

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: P332657-940

Luminaire Tested: **S124DIP-S1020D1035U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332657-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D1035U940-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7051.0 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

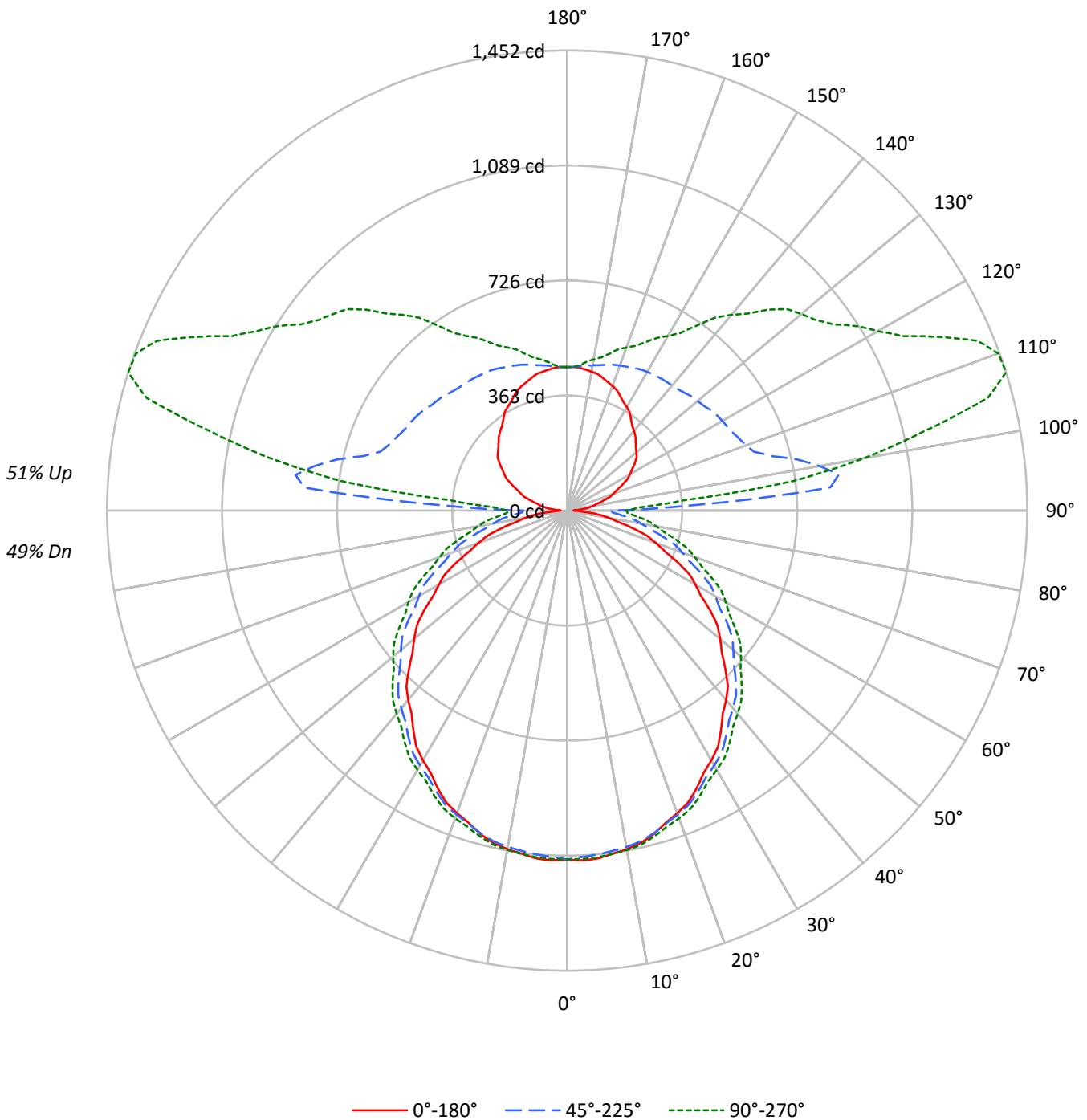
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332657-940

CATALOG NUMBER: S124DIP-S1020D1035U940-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P332657-940

CATALOG NUMBER: S124DIP-S1020D1035U940-4F0-1E-UDD-D4

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	0
RCR																		
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	35	31	28	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8888	8888	8888
5°	8916	8686	8711
10°	8861	8544	8538
15°	8782	8380	8334
20°	8662	8198	8135
25°	8527	7995	7918
30°	8381	7793	7693
35°	8216	7585	7497
40°	8083	7388	7292
45°	7887	7207	7117
50°	7721	6996	6931
55°	7549	6799	6714
60°	7282	6547	6515
65°	6989	6278	6271
70°	6633	5968	5986
75°	6136	5628	5730
80°	5588	5302	5476
85°	4893	5013	5328



