

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: P332646-935

Luminaire Tested: **S124DIP-S1020D810U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332646-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D810U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6410.6 lumens
Efficiency: N/A
Efficacy: 117.8 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

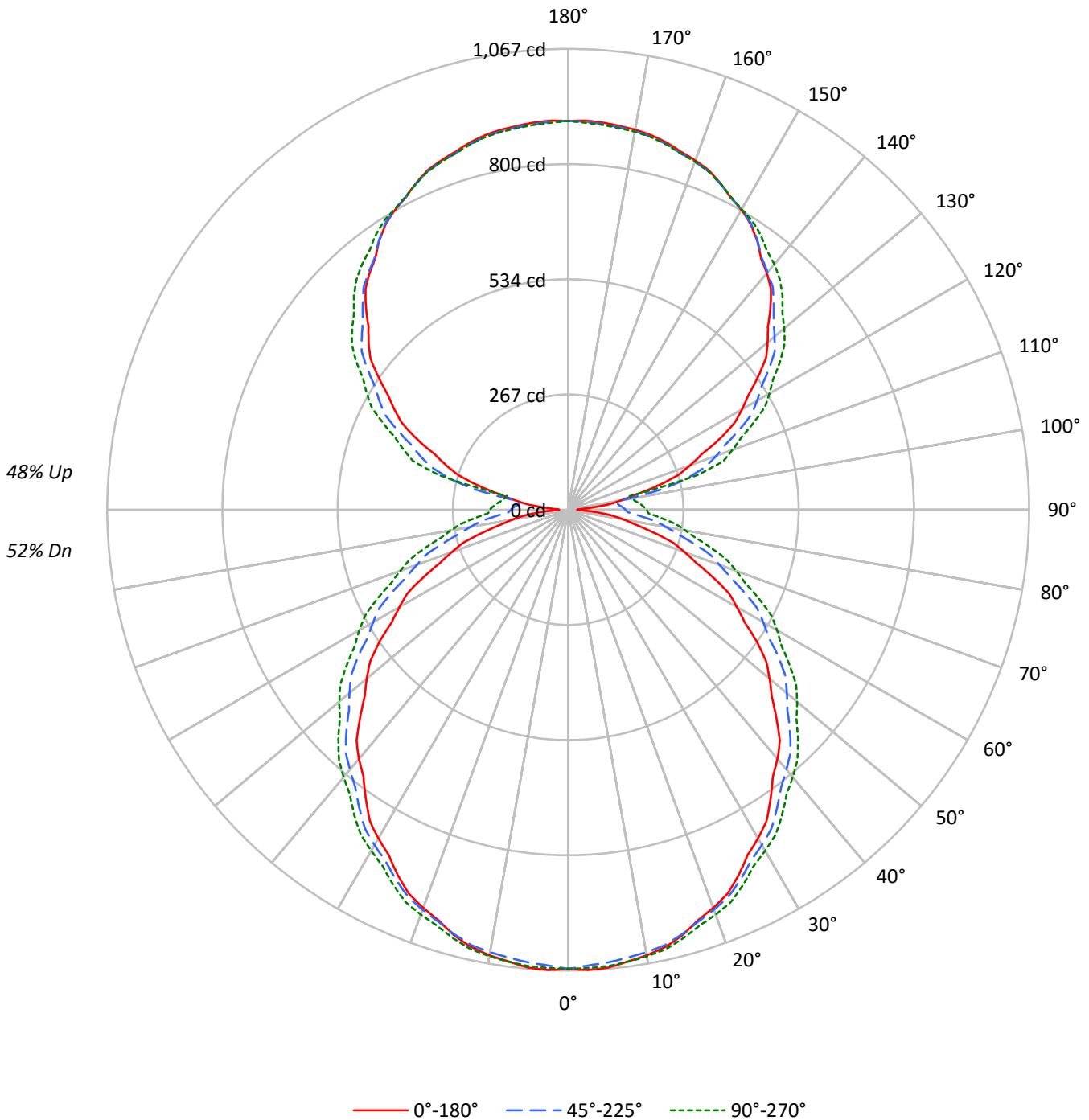
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332646-935

