4
35°	1272.3	1185.5	1085.3	989.8	906.3	834.6	779.9	724.1	674.9	635.7	603.6
37.5°	1233.0	1152.2	1050.4	951.0	870.6	797.7	742.7	691.2	646.8	606.4	573.1
40°	1178.4	1109.5	1007.3	911.0	822.3	753.8	703.1	656.7	612.8	575.1	543.8
42.5°	1115.4	1057.6	965.3	861.9	777.1	708.2	659.1	618.7	577.9	543.8	512.5
45°	1038.2	998.6	909.8	815.6	726.4	661.5	614.3	577.9	543.0	509.0	482.8
47.5°	952.2	930.0	852.8	762.5	676.9	612.0	571.2	536.3	504.6	474.9	451.5
50°	865.5	856.0	791.4	705.0	624.2	564.0	522.8	493.9	467.8	442.4	420.7
52.5°	779.9	781.9	725.2	648.0	574.7	517.3	476.5	450.0	428.2	408.8	389.8
55°	692.4	703.5	657.9	587.4	520.5	468.2	431.3	407.2	391.3	374.3	359.7
57.5°	612.0	630.6	591.0	526.4	469.8	419.9	387.4	368.8	351.3	340.2	328.8
60°	533.5	551.0	521.7	469.4	416.7	375.5	345.0	328.8	314.1	307.0	299.4
62.5°	463.8	478.9	459.1	411.5	367.6	328.4	303.8	288.4	279.6	271.7	267.4
65°	398.1	411.1	392.5	357.3	318.1	286.4	265.4	253.1	243.6	240.4	234.9
67.5°	333.1	345.0	335.1	304.2	270.9	246.0	229.3	216.3	210.7	207.6	204.0
70°	276.5	288.4	277.7	251.5	227.4	207.2	191.7	185.0	179.0	177.8	172.3
72.5°	228.5	235.7	225.0	206.0	186.2	169.9	158.8	151.7	149.3	147.0	144.6
75°	178.6	185.8	178.6	162.8	148.1	136.3	126.0	123.2	119.6	118.4	116.5
77.5°	133.9	140.6	135.1	124.4	112.9	103.0	97.0	93.1	92.7	90.3	91.1
80°	96.6	100.6	95.5	88.7	80.0	73.7	69.7	67.7	65.4	64.6	66.1
82.5°	62.6	63.8	61.8	57.8	51.9	48.3	45.9	43.6	43.6	44.0	43.6
85°	36.0	35.6	35.3	31.3	29.3	26.5	25.0	24.6	24.2	25.0	25.7
87.5°	15.1	15.4	15.1	13.5	12.3	11.1	10.7	10.3	10.7	11.1	11.5
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2	956.2
2.5°	933.2	929.6	924.5	917.4	911.4	905.1	903.5	901.1	905.9	901.9	900.7
5°	907.1	898.7	888.0	875.8	868.6	858.3	856.4	852.4	848.4	848.0	844.1
7.5°	879.7	868.2	854.8	842.1	831.0	819.9	812.8	812.0	805.7	802.5	798.5
10°	853.6	838.5	822.3	810.4	796.9	785.1	776.7	772.0	768.0	763.7	759.7
12.5°	822.7	806.4	793.8	780.7	764.1	755.7	740.7	731.6	731.6	732.8	720.9
15°	800.1	784.3	763.7	745.4	736.7	719.3	711.8	702.3	696.3	690.4	685.6
17.5°	772.4	753.0	737.1	716.5	700.3	687.2	676.9	671.8	662.3	653.6	647.6
20°	746.6	725.6	708.6	686.4	668.2	651.2	642.9	634.9	628.2	621.1	614.3
22.5°	720.5	698.3	676.5	655.1	638.5	620.3	612.4	600.9	594.5	591.4	584.6
25°	692.8	669.0	645.2	624.6	607.2	591.4	580.7	572.4	565.2	562.1	557.7
27.5°	662.7	639.3	616.7	593.0	572.8	561.3	552.6	545.8	541.5	536.7	534.7
30°	634.1	609.6	585.0	563.2	545.0	533.5	525.6	521.3	518.1	516.1	514.1
32.5°	605.2	581.1	554.9	535.5	519.7	509.8	504.2	499.9	498.7	498.3	497.9
35°	573.9	549.4	525.6	507.8	492.3	488.4	483.2	480.9	480.1	482.8	484.0
37.5°	543.8	520.9	498.7	480.9	470.6	464.2	462.2	461.8	464.6	467.0	469.8
