

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: P332629

Luminaire Tested: **S124DIP-S1020D365U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332629
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D365U835-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5477.8 lumens
Efficiency: N/A
Efficacy: 125.9 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

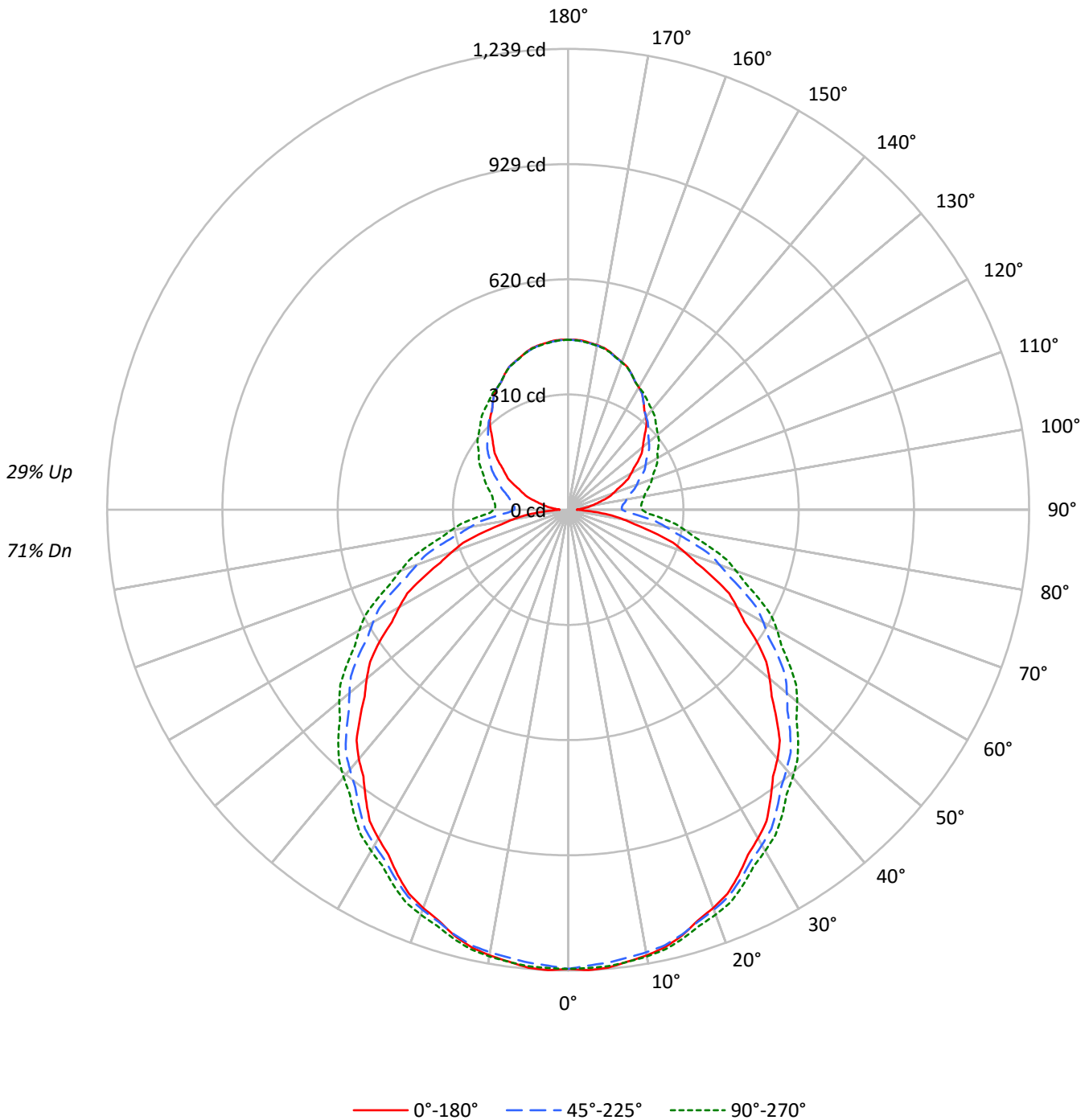
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	101	96	91	87	95	91	87	83	81	78	75	73	70	68	64	63	61	57
2	91	83	76	70	86	79	72	67	70	65	61	63	59	56	56	53	50	46
3	83	73	64	58	78	69	61	55	62	56	51	55	50	46	49	45	42	39
4	76	64	55	49	71	61	53	47	55	48	43	49	44	39	44	39	36	33
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	35	31	28
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	24
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	28	24	22
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	30	25	21	19
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	17
10	48	35	27	22	45	34	26	22	31	24	20	28	23	19	25	21	17	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9968	9968	9968
5°	9998	9741	9769
10°	9937	9582	9575
15°	9848	9397	9346
20°	9714	9194	9123
25°	9563	8966	8879
30°	9399	8739	8627
35°	9213	8507	8407
40°	9065	8285	8178
45°	8844	8081	7981
50°	8658	7846	7773
55°	8466	7625	7529
60°	8166	7342	7306
65°	7837	7040	7032
70°	7439	6694	6714
75°	6882	6312	6425
80°	6266	5946	6141
85°	5484	5623	5977



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.9	2.1
10°-20°	335.0	6.1
20°-30°	506.5	9.2
30°-40°	612.9	11.2
40°-50°	647.9	11.8
50°-60°	609.8	11.1
60°-70°	505.9	9.2
70°-80°	355.4	6.5
80°-90°	202.3	3.7
90°-100°	149.4	2.7
100°-110°	177.6	3.2
110°-120°	210.8	3.8
120°-130°	233.2	4.3
130°-140°	238.8	4.4
140°-150°	223.4	4.1
150°-160°	185.5	3.4
160°-170°	123.4	2.3
170°-180°	43.2	0.8
0°-30°	958.4	17.5
0°-40°	1571.3	28.7
0°-60°	2829.0	51.6
0°-90°	3892.5	71.1
90°-120°	537.8	9.8
90°-150°	1233.2	22.5
90°-180°	1585.0	28.9
0°-180°	5477.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1236	1232	1222	1233	1232	117
15°	1185	1186	1182	1194	1193	334
25°	1084	1092	1096	1111	1113	499
35°	948	965	979	997	1002	594
45°	791	817	843	866	874	611
55°	619	649	690	716	726	552
65°	429	473	520	553	566	425
75°	238	289	347	384	398	253
85°	73	132	194	234	249	78
90°	23	83	145	185	199	16
95°	39	89	147	184	198	38
105°	95	124	175	210	223	101
115°	162	176	218	247	258	161