CATALOG NUMBER: S124DIP-S1020D810U935-4F0-1E-UDD-D

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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	48	47	42
2	88	80	73	68	81	74	68	63	63	59	55	53	49	47	43	41	39	34
3	80	70	62	56	74	65	58	52	55	50	46	46	42	39	38	35	33	28
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	30	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	18	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14
9	49	37	29	24	45	34	27	22	29	24	20	25	21	17	21	17	15	13
10	46	33	26	21	42	31	25	20	27	22	18	23	19	16	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8582	8582	8582
5°	8608	8387	8412
10°	8556	8250	8244
15°	8479	8091	8047
20°	8364	7916	7856
25°	8233	7719	7645
30°	8093	7524	7428
35°	7933	7324	7239
40°	7804	7134	7041
45°	7615	6958	6871
50°	7455	6755	6692
55°	7289	6565	6482
60°	7031	6322	6290
65°	6747	6061	6055
70°	6405	5763	5780
75°	5924	5435	5533
80°	5397	5119	5288
85°	4721	4842	5146



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.7	1.6
10°-20°	288.4	4.5
20°-30°	436.1	6.8
30°-40°	527.7	8.2
40°-50°	557.9	8.7
50°-60°	525.0	8.2
60°-70°	435.6	6.8
70°-80°	306.0	4.8
80°-90°	175.6	2.7
90°-100°	133.5	2.1
100°-110°	272.3	4.2
110°-120°	426.5	6.7
120°-130°	505.4	7.9
130°-140°	522.4	8.1
140°-150°	479.4	7.5
150°-160°	384.6	6.0
160°-170°	248.0	3.9
170°-180°	85.5	1.3
0°-30°	825.2	12.9
0°-40°	1352.9	21.1
0°-60°	2435.8	38.0
0°-90°	3352.9	52.3
90°-120°	832.3	13.0
90°-150°	2339.6	36.5
90°-180°	3058.0	47.7
0°-180°	6410.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1064	1060	1052	1061	1061	101
15°	1020	1021	1018	1028	1027	287
25°	933	940	944	956	958	430
35°	817	831	843	859	863	511
45°	681	704	726	746	752	526
55°	533	559	594	617	625	475
65°	369	407	448	476	487	366
75°	205	249	299	331	343	218
85°	63	113	167	201	214	67
90°	21	76	133	170	182	14
95°	52	71	118	153	166	60
105°	213	242	289	322	310	224
115°	386	400	436	462	472	380
125°	537	540	566	590	599	479
135°	662	662	672	692	701	510
145°	762	763	763	770	777	476
155°	834	835	833	835	833	385
165°	880	877	876	881	876	249
175°	900	896	897	902	895	86
180°	900	900	900	900	900	