TEST NUMBER: P332657-940

CATALOG NUMBER: S124DIP-S1020D1035U940-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.3	1.5
10°-20°	298.7	4.2
20°-30°	451.7	6.4
30°-40°	546.5	7.8
40°-50°	577.7	8.2
50°-60°	543.7	7.7
60°-70°	451.1	6.4
70°-80°	316.9	4.5
80°-90°	181.6	2.6
90°-100°	433.6	6.2
100°-110°	759.9	10.8
110°-120°	662.9	9.4
120°-130°	543.0	7.7
130°-140°	440.8	6.3
140°-150°	329.5	4.7
150°-160°	229.8	3.3
160°-170°	135.2	1.9
170°-180°	44.0	0.6
0°-30°	854.6	12.1
0°-40°	1401.1	19.9
0°-60°	2522.6	35.8
0°-90°	3472.3	49.2
90°-120°	1856.5	26.3
90°-150°	3169.8	45.0
90°-180°	3579.0	50.8
0°-180°	7051.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1101	1101	1101	1101	1101	
5°	1102	1098	1090	1099	1098	105
15°	1057	1058	1054	1065	1064	298
25°	967	974	978	991	992	445
35°	846	860	873	889	894	529
45°	705	729	752	772	779	545
55°	552	579	615	639	647	492
65°	382	422	464	493	504	379
75°	212	258	309	343	355	226
85°	65	117	173	208	222	70
90°	21	76	138	174	186	15
95°	45	150	833	498	369	46
105°	115	188	665	1368	1375	124
115°	191	250	579	1085	1296	190
125°	260	309	553	908	1025	232
135°	306	364	525	786	896	237
145°	351	401	511	645	713	220
155°	398	430	497	563	587	184
165°	434	447	476	504	512	122
175°	452	453	457	463	461	43
180°	453	453	453	453	453	