125°	230	230	263	287	296	205
135°	292	295	304	325	333	226
145°	353	353	353	361	366	221
155°	403	403	402	404	402	185
165°	438	438	437	439	438	124
175°	456	454	454	456	454	43
180°	457	457	457	457	457	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1239.1	1238.4	1237.6	1236.9	1236.1	1234.8	1232.8	1230.9	1228.9	1226.9	1228.6
5°	1236.0	1235.1	1234.2	1233.3	1232.4	1230.8	1228.7	1226.5	1224.4	1222.2	1224.7
7.5°	1225.5	1225.0	1224.4	1223.9	1223.3	1222.2	1220.4	1218.6	1216.8	1215.0	1217.8
10°	1216.7	1216.4	1216.1	1215.8	1215.5	1214.5	1213.0	1211.5	1209.9	1208.4	1211.2
12.5°	1204.5	1204.5	1204.4	1204.3	1204.3	1203.7	1202.7	1201.6	1200.6	1199.5	1202.1
15°	1184.9	1185.2	1185.5	1185.8	1186.1	1185.8	1184.9	1184.0	1183.0	1182.1	1184.9
17.5°	1158.1	1159.0	1159.9	1160.8	1161.8	1162.1	1161.9	1161.8	1161.6	1161.4	1164.2
20°	1139.3	1140.2	1141.1	1142.0	1143.0	1143.6	1143.9	1144.2	1144.5	1144.8	1147.9
22.5°	1118.2	1119.4	1120.6	1121.8	1122.9	1123.8	1124.3	1124.9	1125.4	1126.0	1129.1
25°	1084.0	1085.8	1087.6	1089.5	1091.3	1092.7	1093.6	1094.6	1095.5	1096.4	1099.8
27.5°	1045.8	1048.5	1051.2	1053.9	1056.6	1058.7	1060.1	1061.5	1062.9	1064.3	1067.5
30°	1020.4	1022.8	1025.3	1027.7	1030.2	1032.5	1034.6	1036.8	1038.9	1041.1	1044.5
32.5°	992.7	995.7	998.6	1001.6	1004.5	1007.2	1009.6	1012.0	1014.4	1016.8	1020.6
35°	948.5	952.2	955.8	959.5	963.2	966.6	969.7	972.7	975.8	978.9	983.2
37.5°	903.9	908.2	912.4	916.7	920.9	924.9	928.7	932.5	936.4	940.2	944.5
40°	875.2	879.2	883.2	887.2	891.2	895.3	899.6	903.9	908.2	912.5	917.1
42.5°	842.0	846.5	851.0	855.5	859.9	864.7	869.7	874.8	879.8	884.9	890.0
45°	790.8	796.7	802.5	808.4	814.2	820.0	825.9	831.7	837.5	843.4	848.6
47.5°	741.9	747.9	753.9	760.0	766.0	772.4	779.1	785.9	792.7	799.4	804.8
50°	706.5	713.3	720.0	726.8	733.5	740.3	747.1	753.8	760.6	767.3	773.5
52.5°	671.1	677.9	684.6	691.4	698.2	705.4	713.1	720.9	728.6	736.4	742.5
55°	619.4	625.9	632.3	638.8	645.2	653.0	662.3	671.5	680.7	689.9	696.1
57.5°	561.6	569.6	577.6	585.6	593.6	602.1	611.3	620.5	629.6	638.8	646.1
60°	524.0	532.0	540.0	548.0	556.0	565.0	575.2	585.3	595.4	605.6	612.6
62.5°	487.5	496.2	505.0	513.7	522.4	531.8	542.0	552.1	562.3	572.4	579.5
65°	428.6	438.4	448.3	458.1	467.9	478.1	488.5	499.0	509.4	519.9	527.5
67.5°	371.9	382.4	392.8	403.3	413.7	424.5	435.7	446.9	458.1	469.3	477.1
70°	333.2	343.7	354.1	364.5	375.0	386.1	397.7	409.4	421.1	432.8	441.1
