

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: P332628-940

Luminaire Tested: **S124DIP-S1020D365U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332628-940
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-S1020D365U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5057.6 lumens
Efficiency: N/A
Efficacy: 116.3 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: Semi-Direct

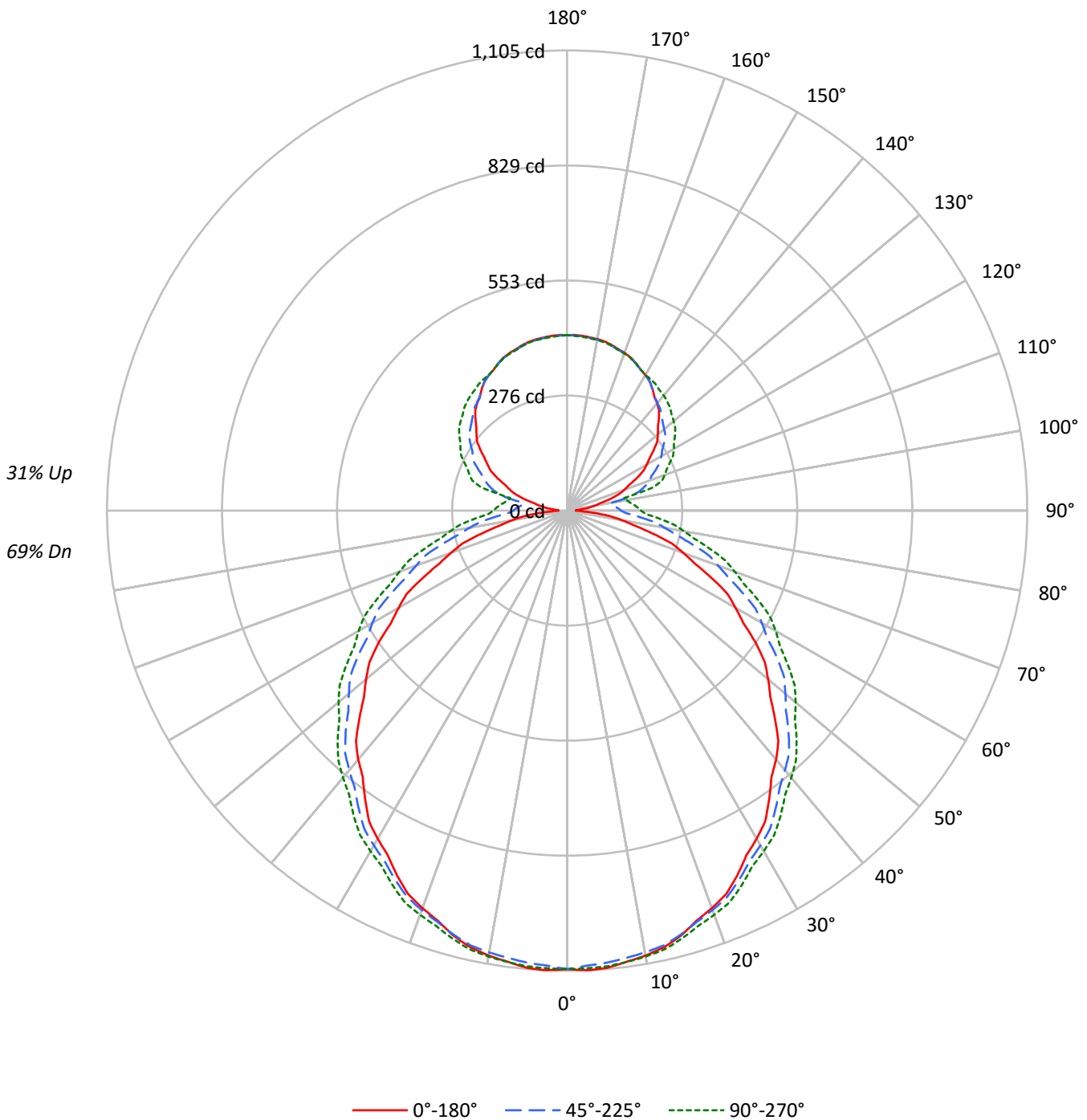
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	69
1	101	96	91	87	95	90	86	83	80	77	74	71	69	66	63	61	59	55
2	91	83	76	70	85	78	72	67	69	65	60	62	58	54	54	51	49	45
3	83	72	64	58	78	68	61	55	61	55	50	54	49	45	48	44	41	37
4	75	64	55	48	71	60	52	46	54	47	42	48	43	39	42	38	35	32
5	69	57	48	41	65	54	46	40	48	41	36	43	37	33	38	34	30	27
6	64	51	42	36	60	48	40	34	43	37	32	39	33	29	34	30	26	24
7	59	46	37	31	55	44	36	30	39	33	28	35	30	26	31	27	23	21
8	55	42	33	28	51	40	32	27	36	29	25	32	27	23	29	24	21	19
9	51	38	30	25	48	36	29	24	33	26	22	30	24	20	26	22	19	17
10	48	35	27	22	45	33	26	21	30	24	20	27	22	18	25	20	17	15

