

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: P332050-935

Luminaire Tested: **S123DIP-S1165D365U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332050-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D365U935-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5307.1 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

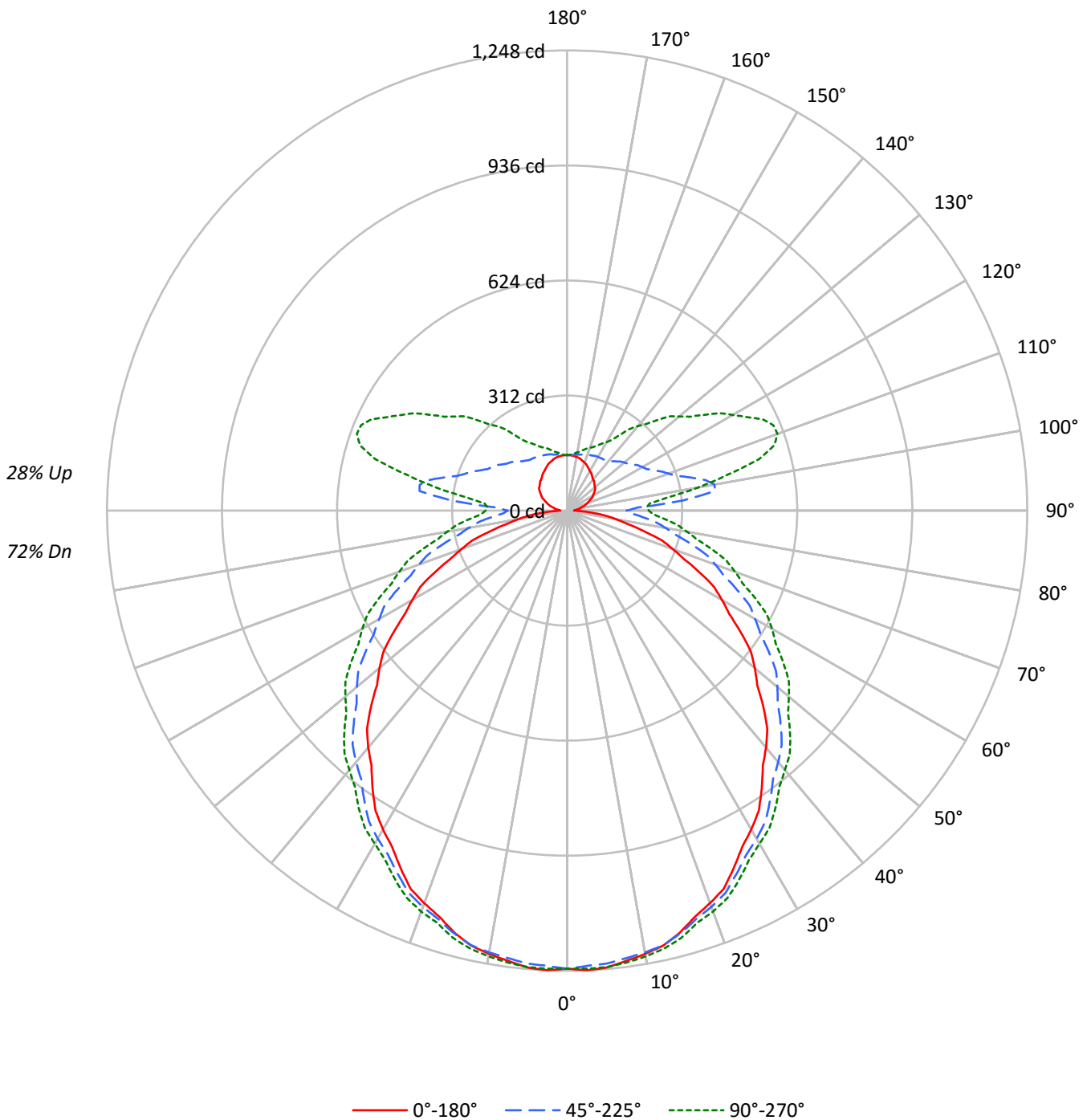
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	96	96	96	86	86	86	76	76	76	72
1	101	96	91	87	96	91	87	83	82	79	76	73	71	68	65	63	62	58
2	92	83	76	70	86	79	73	67	71	66	61	63	59	56	56	53	51	47
3	83	73	64	58	78	69	62	56	62	56	51	56	51	47	50	46	43	39
4	76	64	55	49	72	61	53	47	55	48	43	49	44	40	44	40	36	33
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	31	29
6	64	51	42	36	61	49	41	35	44	37	32	40	34	30	36	31	28	25
7	59	46	38	32	56	44	36	31	40	33	28	36	31	26	33	28	24	22
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	25	22	20
9	51	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	18
10	48	35	28	23	46	34	27	22	31	25	20	28	23	19	26	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	2.2
10°-20°	335.7	6.3
20°-30°	502.2	9.5
30°-40°	599.7	11.3
40°-50°	627.4	11.8
50°-60°	588.8	11.1
60°-70°	491.8	9.3
70°-80°	351.8	6.6
80°-90°	211.0	4.0
90°-100°	215.3	4.1
100°-110°	333.6	6.3
110°-120°	297.6	5.6
120°-130°	222.8	4.2
130°-140°	163.1	3.1
140°-150°	112.9	2.1
150°-160°	76.3	1.4
160°-170°	44.8	0.8
170°-180°	14.6	0.3
0°-30°	955.7	18.0
0°-40°	1555.4	29.3
0°-60°	2771.6	52.2
0°-90°	3826.2	72.1
90°-120°	846.5	16.0
90°-150°	1345.3	25.3
90°-180°	1481.0	27.9
0°-180°	5307.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	18	88	161	206	221	13
95°	25	102	314	227	225	23
105°	46	97	346	566	539	48
115°	69	103	259	513	586	69
125°	91	109	218	387	452	81
135°	104	124	188	300	348	81
145°	117	133	170	224	251	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.2	51.2	66.3	81.5	96.6	111.8	127.3	142.9	158.4	173.9	184.1
90°	18.2	33.6	48.9	64.6	79.9	95.6	111.8	128.0	144.3	160.6	170.5
92.5°	20.3	35.4	51.2	66.9	82.7	101.4	124.5	152.7	180.6	191.1	189.6
95°	25.2	37.9	53.0	69.8	89.5	114.6	155.2	215.2	279.9	314.4	289.6
97.5°	30.9	41.8	55.0	70.1	88.5	113.7	152.4	217.6	314.9	403.9	432.4
100°	34.7	44.6	56.4	70.3	87.2	110.8	145.9	204.7	298.7	405.9	474.6
102.5°	38.7	48.0	58.5	71.1	86.4	108.4	141.1	193.0	277.8	383.6	470.3
105°	46.1	54.2	63.3	74.1	87.1	106.7	136.0	180.3	250.7	346.1	441.9
107.5°	52.7	59.7	67.6	77.3	88.9	106.9	133.5	171.9	230.5	312.2	399.5
110°	57.4	63.7	70.7	79.5	90.1	107.3	133.0	168.2	220.9	292.9	373.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	62.8	68.1	74.1	81.9	91.5	107.8	132.1	165.1	212.5	277.2	349.0
115°	69.1	74.0	79.4	86.0	94.8	110.3	132.7	162.0	203.9	258.8	318.7
117.5°	76.6	80.2	83.9	89.0	97.0	110.8	132.4	159.1	195.6	243.6	296.2
120°	80.8	83.3	86.3	90.8	98.2	111.5	132.3	158.1	191.4	235.5	283.7
122.5°	85.5	87.2	89.5	93.6	99.9	113.0	133.3	157.3	188.2	228.3	272.5
125°	90.7	91.4	93.2	96.5	102.4	114.9	134.3	156.4	183.4	217.9	256.8
127.5°	95.8	96.4	98.4	101.5	107.6	119.2	136.7	156.0	179.7	208.7	242.0
130°	99.0	99.6	102.0	105.4	111.5	122.5	138.6	156.2	177.5	202.6	233.0
132.5°	100.3	101.4	104.4	108.7	115.0	125.4	140.0	156.1	174.7	196.9	224.1
135°	104.4	105.2	108.3	112.5	118.6	128.4	141.1	154.7	170.2	188.5	211.8
137.5°	108.1	109.1	112.2	116.8	122.9	131.3	142.2	153.9	166.6	181.3	201.0
140°	109.7	111.2	114.3	119.1	125.2	133.3	143.0	153.0	164.3	176.7	194.3
142.5°	112.6	113.7	116.7	120.8	126.7	133.7	142.5	151.5	161.4	171.9	187.5
145°	117.3	117.9	120.4	124.6	129.5	136.3	144.2	152.4	160.9	170.0	182.2
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	178.0
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	194.4	204.7	215.0	221.7	224.6	227.7	230.8	233.8
90°	181.0	191.5	202.1	209.3	212.0	215.3	218.6	221.3
92.5°	189.9	194.6	202.2	207.0	209.1	211.0	214.1	216.3
95°	262.2	236.2	229.4	224.6	221.8	222.1	223.0	224.8
97.5°	415.2	369.8	339.6	309.2	289.7	279.1	273.8	274.2
100°	494.0	478.0	451.1	413.8	386.1	366.9	358.0	361.3
102.5°	515.4	523.1	510.8	489.2	468.3	453.7	446.8	442.8
105°	513.8	552.8	567.0	564.6	553.3	544.4	537.4	538.6
107.5°	479.7	537.2	571.9	588.1	591.0	589.7	589.1	588.9
110°	450.9	514.7	560.9	587.3	598.2	603.0	604.9	606.7



