

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: P331962

Luminaire Tested: **S123DIP-S775D365U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331962  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D365U835-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

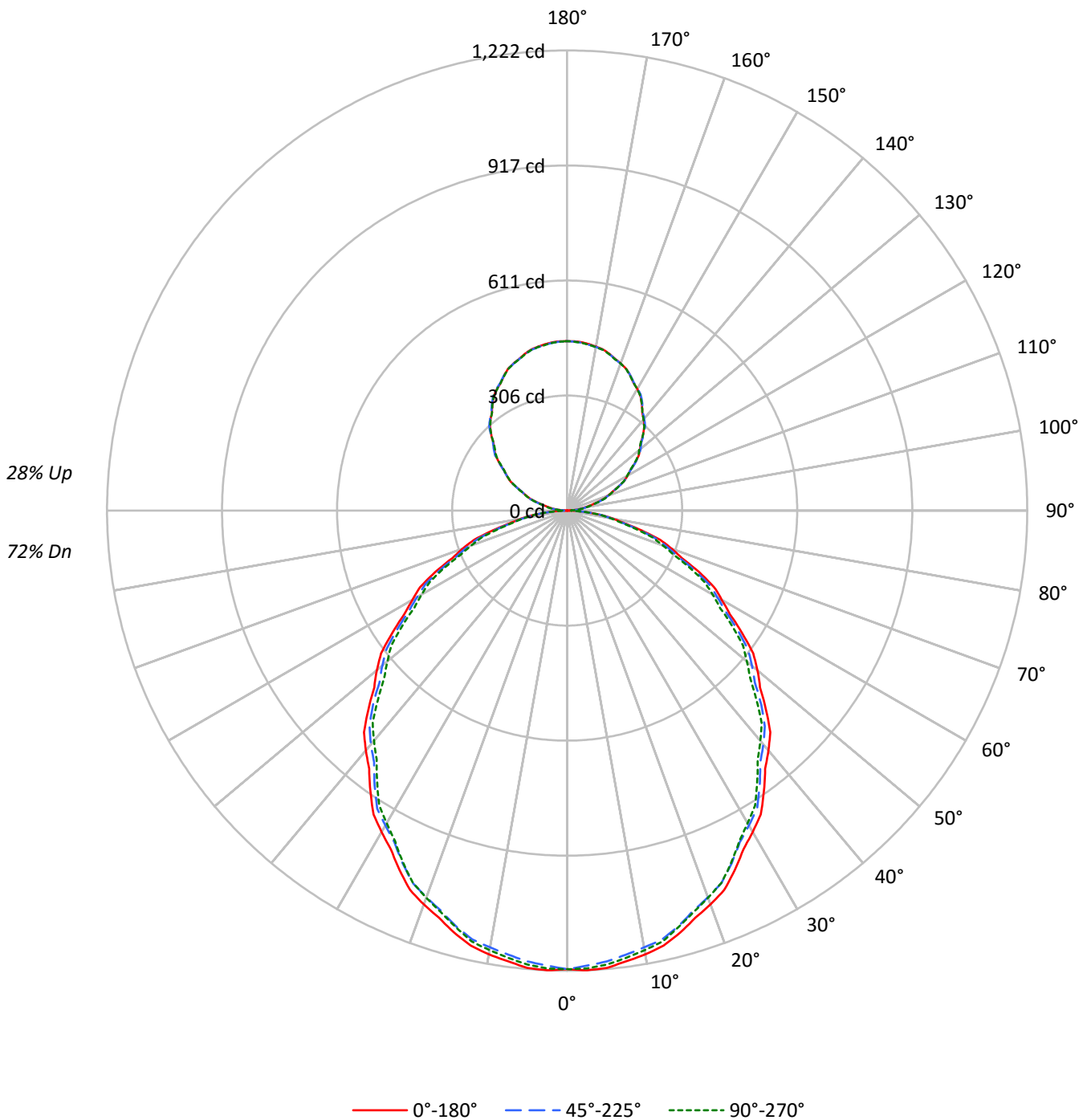
Lumens per Lamp: N/A  
Luminaire Lumens: 4416.5 lumens  
Efficiency: N/A  
Efficacy: 126.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 35  
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	76	76	76	72
1	103	98	94	90	97	93	89	86	84	81	78	75	73	71	67	66	64	60
2	93	86	79	74	88	81	76	71	73	69	65	66	62	59	59	56	54	50
3	85	75	68	61	80	72	65	59	65	59	55	58	54	50	52	49	46	43
4	78	67	58	52	74	64	56	50	58	51	47	52	47	43	47	43	40	37
5	72	60	51	45	68	57	49	43	52	45	40	47	41	37	42	38	34	32
6	66	54	45	39	62	51	43	38	47	40	35	42	37	33	38	34	30	28
7	61	48	40	34	58	46	39	33	42	36	31	39	33	29	35	30	27	25
8	57	44	36	31	54	42	35	30	39	32	28	35	30	26	32	28	24	22
9	53	40	33	27	50	39	32	27	36	29	25	33	27	23	30	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	28	23	20	18

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13108	13108	13108
5°	13169	12988	13078
10°	13081	12875	12955
15°	12929	12730	12754
20°	12749	12521	12534
25°	12511	12275	12250
30°	12246	11999	11908
35°	11971	11709	11557
40°	11682	11387	11212
45°	11365	11094	10823
50°	11047	10731	10433
55°	10631	10355	10042
60°	10211	9918	9604
65°	9841	9442	9146
70°	9294	8897	8500
75°	8492	8189	7839
80°	7662	7333	7271
85°	6719	6472	6212



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.7	2.6
10°-20°	323.9	7.3
20°-30°	478.4	10.8
30°-40°	558.9	12.7
40°-50°	561.9	12.7
50°-60°	493.6	11.2
60°-70°	367.7	8.3
70°-80°	209.5	4.7
80°-90°	61.5	1.4
90°-100°	29.3	0.7
100°-110°	87.7	2.0
110°-120°	149.2	3.4
120°-130°	196.2	4.4
130°-140°	220.6	5.0
140°-150°	216.8	4.9
150°-160°	182.5	4.1
160°-170°	121.5	2.8
170°-180°	42.5	1.0
0°-30°	917.1	20.8
0°-40°	1475.9	33.4
0°-60°	2531.4	57.3
0°-90°	3170.0	71.8
90°-120°	266.2	6.0
90°-150°	899.9	20.4
90°-180°	1246.0	28.2
0°-180°	4416.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1218	1218	1218	1218	1218	
5°	1219	1213	1202	1212	1210	115
15°	1160	1155	1142	1150	1144	327
25°	1053	1047	1034	1034	1031	485
35°	911	904	891	885	880	570
45°	747	742	729	717	711	576
55°	566	565	552	541	535	507
65°	386	381	371	363	359	381
75°	204	200	197	192	188	218
85°	54	52	52	50	50	60