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CATALOG NUMBER: S124DIP-S1020D810U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1066.9	1066.3	1065.6	1065.0	1064.3	1063.2	1061.4	1059.8	1058.1	1056.4	1057.8
5°	1064.2	1063.4	1062.6	1061.9	1061.1	1059.7	1057.9	1056.0	1054.2	1052.3	1054.5
7.5°	1055.2	1054.7	1054.2	1053.8	1053.3	1052.3	1050.8	1049.2	1047.7	1046.1	1048.5
10°	1047.6	1047.3	1047.1	1046.8	1046.5	1045.7	1044.4	1043.1	1041.7	1040.4	1042.8
12.5°	1037.1	1037.1	1037.0	1036.9	1036.9	1036.4	1035.5	1034.6	1033.7	1032.8	1035.0
15°	1020.2	1020.5	1020.7	1021.0	1021.2	1021.0	1020.2	1019.4	1018.6	1017.8	1020.2
17.5°	997.1	997.9	998.7	999.4	1000.3	1000.6	1000.4	1000.3	1000.1	1000.0	1002.4
20°	980.9	981.7	982.5	983.3	984.1	984.6	984.9	985.2	985.4	985.7	988.3
22.5°	962.8	963.8	964.8	965.9	966.8	967.6	968.0	968.5	969.0	969.5	972.2
25°	933.3	934.9	936.4	938.1	939.6	940.8	941.6	942.5	943.2	944.0	946.9
27.5°	900.4	902.8	905.1	907.4	909.7	911.5	912.7	914.0	915.2	916.4	919.1
30°	878.6	880.6	882.8	884.8	887.0	889.0	890.8	892.7	894.5	896.4	899.3
32.5°	854.7	857.3	859.8	862.4	864.9	867.2	869.3	871.3	873.4	875.5	878.7
35°	816.7	819.8	822.9	826.1	829.3	832.2	834.9	837.5	840.2	842.8	846.5
37.5°	778.3	782.0	785.6	789.3	792.9	796.3	799.6	802.9	806.2	809.5	813.2
40°	753.5	757.0	760.4	763.9	767.3	770.9	774.6	778.3	782.0	785.7	789.6
42.5°	725.0	728.8	732.7	736.6	740.4	744.5	748.8	753.2	757.5	761.9	766.3
45°	680.9	686.0	691.0	696.0	701.0	706.0	711.1	716.1	721.1	726.2	730.6
47.5°	638.8	643.9	649.1	654.4	659.5	665.0	670.8	676.7	682.5	688.3	692.9
50°	608.3	614.2	619.9	625.8	631.5	637.4	643.3	649.0	654.9	660.6	666.0
52.5°	577.8	583.7	589.4	595.3	601.2	607.3	614.0	620.7	627.3	634.0	639.3
55°	533.3	538.9	544.4	550.0	555.5	562.2	570.2	578.2	586.1	594.0	599.3
57.5°	483.5	490.4	497.3	504.2	511.1	518.4	526.3	534.3	542.1	550.0	556.3
60°	451.2	458.1	464.9	471.8	478.7	486.5	495.2	503.9	512.6	521.4	527.4
62.5°	419.7	427.2	434.8	442.3	449.8	457.9	466.7	475.4	484.1	492.8	498.9
65°	369.0	377.5	386.0	394.4	402.9	411.6	420.6	429.6	438.6	447.6	454.2
67.5°	320.2	329.2	338.2	347.2	356.2	365.5	375.1	384.8	394.4	404.1	410.8
70°	286.9	295.9	304.9	313.8	322.9	332.4	342.4	352.5	362.6	372.6	379.8
72.5°	254.5	263.7	272.9	282.1	291.4	301.3	311.9	322.6	333.4	344.1	350.9
75°	204.7	214.6	224.3	234.1	243.9	254.3	265.4	276.6	287.7	298.8	306.2
77.5°	158.3	168.7	179.1	189.4	199.8	210.8	222.5	234.1	245.7	257.4	264.8
80°	129.8	140.3	150.9	161.5	172.1	183.2	194.8	206.5	218.1	229.7	237.7
82.5°	101.2	112.2	123.2	134.2	145.2	156.5	168.2	179.8	191.5	203.1	211.2
85°	63.1	74.2	85.3	96.4	107.5	119.1	131.0	142.8	154.7	166.7	174.6
87.5°	35.6	46.8	57.9	69.0	80.2	91.6	103.4	115.3	127.1	138.9	146.8
90°	21.1	33.3	45.5	57.8	70.0	82.4	95.0	107.5	120.1	132.7	141.2
92.5°	26.6	36.2	45.8	55.4	65.0	76.1	88.7	101.3	113.8	126.4	134.7
95°	52.5	56.1	59.8	63.5	67.1	74.4	85.4	96.3	107.4	118.4	126.4
97.5°	92.6	103.3	114.1	124.8	135.4	137.8	131.8	125.9	119.9	114.0	121.0
100°	123.5	133.1	142.7	152.2	161.8	161.4	151.1	140.8	130.4	120.1	124.7
102.5°	159.0	167.0	175.0	183.0	191.1	198.8	206.2	213.6	221.0	228.4	207.9
105°	213.4	219.6	225.8	232.0	238.1	246.5	257.0	267.5	278.1	288.6	296.5
107.5°	265.8	270.5	275.3	280.1	284.9	292.4	302.7	313.0	323.3	333.6	340.7
110°	300.3	304.5	308.7	312.8	316.9	324.1	334.2	344.4	354.6	364.7	371.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	333.9	337.9	342.1	346.1	350.3	356.9	366.2	375.4	384.7	393.9	399.8
115°	385.5	388.3	391.2	394.0	396.8	402.3	410.7	419.0	427.3	435.7	441.8
117.5°	433.1	435.1	437.1	439.1	441.2	446.3	454.5	462.7	470.9	479.1	484.6
120°	464.4	465.8	467.2	468.6	469.9	474.4	482.0	489.5	497.0	504.5	510.1
122.5°	494.6	495.1	495.6	496.1	496.6	500.6	508.1	515.6	523.0	530.5	535.9
125°	536.6	536.9	537.3	537.6	538.0	541.2	547.6	553.9	560.2	566.5	572.0
127.5°	577.3	577.2	577.0	577.0	576.9	579.6	585.4	591.2	596.9	602.7	607.4