TEST NUMBER: P332657-940

CATALOG NUMBER: S124DIP-S1020D1035U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0
2.5°	1104.9	1104.3	1103.6	1103.0	1102.2	1101.1	1099.3	1097.6	1095.8	1094.0	1095.6
5°	1102.2	1101.4	1100.5	1099.7	1098.9	1097.5	1095.6	1093.7	1091.8	1089.8	1092.1
7.5°	1092.8	1092.3	1091.8	1091.4	1090.8	1089.8	1088.2	1086.6	1085.0	1083.4	1085.9
10°	1084.9	1084.7	1084.4	1084.1	1083.9	1083.0	1081.6	1080.3	1078.9	1077.5	1080.0
12.5°	1074.1	1074.1	1074.0	1073.9	1073.9	1073.4	1072.5	1071.5	1070.6	1069.6	1071.9
15°	1056.6	1056.9	1057.1	1057.4	1057.7	1057.4	1056.6	1055.8	1054.9	1054.1	1056.6
17.5°	1032.7	1033.5	1034.3	1035.1	1036.0	1036.3	1036.1	1036.0	1035.8	1035.6	1038.1
20°	1015.9	1016.7	1017.5	1018.3	1019.2	1019.8	1020.0	1020.3	1020.6	1020.8	1023.6
22.5°	997.1	998.2	999.3	1000.3	1001.3	1002.1	1002.6	1003.1	1003.5	1004.1	1006.8
25°	966.6	968.2	969.8	971.5	973.1	974.4	975.2	976.1	976.9	977.7	980.7
27.5°	932.6	935.0	937.4	939.8	942.2	944.1	945.3	946.6	947.8	949.0	951.9
30°	909.9	912.0	914.3	916.4	918.6	920.7	922.6	924.5	926.4	928.4	931.4
32.5°	885.2	887.9	890.5	893.1	895.7	898.1	900.3	902.4	904.6	906.7	910.1
35°	845.8	849.1	852.3	855.6	858.9	861.9	864.7	867.4	870.1	872.9	876.7
37.5°	806.0	809.9	813.6	817.4	821.2	824.7	828.1	831.5	835.0	838.4	842.2
40°	780.4	784.0	787.6	791.1	794.7	798.3	802.2	806.0	809.9	813.7	817.8
42.5°	750.8	754.8	758.8	762.9	766.8	771.1	775.5	780.1	784.5	789.1	793.6
45°	705.2	710.4	715.6	720.9	726.0	731.2	736.5	741.6	746.8	752.1	756.7
47.5°	661.6	666.9	672.3	677.7	683.1	688.8	694.7	700.8	706.9	712.8	717.6
50°	630.0	636.1	642.0	648.1	654.1	660.1	666.2	672.2	678.2	684.2	689.7
52.5°	598.4	604.5	610.5	616.5	622.6	629.0	635.9	642.8	649.7	656.7	662.1
55°	552.3	558.1	563.8	569.6	575.3	582.3	590.6	598.8	607.0	615.2	620.7
57.5°	500.8	507.9	515.1	522.2	529.3	536.9	545.1	553.3	561.4	569.6	576.1
60°	467.3	474.4	481.5	488.7	495.8	503.8	512.9	521.9	530.9	540.0	546.3
62.5°	434.7	442.5	450.3	458.1	465.8	474.2	483.3	492.3	501.4	510.4	516.7
65°	382.2	390.9	399.8	408.5	417.2	426.3	435.6	445.0	454.2	463.6	470.4
67.5°	331.6	341.0	350.3	359.6	368.9	378.5	388.5	398.5	408.5	418.5	425.4
70°	297.1	306.5	315.8	325.0	334.4	344.3	354.6	365.1	375.5	385.9	393.3
72.5°	263.6	273.1	282.7	292.2	301.8	312.0	323.1	334.1	345.3	356.3	363.5
75°	212.0	222.2	232.3	242.5	252.6	263.4	274.9	286.4	297.9	309.4	317.1
77.5°	164.0	174.7	185.5	196.2	207.0	218.3	230.4	242.5	254.5	266.5	274.3
80°	134.4	145.3	156.3	167.3	178.3	189.8	201.8	213.8	225.9	237.9	246.2
82.5°	104.8	116.2	127.6	139.0	150.3	162.1	174.2	186.2	198.3	210.4	218.7
85°	65.4	76.9	88.4	99.9	111.4	123.3	135.6	147.9	160.2	172.6	180.8
87.5°	36.6	48.2	59.9	71.2	82.7	94.3	107.3	119.3	131.6	144.0	151.8
90°	20.6	33.3	47.0	58.9	70.7	82.0	99.2	110.9	124.5	138.0	145.2
92.5°	28.9	43.3	61.6	82.3	105.2	134.6	191.5	272.4	351.5	398.5	359.1
95°	45.4	57.2	75.1	95.7	126.1	173.6	262.3	419.5	643.5	832.8	860.7
97.5°	67.2	75.0	90.5	109.0	135.0	175.8	246.6	378.3	600.9	863.8	1044.0
100°	81.2	88.4	101.7	119.5	143.6	180.9	244.2	355.4	547.7	809.4	1044.7
102.5°	95.5	103.2	114.9	131.1	153.6	189.0	247.0	345.9	511.0	744.0	986.1
105°	115.2	123.4	133.3	149.5	171.0	204.6	257.5	341.5	476.3	665.3	881.4
107.5°	139.6	145.9	154.8	170.7	190.5	223.0	271.7	348.7	464.7	618.3	795.8
110°	155.0	160.6	168.9	183.4	203.2	234.0	282.8	354.6	462.2	600.8	752.2