72.5°	295.6	306.3	317.0	327.7	338.4	349.9	362.3	374.7	387.2	399.6	407.6
75°	237.8	249.2	260.5	271.9	283.3	295.4	308.3	321.2	334.1	347.0	355.6
77.5°	183.9	195.9	208.0	220.0	232.1	244.8	258.4	271.9	285.4	298.9	307.6
80°	150.7	163.0	175.3	187.6	199.9	212.8	226.3	239.8	253.3	266.8	276.1
82.5°	117.5	130.3	143.1	155.9	168.6	181.8	195.3	208.8	222.4	235.9	245.3
85°	73.3	86.2	99.1	112.0	124.9	138.3	152.1	165.9	179.7	193.6	202.8
87.5°	41.1	53.8	66.6	79.3	92.0	105.1	118.7	132.3	145.9	159.4	168.5
90°	23.2	36.3	49.5	62.6	75.8	89.3	103.1	117.0	130.8	144.7	154.0
92.5°	28.6	40.6	52.7	64.7	76.8	89.6	103.3	116.9	130.6	144.2	153.2
95°	39.2	50.0	60.9	71.7	82.6	94.6	107.7	120.8	134.0	147.1	155.7
97.5°	53.3	62.6	71.9	81.2	90.5	101.7	114.8	128.0	141.1	154.2	162.5
100°	64.7	73.0	81.3	89.6	97.9	108.4	121.1	133.8	146.5	159.1	167.6
102.5°	77.7	84.8	91.9	99.1	106.2	116.0	128.3	140.7	153.1	165.5	173.8
105°	94.8	101.0	107.2	113.4	119.7	128.6	140.3	152.0	163.7	175.4	183.3
107.5°	115.3	120.5	125.6	130.7	135.9	143.8	154.6	165.5	176.3	187.1	194.8
110°	128.4	132.8	137.3	141.8	146.2	153.8	164.5	175.1	185.8	196.5	203.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.0	145.8	149.7	153.5	157.3	164.3	174.4	184.6	194.7	204.8	211.6
115°	162.4	165.1	167.9	170.7	173.4	179.6	189.3	199.0	208.7	218.3	225.0
117.5°	182.9	184.6	186.3	188.0	189.8	195.1	204.2	213.2	222.3	231.3	237.4
120°	195.6	196.8	198.1	199.3	200.6	205.5	214.2	222.9	231.5	240.2	246.0
122.5°	210.0	210.3	210.6	211.0	211.3	215.6	223.9	232.2	240.5	248.8	254.7
125°	229.9	229.6	229.3	229.0	228.7	232.3	239.9	247.5	255.1	262.7	268.4
127.5°	248.9	248.9	248.8	248.7	248.6	251.5	257.3	263.0	268.8	274.6	280.0
130°	261.4	261.3	261.3	261.2	261.1	263.5	268.4	273.4	278.3	283.2	288.6
132.5°	275.3	275.1	275.0	274.8	274.7	276.6	280.4	284.3	288.2	292.1	297.2
135°	292.2	292.6	293.1	293.6	294.1	295.4	297.5	299.7	301.8	304.0	308.7
137.5°	312.1	312.0	311.9	311.8	311.8	312.3	313.5	314.6	315.8	317.0	321.3
140°	325.4	325.2	325.1	324.9	324.8	324.9	325.2	325.5	325.8	326.1	330.0
142.5°	336.4	336.5	336.6	336.7	336.8	336.7	336.5	336.3	336.0	335.8	339.2
145°	353.0	353.0	353.0	353.0	353.0	353.1	353.1	353.2	353.3	353.4	355.1
147.5°	369.7	369.7	369.8	369.9	369.9	369.9	369.9	369.8	369.8	369.7	369.9
150°	379.8	379.8	379.9	379.9	379.9	379.9	379.9	379.9	379.9	379.9	379.9
152.5°	388.3	388.5	388.6	388.7	388.9	388.9	389.0	389.1	389.1	389.2	389.4
155°	402.8	402.8	402.8	402.8	402.8	402.8	402.7	402.6	402.6	402.5	402.8