130°	602.7	602.6	602.5	602.4	602.3	604.5	609.2	613.9	618.6	623.3	628.2
132.5°	627.0	627.0	627.0	627.0	627.0	629.0	632.9	636.9	640.8	644.8	649.5
135°	662.1	661.9	661.9	661.7	661.5	662.7	665.1	667.6	670.0	672.4	677.0
137.5°	694.3	694.1	693.9	693.7	693.4	694.1	695.7	697.2	698.9	700.4	704.6
140°	715.3	715.3	715.4	715.4	715.4	715.7	716.4	716.9	717.5	718.0	721.9
142.5°	733.2	733.7	734.2	734.7	735.1	735.4	735.4	735.5	735.5	735.5	738.8
145°	761.9	762.1	762.2	762.5	762.7	762.8	762.8	762.8	762.8	762.8	764.5
147.5°	785.0	785.5	786.1	786.7	787.2	787.5	787.3	787.1	787.0	786.9	787.2
150°	801.7	801.9	802.3	802.6	803.0	803.1	802.9	802.8	802.6	802.5	802.5
152.5°	814.7	815.1	815.5	816.0	816.4	816.5	816.2	816.0	815.6	815.4	815.6
155°	834.1	834.2	834.4	834.6	834.7	834.6	834.1	833.6	833.2	832.8	833.4
157.5°	850.7	850.6	850.5	850.4	850.3	850.0	849.5	849.0	848.5	848.0	848.8
160°	860.4	859.9	859.5	859.0	858.6	858.2	858.2	858.0	857.8	857.6	858.6
162.5°	869.0	868.4	867.8	867.3	866.7	866.3	866.2	866.1	865.9	865.7	866.7
165°	879.9	879.2	878.4	877.6	876.9	876.5	876.5	876.5	876.5	876.5	877.7
167.5°	888.5	887.7	886.9	886.1	885.4	884.9	884.8	884.8	884.7	884.6	885.9
170°	893.4	892.4	891.6	890.6	889.8	889.4	889.5	889.7	889.8	890.0	891.1
172.5°	896.6	895.7	894.8	893.9	893.0	892.6	892.8	892.9	893.0	893.2	894.4
175°	900.1	899.1	898.3	897.4	896.5	896.1	896.3	896.4	896.6	896.7	898.0
177.5°	901.7	900.9	900.0	899.1	898.4	898.0	898.3	898.5	898.8	899.0	899.9
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1059.4	1060.8	1062.3	1062.9	1062.7	1062.5	1062.3	1062.1
5°	1056.5	1058.7	1060.8	1061.7	1061.4	1061.2	1060.9	1060.7
7.5°	1050.9	1053.3	1055.7	1056.7	1056.4	1056.2	1055.9	1055.7
10°	1045.2	1047.6	1050.0	1051.0	1050.8	1050.5	1050.2	1050.0
12.5°	1037.2	1039.3	1041.5	1042.6	1042.5	1042.4	1042.4	1042.3
15°	1022.6	1024.9	1027.3	1028.4	1028.1	1027.9	1027.6	1027.3
17.5°	1004.8	1007.3	1009.7	1010.8	1010.6	1010.4	1010.1	1010.0
20°	990.9	993.6	996.3	997.6	997.6	997.6	997.6	997.6
22.5°	974.7	977.4	980.1	981.6	982.1	982.4	982.8	983.3
25°	949.9	952.7	955.6	957.3	957.5	957.8	958.0	958.3
27.5°	921.8	924.5	927.2	928.7	929.0	929.4	929.6	930.0
30°	902.2	905.1	908.0	909.7	910.2	910.8	911.4	911.9
32.5°	882.1	885.5	888.8	890.7	891.2	891.7	892.3	892.9
35°	850.2	853.9	857.6	859.9	860.7	861.4	862.3	863.1
37.5°	817.0	820.8	824.5	826.8	827.7	828.5	829.3	830.2
40°	793.6	797.5	801.6	804.1	805.1	806.2	807.3	808.3
42.5°	770.7	775.1	779.5	782.0	782.9	783.8	784.6	785.4
45°	735.1	739.7	744.2	747.1	748.4	749.7	751.1	752.3
47.5°	697.6	702.2	707.0	710.1	711.6	713.3	714.8	716.4
50°	671.2	676.6	681.8	685.3	686.9	688.5	690.0	691.6
52.5°	644.6	649.9	655.2	658.6	660.2	661.8	663.4	665.0
55°	604.6	609.9	615.2	618.6	620.2	621.8	623.4	625.0
57.5°	562.6	568.9	575.1	579.0	580.5	582.0	583.5	585.0
60°	533.6	539.7	545.7	549.8	552.0	554.1	556.2	558.3
62.5°	505.0	511.1	517.2	521.2	523.4	525.5	527.6	529.8
65°	460.8	467.4	474.1	478.5	480.5	482.7	484.7	486.9
67.5°	417.5	424.2	430.9	435.3	437.4	439.5	441.5	443.6
70°	386.8	394.0	401.1	405.7	407.5	409.4	411.2	413.1
72.5°	357.9	364.8	371.8	376.3	378.3	380.4	382.5	384.5
75°	313.6	321.0	328.4	333.3	335.7	338.1	340.4	342.9
77.5°	272.4	279.9	287.4	292.5	295.0	297.6	300.1	302.6
80°	245.6	253.6	261.5	266.5	268.6	270.8	272.9	275.0
82.5°	219.4	227.6	235.7	240.9	243.2	245.6	247.9	250.2
85°	182.5	190.5	198.4	203.7	206.4	209.0	211.6	214.3
87.5°	154.6	162.5	170.3	175.5	177.8	180.2	182.6	184.9
90°	149.8	158.3	166.9	172.5	174.9	177.3	179.7	182.1
92.5°	143.1	151.4	159.8	165.1	167.3	169.4	171.6	173.8
95°	134.5	142.5	150.5	155.8	158.3	160.9	163.4	165.9
97.5°	128.0	135.0	142.1	146.8	149.2	151.6	154.0	156.4
100°	129.3	133.9	138.4	141.8	143.8	145.8	147.8	149.8
102.5°	187.4	166.9	146.4	137.2	139.3	141.4	143.4	145.6
105°	304.5	312.5	320.5	322.8	319.5	316.2	313.0	309.7
107.5°	347.8	355.1	362.2	367.0	369.5	372.0	374.4	376.9
110°	377.5	383.9	390.3	394.8	397.4	399.8	402.4	405.0