90°	0	4	8	10	11	4
95°	21	23	26	28	28	23
105°	80	80	83	83	84	85
115°	150	151	150	151	150	149
125°	220	221	220	219	217	196
135°	285	287	287	286	285	220
145°	346	347	348	347	346	216
155°	396	396	396	398	395	182
165°	432	430	430	432	430	122
175°	449	448	447	449	447	43
180°	450	450	450	450	450	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1221.9	1221.2	1220.5	1219.7	1219.0	1217.6	1215.5	1213.5	1211.4	1209.4	1211.2
5°	1218.8	1217.6	1216.5	1215.3	1214.1	1212.3	1209.7	1207.2	1204.6	1202.0	1204.4
7.5°	1206.9	1205.7	1204.5	1203.4	1202.2	1200.3	1197.6	1195.0	1192.3	1189.7	1191.8
10°	1196.8	1195.6	1194.5	1193.3	1192.2	1190.1	1187.0	1184.0	1181.0	1178.0	1180.1
12.5°	1183.4	1182.4	1181.5	1180.5	1179.5	1177.6	1174.8	1171.9	1169.1	1166.2	1167.8
15°	1160.2	1159.2	1158.3	1157.4	1156.4	1154.5	1151.4	1148.4	1145.4	1142.4	1144.2
17.5°	1133.1	1131.9	1130.7	1129.5	1128.3	1126.2	1123.2	1120.1	1117.1	1114.1	1115.4
20°	1113.0	1111.6	1110.3	1108.9	1107.5	1105.2	1102.2	1099.2	1096.2	1093.1	1094.1
22.5°	1090.4	1089.0	1087.6	1086.2	1084.8	1082.6	1079.6	1076.6	1073.6	1070.5	1071.3
25°	1053.4	1052.0	1050.6	1049.2	1047.8	1045.6	1042.5	1039.5	1036.5	1033.5	1033.7
27.5°	1013.8	1012.4	1011.1	1009.7	1008.4	1006.1	1002.8	999.6	996.3	993.0	993.2
30°	985.3	984.1	983.0	981.8	980.6	978.4	975.2	971.9	968.7	965.4	965.4
32.5°	956.8	955.3	953.7	952.2	950.7	948.7	946.1	943.6	941.1	938.6	937.3
35°	911.0	909.6	908.2	906.8	905.4	903.2	900.1	897.1	894.1	891.1	889.7
37.5°	864.0	862.3	860.5	858.7	857.0	854.6	851.5	848.4	845.3	842.3	840.6
40°	831.4	830.0	828.6	827.2	825.8	823.5	820.2	817.0	813.7	810.4	808.6
42.5°	798.7	797.1	795.5	794.0	792.4	790.0	786.7	783.4	780.2	776.9	775.1
45°	746.6	745.6	744.7	743.8	742.8	740.9	737.8	734.8	731.8	728.8	726.0
47.5°	694.8	693.5	692.1	690.8	689.4	687.3	684.5	681.7	678.8	676.0	673.2
50°	659.7	658.5	657.3	656.2	655.0	652.9	649.9	646.9	643.8	640.8	638.3
52.5°	622.8	622.0	621.2	620.4	619.6	617.6	614.4	611.2	608.0	604.8	602.6
55°	566.5	566.2	566.0	565.8	565.5	563.9	560.9	557.9	554.8	551.8	549.3
57.5°	512.9	512.1	511.3	510.5	509.7	508.1	505.7	503.2	500.8	498.4	496.1
60°	474.3	474.1	473.9	473.6	473.4	471.9	469.1	466.3	463.5	460.7	458.6
62.5°	440.0	439.4	438.8	438.2	437.6	435.9	433.1	430.3	427.5	424.7	422.6
65°	386.4	385.2	384.0	382.9	381.7	380.0	377.6	375.3	373.0	370.7	368.8
67.5°	329.6	328.6	327.6	326.5	325.5	324.1	322.4	320.6	318.8	317.1	315.4