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.3	2.1
10°-20°	298.7	5.9
20°-30°	451.7	8.9
30°-40°	546.5	10.8
40°-50°	577.7	11.4
50°-60°	543.7	10.8
60°-70°	451.1	8.9
70°-80°	316.9	6.3
80°-90°	180.4	3.6
90°-100°	120.8	2.4
100°-110°	170.6	3.4
110°-120°	228.6	4.5
120°-130°	252.9	5.0
130°-140°	251.6	5.0
140°-150°	225.8	4.5
150°-160°	180.0	3.6
160°-170°	116.1	2.3
170°-180°	40.0	0.8
0°-30°	854.6	16.9
0°-40°	1401.1	27.7
0°-60°	2522.6	49.9
0°-90°	3471.0	68.6
90°-120°	520.0	10.3
90°-150°	1250.4	24.7
90°-180°	1587.0	31.4
0°-180°	5057.6	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	74	129	165	177	14
95°	33	64	114	148	161	35
105°	106	134	180	211	212	112
115°	184	198	236	262	272	182
125°	254	256	284	308	316	227
135°	311	312	321	340	349	240
145°	357	357	357	365	370	223
155°	390	391	390	391	390	180
165°	412	410	410	413	410	116
175°	421	420	420	422	419	40
180°	421	421	421	421	421	



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CATALOG NUMBER: S124DIP-S1020D365U940-4F0-1E-UDD-D

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	48.0	59.4	70.7	82.0	93.7	105.8	118.0	130.1	142.1	150.3
90°	20.7	32.4	44.1	55.8	67.6	79.6	91.9	104.3	116.6	129.0	137.3
92.5°	22.7	32.6	42.5	52.4	62.3	73.5	85.8	98.2	110.5	122.8	131.0
95°	33.3	40.0	46.6	53.3	60.0	69.0	80.3	91.6	102.9	114.2	122.0
97.5°	51.4	60.6	69.9	79.2	88.5	94.7	98.0	101.3	104.6	107.9	115.1
100°	65.3	73.7	82.0	90.4	98.8	103.4	104.5	105.5	106.6	107.5	113.8
102.5°	81.9	89.1	96.2	103.4	110.6	118.8	128.0	137.1	146.3	155.6	149.9
105°	105.9	111.8	117.8	123.7	129.6	137.8	148.2	158.7	169.2	179.7	187.2
107.5°	130.4	135.1	139.7	144.5	149.2	156.6	166.6	176.6	186.7	196.8	203.8
110°	146.0	150.1	154.1	158.1	162.2	169.2	179.2	189.2	199.2	209.3	215.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	161.1	165.0	168.7	172.5	176.3	182.8	192.2	201.5	210.9	220.2	226.2
115°	184.5	187.2	189.8	192.5	195.2	200.9	209.6	218.3	227.0	235.7	241.8
117.5°	206.6	208.4	210.2	211.9	213.7	218.7	227.0	235.3	243.7	252.0	257.6
120°	220.8	221.9	223.0	224.1	225.2	229.7	237.6	245.4	253.3	261.2	266.8
122.5°	234.9	235.2	235.6	235.9	236.2	240.2	247.8	255.4	263.0	270.6	276.2
125°	253.9	253.9	253.9	253.9	254.0	257.3	263.9	270.7	277.4	284.1	289.5
127.5°	272.8	272.6	272.4	272.2	272.0	274.6	280.3	285.9	291.4	297.0	301.9
130°	284.2	284.0	283.7	283.6	283.4	285.5	290.2	294.7	299.3	303.9	308.9
132.5°	295.5	295.3	295.2	295.1	294.9	296.8	300.5	304.3	308.1	311.8	316.6
135°	311.3	311.2	311.2	311.1	311.0	312.1	314.3	316.5	318.7	320.8	325.4
137.5°	326.4	326.1	325.9	325.7	325.4	325.9	327.1	328.3	329.6	330.8	335.0
140°	336.2	336.1	335.9	335.8	335.6	335.8	336.3	336.6	337.1	337.4	341.3
142.5°	344.0	344.2	344.5	344.6	344.8	344.9	344.8	344.7	344.6	344.6	347.9
145°	357.3	357.3	357.2	357.1	357.1	357.0	357.0	357.0	357.0	357.0	358.7
147.5°	368.1	368.3	368.4	368.5	368.6	368.6	368.5	368.5	368.4	368.4	368.6
150°	375.9	375.9	375.9	375.9	375.9	375.9	375.9	375.8	375.7	375.7	375.7
152.5°	381.5	381.7	381.8	382.0	382.2	382.2	382.1	381.9	381.8	381.7	381.8
155°	390.5	390.6	390.6	390.7	390.7	390.7	390.5	390.2	390.0	389.9	390.1
157.5°	398.2	398.1	398.1	398.1	398.1	397.9	397.7	397.4	397.2	397.0	397.3
160°	402.8	402.5	402.3	402.2	401.9	401.8	401.7	401.6	401.5	401.4	401.9
162.5°	406.8	406.5	406.3	406.0	405.7	405.6	405.5	405.4	405.4	405.3	405.7
165°	411.9	411.5	411.2	410.8	410.5	410.3	410.3	410.3	410.3	410.3	410.9
167.5°	415.9	415.5	415.2	414.8	414.5	414.3	414.2	414.2	414.1	414.1	414.7
170°	418.2	417.8	417.3	417.0	416.5	416.3	416.4	416.5	416.5	416.6	417.1
172.5°	419.7	419.3	418.8	418.5	418.0	417.9	417.9	418.0	418.0	418.1	418.7
175°	421.3	420.9	420.5	420.1	419.6	419.5	419.5	419.6	419.7	419.7	420.4
177.5°	422.1	421.7	421.3	420.9	420.5	420.4	420.5	420.6	420.7	420.8	421.3
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3