TEST NUMBER: P332657-940

CATALOG NUMBER: S124DIP-S1020D1035U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.6	174.9	183.4	196.7	216.2	246.5	293.4	361.3	461.9	589.5	725.1
115°	190.7	195.9	204.6	216.0	235.3	265.0	309.4	371.6	463.2	578.7	696.9
117.5°	214.0	218.0	225.0	236.3	253.6	283.4	325.4	382.6	465.0	570.4	679.9
120°	228.7	231.3	238.4	249.0	264.9	294.3	336.0	390.3	466.7	565.5	669.8
122.5°	243.0	244.9	251.3	260.6	277.2	305.3	346.6	397.6	468.7	559.8	659.2
125°	260.4	263.7	268.8	278.3	294.9	323.2	362.0	409.8	472.8	552.6	643.3
127.5°	276.7	279.3	285.4	296.4	313.7	341.3	377.6	420.4	474.7	543.2	622.9
130°	285.0	288.3	295.2	308.2	324.9	352.8	387.4	426.5	476.3	537.6	610.2
132.5°	294.3	296.9	305.9	318.2	336.3	362.3	396.0	433.5	478.2	533.0	599.0
135°	306.0	309.6	318.5	333.6	352.3	376.4	407.7	441.7	480.1	524.8	580.8
137.5°	319.1	322.2	331.6	345.8	364.9	387.4	415.7	446.6	479.8	518.9	565.4
140°	328.2	330.6	340.2	355.1	373.4	394.8	421.8	450.6	481.1	515.2	557.1
142.5°	337.2	339.9	348.9	363.3	381.2	401.7	427.6	453.8	482.4	513.3	550.4
145°	351.1	353.5	362.1	374.3	390.9	410.4	433.5	457.5	483.4	511.0	541.1
147.5°	366.9	367.6	375.1	387.6	401.4	418.9	440.7	461.6	484.3	507.7	533.1
150°	376.9	377.6	384.3	394.8	407.9	424.6	444.3	463.8	484.3	505.6	527.9
152.5°	385.1	385.3	392.4	402.3	414.1	429.6	447.1	465.2	482.9	502.0	522.2
155°	397.9	398.8	404.1	413.0	422.8	436.2	451.3	466.5	480.7	496.8	513.6
157.5°	410.5	410.5	415.5	422.5	431.1	441.6	454.3	466.5	478.4	491.2	504.9
160°	418.4	418.4	422.0	428.2	435.3	445.1	455.8	466.5	476.3	487.0	498.6
162.5°	425.5	424.8	427.7	433.2	439.6	447.3	457.2	466.5	474.1	482.7	492.8
165°	433.5	433.5	435.3	439.8	444.3	449.5	457.5	464.7	470.0	476.3	483.4
167.5°	441.6	440.7	441.6	445.0	447.5	451.5	457.4	462.5	465.7	469.8	474.8
170°	445.1	444.3	445.1	447.8	449.5	452.2	456.6	461.1	462.9	465.6	469.1
172.5°	448.6	447.8	447.9	449.9	450.9	452.9	455.9	459.7	460.0	461.3	464.1
175°	452.2	451.3	451.3	452.2	453.1	453.1	454.9	457.5	456.6	456.6	458.4
177.5°	453.8	453.1	452.4	453.1	453.1	453.1	453.8	455.2	453.8	453.8	454.5
180°	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1



TEST NUMBER: P332657-940

CATALOG NUMBER: S124DIP-S1020D1035U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0	1101.0
2.5°	1097.2	1098.7	1100.2	1100.8	1100.6	1100.4	1100.2	1100.0
5°	1094.2	1096.4	1098.7	1099.6	1099.3	1099.0	1098.8	1098.5
7.5°	1088.4	1090.8	1093.3	1094.4	1094.1	1093.9	1093.6	1093.3
10°	1082.4	1084.9	1087.4	1088.5	1088.2	1088.0	1087.7	1087.4
12.5°	1074.2	1076.4	1078.6	1079.8	1079.7	1079.6	1079.6	1079.5
15°	1059.1	1061.5	1064.0	1065.1	1064.8	1064.5	1064.3	1064.0
17.5°	1040.6	1043.2	1045.7	1046.9	1046.6	1046.4	1046.2	1046.0
20°	1026.3	1029.0	1031.8	1033.1	1033.1	1033.1	1033.1	1033.1
22.5°	1009.5	1012.3	1015.0	1016.6	1017.1	1017.4	1017.9	1018.3
25°	983.7	986.7	989.7	991.4	991.7	991.9	992.2	992.5
27.5°	954.7	957.4	960.3	961.8	962.2	962.5	962.8	963.1
30°	934.4	937.4	940.4	942.2	942.7	943.3	943.9	944.4
32.5°	913.6	917.0	920.5	922.5	923.0	923.5	924.1	924.7
35°	880.6	884.4	888.2	890.6	891.4	892.2	893.0	893.9
37.5°	846.1	850.1	853.9	856.3	857.2	858.1	858.9	859.8
40°	821.9	826.0	830.2	832.8	833.8	834.9	836.1	837.1
42.5°	798.2	802.7	807.3	809.9	810.8	811.7	812.6	813.4
45°	761.3	766.1	770.7	773.7	775.1	776.4	777.8	779.2
47.5°	722.5	727.3	732.2	735.4	737.0	738.7	740.3	742.0
50°	695.2	700.7	706.1	709.7	711.4	713.0	714.6	716.3
52.5°	667.6	673.1	678.6	682.1	683.8	685.4	687.1	688.7
55°	626.2	631.7	637.1	640.7	642.3	644.0	645.6	647.3
57.5°	582.6	589.2	595.7	599.7	601.2	602.8	604.3	605.8
60°	552.6	558.9	565.2	569.4	571.7	573.8	576.0	578.2
62.5°	523.0	529.3	535.7	539.8	542.1	544.2	546.4	548.7
65°	477.2	484.1	491.0	495.5	497.7	499.9	502.0	504.3
67.5°	432.4	439.3	446.3	450.8	453.0	455.1	457.3	459.4
70°	400.6	408.0	415.4	420.2	422.0	424.0	425.9	427.8
72.5°	370.7	377.8	385.0	389.7	391.8	394.0	396.1	398.2
75°	324.8	332.4	340.1	345.2	347.7	350.2	352.6	355.1
77.5°	282.1	289.9	297.7	302.9	305.5	308.2	310.8	313.4
80°	254.4	262.6	270.8	276.0	278.2	280.4	282.6	284.8
82.5°	227.2	235.7	244.1	249.5	251.9	254.3	256.7	259.1
85°	189.0	197.2	205.5	211.0	213.7	216.4	219.2	221.9
87.5°	159.9	168.0	176.1	181.3	183.9	186.5	188.7	191.1
90°	154.0	162.8	171.7	176.7	179.8	182.9	184.1	186.4
92.5°	306.4	270.9	251.7	238.9	230.6	227.9	227.1	229.3
95°	781.7	651.1	539.2	457.8	416.6	391.6	378.0	368.8
97.5°	1088.6	1044.5	964.6	876.4	814.8	763.7	739.2	723.1
100°	1182.1	1207.3	1171.1	1109.8	1034.3	982.0	957.2	951.9
102.5°	1171.7	1267.2	1287.0	1264.3	1218.9	1181.7	1155.7	1152.1
105°	1092.1	1252.9	1347.9	1388.9	1392.9	1388.0	1377.7	1374.6
107.5°	983.0	1153.8	1284.6	1368.4	1414.3	1436.6	1447.5	1451.8
110°	917.0	1077.3	1212.7	1314.8	1380.3	1419.9	1438.1	1448.2