70°	295.3	293.9	292.5	291.1	289.7	288.3	286.9	285.5	284.1	282.7	281.1
72.5°	259.3	258.2	257.2	256.2	255.2	253.9	252.3	250.7	249.1	247.5	246.1
75°	204.2	203.2	202.3	201.4	200.5	199.6	198.9	198.2	197.5	196.9	195.7
77.5°	155.4	154.9	154.4	153.9	153.3	152.7	151.8	151.0	150.2	149.3	148.5
80°	123.6	122.9	122.2	121.5	120.8	120.2	119.7	119.3	118.8	118.3	118.1
82.5°	92.6	92.4	92.3	92.1	92.0	91.9	91.8	91.7	91.6	91.5	91.1
85°	54.4	54.0	53.5	53.1	52.6	52.4	52.4	52.4	52.4	52.4	51.9
87.5°	21.8	21.4	21.0	20.6	20.2	20.1	20.1	20.1	20.1	20.1	20.0
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.4	6.4	7.5	8.5	8.8
92.5°	8.6	9.1	9.6	10.2	10.7	11.2	11.8	12.4	13.0	13.6	13.8
95°	20.9	21.4	21.9	22.5	23.0	23.6	24.3	24.9	25.5	26.2	26.5
97.5°	37.0	37.4	37.9	38.3	38.7	39.1	39.6	40.0	40.5	40.9	41.3
100°	48.1	48.5	49.0	49.5	49.9	50.4	50.8	51.2	51.6	51.9	52.2
102.5°	60.8	61.1	61.3	61.6	61.9	62.3	62.8	63.4	63.9	64.4	64.6
105°	79.5	79.7	79.8	80.0	80.1	80.6	81.3	82.0	82.7	83.4	83.4
107.5°	101.3	101.4	101.5	101.6	101.7	101.8	102.1	102.4	102.7	103.0	103.2
110°	114.9	115.0	115.2	115.3	115.5	115.6	115.8	116.0	116.1	116.3	116.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	129.0	129.1	129.2	129.3	129.4	129.4	129.5	129.5	129.5	129.6	129.9
115°	150.2	150.4	150.7	150.9	151.1	151.2	151.0	150.9	150.7	150.5	150.6
117.5°	171.5	171.7	171.9	172.0	172.2	172.1	171.9	171.7	171.5	171.3	171.3
120°	184.8	185.3	185.8	186.2	186.7	186.7	186.4	186.0	185.6	185.2	185.1
122.5°	198.7	199.0	199.4	199.7	200.1	200.1	199.9	199.7	199.5	199.3	199.1
125°	219.8	220.0	220.3	220.5	220.8	220.8	220.6	220.5	220.3	220.2	219.8
127.5°	239.3	239.8	240.3	240.8	241.3	241.5	241.3	241.1	241.0	240.8	240.4
130°	252.3	252.9	253.6	254.2	254.8	255.0	254.8	254.6	254.3	254.1	253.8
132.5°	265.3	266.0	266.6	267.2	267.8	268.1	267.9	267.7	267.5	267.4	267.0
135°	285.2	285.7	286.1	286.6	287.1	287.3	287.2	287.1	287.0	287.0	286.6
137.5°	303.6	304.0	304.3	304.7	305.1	305.4	305.6	305.8	306.0	306.2	305.9
140°	316.3	316.7	317.1	317.5	317.9	318.1	318.2	318.2	318.3	318.4	318.3
142.5°	327.9	328.3	328.7	329.1	329.4	329.7	329.9	330.0	330.1	330.3	330.2
145°	346.0	346.1	346.3	346.4	346.6	346.8	347.0	347.3	347.5	347.7	347.7
147.5°	361.8	362.1	362.4	362.7	362.9	363.2	363.4	363.6	363.8	364.1	364.1
150°	372.8	373.0	373.1	373.3	373.5	373.6	373.8	373.9	374.1	374.2	374.2
152.5°	381.9	382.1	382.3	382.5	382.8	382.9	383.0	383.1	383.2	383.3	383.4