TEST NUMBER: P332646-935

CATALOG NUMBER: S124DIP-S1020D810U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	405.5	411.4	417.2	421.4	424.1	426.8	429.5	432.1
115°	447.9	454.0	460.1	464.1	466.0	467.8	469.7	471.5
117.5°	490.0	495.4	500.9	504.6	506.7	508.8	510.8	512.9
120°	515.7	521.2	526.8	530.5	532.4	534.3	536.1	537.9
122.5°	541.4	546.9	552.3	555.9	557.5	559.0	560.7	562.3
125°	577.5	582.9	588.4	592.0	593.7	595.5	597.2	599.0
127.5°	612.1	616.7	621.4	624.6	626.3	627.9	629.6	631.3
130°	633.1	638.0	642.9	646.2	647.7	649.4	650.9	652.6
132.5°	654.2	658.8	663.6	666.7	668.1	669.6	671.1	672.5
135°	681.6	686.0	690.6	693.8	695.7	697.6	699.5	701.4
137.5°	708.8	713.0	717.1	719.9	721.1	722.3	723.6	724.8
140°	725.7	729.7	733.6	736.2	737.7	739.2	740.6	742.1
142.5°	742.2	745.5	748.9	751.1	752.3	753.4	754.5	755.7
145°	766.2	767.9	769.7	771.2	772.6	774.0	775.3	776.7
147.5°	787.5	787.8	788.2	788.8	789.8	790.8	791.9	792.8
150°	802.5	802.5	802.5	802.5	802.7	802.8	803.0	803.1
152.5°	815.9	816.1	816.3	816.4	816.3	816.2	816.1	816.1
155°	834.0	834.6	835.2	835.3	834.7	834.3	833.9	833.4
157.5°	849.5	850.3	851.1	851.1	850.3	849.5	848.8	848.0
160°	859.5	860.4	861.3	861.3	860.4	859.5	858.6	857.6
162.5°	867.5	868.4	869.4	869.3	868.2	867.2	866.3	865.2
165°	878.9	880.1	881.3	881.2	879.9	878.6	877.2	875.8
167.5°	887.3	888.6	889.8	889.8	888.3	886.7	885.3	883.8
170°	892.3	893.5	894.8	894.6	893.1	891.7	890.1	888.6
172.5°	895.6	896.8	898.0	897.8	896.2	894.6	892.9	891.3
175°	899.4	900.8	902.1	901.9	900.1	898.3	896.5	894.7
177.5°	901.0	901.9	902.8	902.6	901.1	899.7	898.3	896.8
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1

(END OF REPORT)