157.5°	415.3	415.1	415.0	414.9	414.7	414.6	414.6	414.6	414.6	414.6	414.8
160°	422.6	422.5	422.5	422.4	422.3	422.2	422.2	422.1	422.0	421.9	422.2
162.5°	429.4	429.2	429.0	428.8	428.6	428.5	428.4	428.3	428.2	428.1	428.6
165°	438.5	438.3	438.1	437.8	437.6	437.4	437.2	437.1	436.9	436.8	437.2
167.5°	445.5	445.2	444.9	444.5	444.2	444.0	444.1	444.1	444.1	444.1	444.6
170°	449.5	449.1	448.7	448.3	447.9	447.8	447.8	447.9	448.0	448.1	448.5
172.5°	452.3	452.0	451.6	451.3	451.0	450.8	450.8	450.9	450.9	450.9	451.4
175°	456.2	455.8	455.4	455.0	454.6	454.4	454.3	454.2	454.2	454.1	454.6
177.5°	457.5	457.2	456.8	456.5	456.2	456.1	456.1	456.1	456.1	456.1	456.5
180°	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1230.4	1232.1	1233.8	1234.5	1234.3	1234.0	1233.8	1233.6
5°	1227.1	1229.6	1232.1	1233.1	1232.8	1232.5	1232.2	1231.9
7.5°	1220.6	1223.3	1226.1	1227.3	1227.0	1226.7	1226.4	1226.1
10°	1213.9	1216.7	1219.5	1220.7	1220.4	1220.1	1219.8	1219.5
12.5°	1204.6	1207.1	1209.6	1210.9	1210.8	1210.7	1210.7	1210.6
15°	1187.7	1190.4	1193.2	1194.4	1194.1	1193.8	1193.5	1193.2
17.5°	1167.0	1169.9	1172.7	1174.0	1173.7	1173.5	1173.2	1173.0
20°	1150.9	1154.0	1157.1	1158.6	1158.6	1158.6	1158.6	1158.6
22.5°	1132.1	1135.2	1138.3	1140.1	1140.6	1141.0	1141.5	1142.0
25°	1103.2	1106.5	1109.9	1111.8	1112.1	1112.4	1112.7	1113.0
27.5°	1070.6	1073.7	1076.9	1078.6	1079.0	1079.4	1079.7	1080.1
30°	1047.9	1051.2	1054.6	1056.6	1057.2	1057.8	1058.5	1059.1
32.5°	1024.5	1028.4	1032.3	1034.5	1035.1	1035.7	1036.3	1037.0
35°	987.5	991.8	996.1	998.7	999.6	1000.5	1001.5	1002.4
37.5°	948.9	953.3	957.6	960.3	961.3	962.3	963.2	964.2
40°	921.7	926.3	931.0	933.9	935.1	936.3	937.6	938.8
42.5°	895.1	900.2	905.3	908.3	909.3	910.3	911.3	912.2
45°	853.8	859.1	864.3	867.7	869.2	870.7	872.3	873.8
47.5°	810.2	815.6	821.1	824.7	826.5	828.4	830.2	832.1
50°	779.6	785.8	791.9	795.9	797.8	799.6	801.4	803.3
52.5°	748.7	754.8	761.0	764.9	766.8	768.6	770.5	772.3
55°	702.2	708.4	714.5	718.5	720.3	722.2	724.0	725.9
57.5°	653.4	660.7	668.0	672.5	674.2	676.0	677.7	679.4
60°	619.7	626.8	633.8	638.6	641.1	643.5	646.0	648.4
62.5°	586.5	593.6	600.7	605.4	607.9	610.3	612.8	615.3
65°	535.2	542.9	550.6	555.7	558.1	560.6	563.0	565.5
67.5°	484.9	492.7	500.5	505.6	508.0	510.4	512.8	515.2
70°	449.3	457.6	465.9	471.2	473.3	475.5	477.6	479.8
72.5°	415.7	423.7	431.8	437.0	439.4	441.8	444.2	446.6
75°	364.2	372.8	381.4	387.1	389.9	392.7	395.4	398.2