TEST NUMBER: P332657-940

CATALOG NUMBER: S124DIP-S1020D1035U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	866.7	1009.1	1137.1	1239.1	1313.0	1360.5	1385.1	1400.3
115°	814.2	929.7	1039.9	1129.4	1201.6	1257.0	1287.4	1296.4
117.5°	784.1	880.4	968.0	1044.4	1106.6	1153.7	1184.7	1192.4
120°	768.7	857.0	933.7	1000.8	1053.6	1095.0	1120.3	1132.4
122.5°	755.3	840.7	911.0	970.1	1014.9	1050.3	1071.9	1083.7
125°	734.0	815.7	882.3	934.7	972.0	999.4	1018.0	1025.0
127.5°	708.2	786.3	852.5	902.3	940.0	964.8	981.0	988.1
130°	689.0	764.3	829.7	880.2	918.4	942.3	958.1	965.1
132.5°	669.7	740.5	804.2	854.6	892.1	918.8	934.0	940.9
135°	641.2	703.5	762.1	809.7	846.9	873.5	889.4	896.3
137.5°	616.1	669.1	718.8	761.7	796.4	822.3	835.4	843.2
140°	601.5	646.9	690.6	730.5	762.9	783.9	797.7	806.3
142.5°	588.8	628.7	666.2	700.8	729.5	748.9	761.0	767.1
145°	571.2	603.2	631.5	657.8	681.2	697.4	707.4	712.9
147.5°	556.8	581.0	602.6	622.8	640.1	653.9	661.6	664.1
150°	549.3	569.7	587.5	603.6	617.8	629.4	634.7	635.6
152.5°	541.4	559.0	575.4	588.6	600.7	610.1	613.3	614.2
155°	529.7	543.9	557.2	567.9	576.8	584.0	586.7	586.7
157.5°	517.0	529.0	540.2	548.8	555.4	560.8	562.4	562.4
160°	509.2	519.0	528.8	535.9	541.3	546.6	547.5	547.5
162.5°	501.3	509.7	517.4	523.8	527.7	533.1	534.0	533.2
165°	490.5	495.9	502.0	506.5	510.1	513.6	512.7	511.8
167.5°	480.0	484.1	489.1	491.8	493.6	495.9	495.7	495.0
170°	473.6	476.3	479.8	482.5	484.3	485.2	484.3	484.3
172.5°	467.9	469.8	472.0	473.9	475.0	475.9	475.0	473.6
175°	460.2	461.1	462.9	462.9	462.9	464.7	462.9	461.1
177.5°	455.2	455.9	455.9	456.6	455.9	456.6	455.2	453.8
180°	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1

(END OF REPORT)