40°	514.9	492.7	472.1	457.1	447.6	444.0	443.2	445.2	448.4	451.2	454.3
42.5°	486.8	465.0	446.8	432.9	427.0	423.8	424.6	426.6	431.3	434.9	440.1
45°	457.5	439.3	421.0	409.6	404.0	404.8	404.8	408.4	412.7	417.9	423.0
47.5°	430.2	411.5	396.1	386.2	383.4	382.2	384.2	389.0	394.9	400.8	408.0
50°	402.4	385.0	371.9	363.2	360.0	361.2	364.4	368.8	376.3	384.2	391.7
52.5°	374.3	358.9	347.0	339.1	337.1	339.5	342.6	350.1	356.5	365.2	374.7
55°	345.0	331.5	322.0	316.1	315.3	316.5	320.0	327.6	337.1	347.8	356.5
57.5°	316.1	304.6	295.5	291.1	291.5	292.3	297.9	307.0	316.5	328.0	339.1
60°	286.8	276.5	269.3	266.2	266.6	268.9	276.1	284.4	297.1	308.2	320.0
62.5°	259.0	250.3	243.6	240.8	240.0	246.0	252.7	261.4	274.1	286.8	299.8
65°	228.9	221.8	216.3	214.7	215.9	219.8	228.5	240.0	250.7	263.8	277.3
67.5°	199.6	193.7	189.7	190.5	191.7	197.3	204.8	214.7	226.6	240.0	253.9
70°	171.9	166.4	163.2	163.6	166.0	173.1	179.4	189.3	202.4	216.3	227.4
72.5°	143.4	140.2	137.4	139.4	141.8	146.2	154.5	164.4	175.5	188.1	200.0
75°	114.5	114.5	112.9	114.1	117.6	122.4	128.3	138.6	150.1	160.4	169.9
77.5°	89.9	88.7	89.5	90.7	93.1	99.0	105.8	113.3	122.4	133.1	141.0
80°	65.0	65.4	67.3	69.7	70.5	74.9	82.0	88.7	95.5	104.2	111.7
82.5°	44.8	45.2	45.9	49.1	49.9	54.7	58.6	65.4	71.3	76.4	82.4
85°	26.5	26.5	28.5	29.7	31.7	34.9	37.6	41.6	47.1	51.1	57.0
87.5°	12.7	12.7	14.3	15.1	16.2	18.2	19.0	23.4	25.0	26.9	30.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242630

CATALOG NUMBER: S124DR-S795D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	956.2	956.2	956.2	956.2
2.5°	899.9	899.1	896.4	896.0
5°	841.7	839.7	838.5	842.9
7.5°	797.7	796.1	792.6	791.4
10°	755.7	754.2	751.0	750.2
12.5°	715.3	711.8	711.8	713.0
15°	680.5	678.9	674.5	675.7
17.5°	644.8	643.3	637.3	643.3
20°	611.6	608.4	605.6	605.2
22.5°	579.9	577.1	577.5	574.3
25°	554.5	551.8	551.0	549.0
27.5°	533.9	532.3	530.8	531.6
30°	515.3	514.9	514.1	514.1
32.5°	499.9	499.9	500.7	500.7
35°	485.6	486.8	487.6	486.4
37.5°	472.9	473.7	474.9	476.1
40°	457.9	460.7	461.4	463.4
42.5°	443.6	446.8	449.2	449.2
45°	429.0	432.1	434.9	434.9
47.5°	413.9	418.3	421.0	421.4
50°	398.5	404.0	406.8	408.8
52.5°	383.4	389.0	392.9	393.7
55°	365.6	373.5	377.9	379.5
57.5°	349.8	356.9	361.6	362.8
60°	330.7	338.7	345.0	346.2
62.5°	311.3	319.6	325.2	328.8
65°	288.4	296.7	302.2	303.4
67.5°	264.2	272.9	276.5	278.8
70°	238.4	245.2	249.1	251.1
72.5°	209.1	216.3	221.0	221.0
75°	179.0	185.4	187.7	187.7
77.5°	147.7	151.3	154.5	155.3
80°	117.6	119.6	122.0	122.0
82.5°	86.7	88.3	90.7	90.3
85°	56.2	59.8	59.4	58.6
87.5°	31.7	32.1	33.3	34.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)