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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°	158.3	166.3	174.3	179.5	182.0	184.4	186.8	189.3
90°	145.7	154.1	162.5	167.8	170.1	172.5	174.8	177.1
92.5°	139.1	147.2	155.4	160.6	162.8	165.1	167.3	169.4
95°	129.8	137.7	145.4	150.6	153.2	155.7	158.3	160.8
97.5°	122.3	129.6	136.8	141.6	144.1	146.5	148.9	151.3
100°	119.9	126.2	132.4	136.5	138.5	140.4	142.5	144.5
102.5°	144.3	138.6	133.0	131.2	133.3	135.5	137.6	139.7
105°	194.7	202.2	209.6	213.2	212.9	212.5	212.2	211.9
107.5°	210.9	217.9	225.0	229.6	231.8	234.2	236.4	238.6
110°	222.1	228.5	235.1	239.4	241.8	244.2	246.6	249.1



TEST NUMBER: P332628-940

CATALOG NUMBER: S124DIP-S1020D365U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	232.3	238.4	244.4	248.7	251.1	253.6	256.0	258.5
115°	248.0	254.2	260.4	264.4	266.4	268.2	270.2	272.1
117.5°	263.3	269.0	274.6	278.6	280.7	282.9	285.1	287.2
120°	272.4	278.0	283.7	287.5	289.5	291.6	293.6	295.7
122.5°	281.8	287.3	292.8	296.6	298.4	300.2	302.0	303.9
125°	295.0	300.3	305.8	309.3	311.0	312.8	314.5	316.2
127.5°	306.7	311.7	316.6	319.9	321.7	323.5	325.3	327.2
130°	314.0	319.0	324.0	327.3	328.9	330.6	332.2	333.9
132.5°	321.4	326.2	331.0	334.1	335.7	337.3	338.9	340.5
135°	329.9	334.5	338.9	342.1	343.9	345.7	347.5	349.3
137.5°	339.1	343.3	347.5	350.2	351.5	352.8	354.2	355.5
140°	345.0	348.7	352.6	355.2	356.6	358.0	359.4	360.9
142.5°	351.2	354.4	357.7	359.9	361.1	362.2	363.4	364.5
145°	360.5	362.2	363.9	365.4	366.6	367.8	369.1	370.3
147.5°	368.9	369.2	369.4	370.1	371.0	371.9	372.9	373.8
150°	375.7	375.7	375.7	375.7	375.8	375.9	375.9	375.9
152.5°	381.9	382.0	382.2	382.2	382.1	382.1	382.1	382.0
155°	390.4	390.7	390.9	391.0	390.7	390.6	390.4	390.1
157.5°	397.7	398.1	398.4	398.4	398.1	397.7	397.3	397.0
160°	402.3	402.8	403.1	403.1	402.8	402.3	401.9	401.4
162.5°	406.1	406.5	407.0	406.9	406.4	406.0	405.5	405.0
165°	411.4	412.0	412.6	412.5	411.9	411.3	410.6	410.0
167.5°	415.4	416.0	416.5	416.5	415.8	415.1	414.4	413.8
170°	417.8	418.3	418.8	418.7	418.1	417.4	416.7	416.0
172.5°	419.3	419.8	420.4	420.3	419.5	418.7	418.0	417.2
175°	421.1	421.7	422.3	422.2	421.3	420.5	419.6	418.8
177.5°	421.8	422.2	422.7	422.5	421.9	421.2	420.5	419.8
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3

(END OF REPORT)