77.5°	316.4	325.1	333.8	339.7	342.6	345.6	348.5	351.5
80°	285.3	294.5	303.7	309.5	312.0	314.5	316.9	319.4
82.5°	254.8	264.3	273.7	279.8	282.5	285.2	287.9	290.6
85°	212.0	221.2	230.4	236.6	239.7	242.7	245.8	248.9
87.5°	177.5	186.5	195.5	201.3	204.1	206.8	209.5	212.3
90°	163.4	172.8	182.2	188.2	190.8	193.4	196.0	198.6
92.5°	162.1	171.1	180.0	185.8	188.3	190.9	193.4	196.0
95°	164.2	172.7	181.3	186.9	189.7	192.4	195.2	198.0
97.5°	170.9	179.2	187.5	193.0	195.6	198.3	200.9	203.6
100°	176.0	184.5	193.0	198.3	200.4	202.6	204.7	206.9
102.5°	182.0	190.3	198.6	203.9	206.4	208.8	211.3	213.8
105°	191.2	199.1	207.0	212.3	215.0	217.7	220.4	223.1
107.5°	202.6	210.4	218.2	223.2	225.3	227.5	229.7	231.9
110°	210.3	217.2	224.1	228.9	231.6	234.3	237.0	239.7



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CATALOG NUMBER: S124DIP-S1020D365U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	218.4	225.2	232.0	236.6	239.1	241.6	244.1	246.6
115°	231.7	238.4	245.1	249.4	251.5	253.6	255.7	257.7
117.5°	243.6	249.7	255.8	260.0	262.3	264.6	266.9	269.2
120°	251.7	257.5	263.2	267.4	270.0	272.6	275.2	277.9
122.5°	260.6	266.4	272.3	276.2	278.2	280.1	282.0	283.9
125°	274.1	279.8	285.5	289.2	290.8	292.5	294.2	295.9
127.5°	285.3	290.7	296.1	299.8	301.7	303.7	305.6	307.6
130°	293.9	299.3	304.7	308.1	309.7	311.2	312.7	314.3
132.5°	302.3	307.4	312.6	316.0	317.7	319.4	321.1	322.9
135°	313.5	318.2	323.0	326.2	327.8	329.4	331.0	332.6
137.5°	325.5	329.8	334.1	337.0	338.6	340.2	341.8	343.4
140°	333.9	337.8	341.8	344.4	345.9	347.4	348.8	350.3
142.5°	342.7	346.2	349.7	352.1	353.4	354.6	355.9	357.2
145°	356.9	358.7	360.4	361.8	362.8	363.8	364.8	365.8
147.5°	370.1	370.2	370.4	371.0	371.9	372.8	373.7	374.6
150°	379.9	379.9	379.9	379.8	379.8	379.7	379.6	379.5
152.5°	389.6	389.8	390.0	389.9	389.7	389.5	389.3	389.1
155°	403.1	403.4	403.7	403.7	403.4	403.1	402.8	402.5
157.5°	415.0	415.3	415.5	415.5	415.2	415.0	414.7	414.4
160°	422.4	422.6	422.9	422.8	422.4	422.0	421.6	421.2
162.5°	429.0	429.4	429.8	429.8	429.5	429.1	428.7	428.3
165°	437.7	438.2	438.6	438.7	438.4	438.1	437.8	437.5
167.5°	445.1	445.5	446.0	446.0	445.5	445.0	444.5	444.0
170°	449.0	449.5	450.0	449.9	449.4	448.8	448.3	447.7
172.5°	452.0	452.5	453.0	453.0	452.5	451.9	451.4	450.8
175°	455.2	455.7	456.3	456.3	455.7	455.2	454.6	454.1
177.5°	456.9	457.4	457.8	457.8	457.3	456.8	456.3	455.8
180°	456.9	456.9	456.9	456.9	456.9	456.9	456.9	456.9

(END OF REPORT)