155°	396.2	396.2	396.2	396.2	396.2	396.2	396.3	396.3	396.4	396.5	396.8
157.5°	408.3	408.2	408.1	408.0	407.9	407.9	408.0	408.0	408.1	408.2	408.5
160°	415.9	415.8	415.6	415.5	415.3	415.2	415.2	415.2	415.2	415.2	415.6
162.5°	422.7	422.5	422.3	422.1	421.8	421.8	421.8	421.9	422.0	422.0	422.4
165°	431.5	431.3	431.0	430.8	430.5	430.4	430.4	430.4	430.4	430.4	430.9
167.5°	438.5	438.2	437.9	437.5	437.2	437.1	437.2	437.2	437.3	437.4	437.8
170°	442.4	442.1	441.8	441.5	441.2	441.0	441.0	441.0	441.0	441.0	441.6
172.5°	445.6	445.2	444.9	444.6	444.3	444.1	444.1	444.1	444.1	444.1	444.6
175°	448.8	448.5	448.2	447.9	447.6	447.4	447.4	447.4	447.4	447.4	447.9
177.5°	450.1	449.9	449.6	449.4	449.1	449.0	449.0	449.0	449.0	449.0	449.4
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1213.1	1215.0	1216.8	1217.7	1217.5	1217.3	1217.1	1216.9
5°	1206.7	1209.0	1211.4	1212.3	1211.8	1211.4	1210.9	1210.4
7.5°	1193.9	1196.0	1198.1	1199.0	1198.7	1198.4	1198.1	1197.9
10°	1182.2	1184.2	1186.3	1187.2	1186.7	1186.2	1185.8	1185.3
12.5°	1169.3	1170.8	1172.4	1173.0	1172.7	1172.4	1172.2	1171.9
15°	1146.1	1147.9	1149.8	1150.0	1148.6	1147.2	1145.9	1144.5
17.5°	1116.7	1118.0	1119.3	1119.7	1119.2	1118.7	1118.2	1117.7
20°	1095.0	1095.9	1096.9	1097.0	1096.3	1095.6	1094.9	1094.2
22.5°	1072.0	1072.8	1073.5	1073.4	1072.6	1071.7	1070.8	1069.9
25°	1033.9	1034.2	1034.4	1034.2	1033.5	1032.8	1032.1	1031.4
27.5°	993.4	993.6	993.8	993.4	992.6	991.7	990.8	989.9
30°	965.4	965.4	965.4	964.6	963.0	961.3	959.7	958.1
32.5°	936.0	934.7	933.4	932.3	931.4	930.5	929.6	928.8
35°	888.3	886.9	885.5	884.2	883.0	881.9	880.7	879.5
37.5°	838.9	837.2	835.6	834.4	833.6	832.9	832.1	831.4
40°	806.7	804.9	803.0	801.6	800.7	799.7	798.8	797.9
42.5°	773.2	771.3	769.5	768.1	767.2	766.2	765.3	764.4
45°	723.2	720.4	717.6	715.6	714.5	713.3	712.1	711.0
47.5°	670.5	667.8	665.0	663.1	662.1	661.1	660.1	659.0
50°	635.7	633.1	630.6	628.6	627.2	625.8	624.4	623.0
52.5°	600.4	598.2	596.0	594.3	592.9	591.5	590.1	588.7
55°	546.7	544.1	541.6	539.7	538.5	537.4	536.2	535.1
57.5°	493.8	491.6	489.3	487.5	486.1	484.8	483.4	482.1
60°	456.5	454.4	452.3	450.7	449.5	448.4	447.2	446.1
62.5°	420.5	418.4	416.3	414.9	414.1	413.3	412.5	411.7
65°	366.9	365.1	363.2	361.9	361.2	360.5	359.8	359.1
67.5°	313.8	312.2	310.5	309.2	308.3	307.3	306.3	305.3
70°	279.5	277.8	276.2	274.8	273.6	272.5	271.3	270.1
72.5°	244.6	243.2	241.8	240.7	240.1	239.5	238.9	238.3
75°	194.5	193.4	192.2	191.3	190.6	189.9	189.2	188.5