TEST NUMBER: P332050-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	421.3	486.1	536.7	569.1	587.4	597.5	602.5	605.3
115°	382.2	442.4	494.3	532.3	557.5	573.3	581.8	585.7
117.5°	350.9	403.7	451.1	489.5	515.7	533.3	544.4	548.8
120°	333.6	381.6	425.0	460.2	486.4	505.5	514.9	518.8
122.5°	318.7	362.5	403.0	435.9	459.4	476.8	487.0	491.5
125°	297.8	337.3	372.8	401.4	422.9	438.4	448.2	452.4
127.5°	278.5	314.0	346.4	372.5	391.9	405.4	414.3	418.3
130°	266.0	299.1	329.5	354.0	371.9	384.6	392.9	397.1
132.5°	254.1	284.7	313.1	336.7	353.8	366.8	374.5	378.2
135°	237.6	264.7	289.8	310.6	327.0	337.7	344.7	348.3
137.5°	222.3	244.8	266.6	284.7	298.8	309.5	315.6	318.6
140°	213.1	233.2	252.3	268.4	281.5	291.4	297.8	299.0
142.5°	203.7	221.0	237.7	251.8	263.2	272.2	278.2	279.4
145°	194.3	206.8	219.0	229.5	238.4	246.0	249.6	251.4
147.5°	186.9	195.6	204.2	211.4	218.2	223.6	227.0	228.3
150°	182.5	189.6	196.0	202.0	207.2	211.1	213.5	214.1
152.5°	179.9	185.9	191.6	196.4	200.2	203.4	204.6	204.7
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)