77.5°	147.7	146.9	146.1	145.8	145.8	145.8	145.8	145.8
80°	117.9	117.6	117.4	117.3	117.3	117.3	117.3	117.3
82.5°	90.7	90.3	89.8	89.5	89.4	89.2	89.0	88.8
85°	51.4	51.0	50.5	50.3	50.3	50.3	50.3	50.3
87.5°	19.9	19.8	19.6	19.6	19.6	19.6	19.7	19.7
90°	9.1	9.4	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	14.1	14.3	14.6	14.7	14.6	14.5	14.4	14.3
95°	26.8	27.1	27.4	27.6	27.6	27.6	27.6	27.6
97.5°	41.6	42.0	42.4	42.5	42.5	42.5	42.4	42.4
100°	52.4	52.7	52.9	53.1	53.2	53.4	53.6	53.7
102.5°	64.9	65.1	65.3	65.4	65.4	65.4	65.3	65.3
105°	83.4	83.4	83.4	83.5	83.6	83.8	84.0	84.1
107.5°	103.5	103.7	104.0	104.1	104.0	103.9	103.8	103.7
110°	116.9	117.2	117.5	117.6	117.4	117.3	117.1	117.0





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CATALOG NUMBER: S123DIP-S775D365U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	130.3	130.7	131.1	131.2	131.2	131.2	131.1	131.1
115°	150.7	150.8	150.9	150.9	150.8	150.7	150.6	150.5
117.5°	171.3	171.3	171.3	171.1	170.9	170.7	170.5	170.3
120°	185.0	184.9	184.9	184.7	184.6	184.4	184.3	184.1
122.5°	198.9	198.7	198.5	198.3	198.1	197.8	197.6	197.4
125°	219.5	219.2	218.9	218.6	218.3	218.0	217.6	217.3
127.5°	239.9	239.5	239.0	238.6	238.3	237.9	237.6	237.2
130°	253.5	253.1	252.8	252.4	251.9	251.3	250.8	250.2
132.5°	266.6	266.2	265.9	265.5	265.0	264.6	264.2	263.8
135°	286.3	286.0	285.7	285.5	285.3	285.1	285.0	284.8
137.5°	305.6	305.3	304.9	304.6	304.3	304.0	303.7	303.4
140°	318.2	318.2	318.1	317.8	317.2	316.7	316.1	315.6
142.5°	330.1	330.0	330.0	329.7	329.3	328.9	328.4	328.0
145°	347.6	347.5	347.4	347.2	346.9	346.6	346.3	346.0
147.5°	364.1	364.1	364.1	363.8	363.4	362.9	362.4	361.9
150°	374.2	374.2	374.2	374.0	373.5	373.1	372.6	372.1
152.5°	383.5	383.7	383.8	383.6	383.2	382.8	382.4	382.0
155°	397.1	397.4	397.8	397.6	397.1	396.5	396.0	395.4
157.5°	408.8	409.2	409.5	409.4	409.0	408.6	408.1	407.7
160°	416.0	416.4	416.8	416.8	416.5	416.2	415.9	415.6
162.5°	422.8	423.2	423.6	423.5	423.0	422.5	422.0	421.5
165°	431.4	431.8	432.3	432.3	431.7	431.2	430.6	430.1
167.5°	438.3	438.8	439.3	439.3	438.8	438.3	437.8	437.4
170°	442.1	442.7	443.2	443.2	442.7	442.1	441.6	441.0
172.5°	445.1	445.6	446.1	446.1	445.5	445.0	444.4	443.9
175°	448.3	448.8	449.3	449.2	448.7	448.1	447.6	447.0
177.5°	449.8	450.1	450.5	450.5	450.1	449.6	449.2	448.7
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9

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