

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: P332304-830

Luminaire Tested: **S123RDIP-S775D365U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332304-830  
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: S123RDIP-S775D365U830-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3925.1 lumens  
Efficiency: N/A  
Efficacy: 112.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

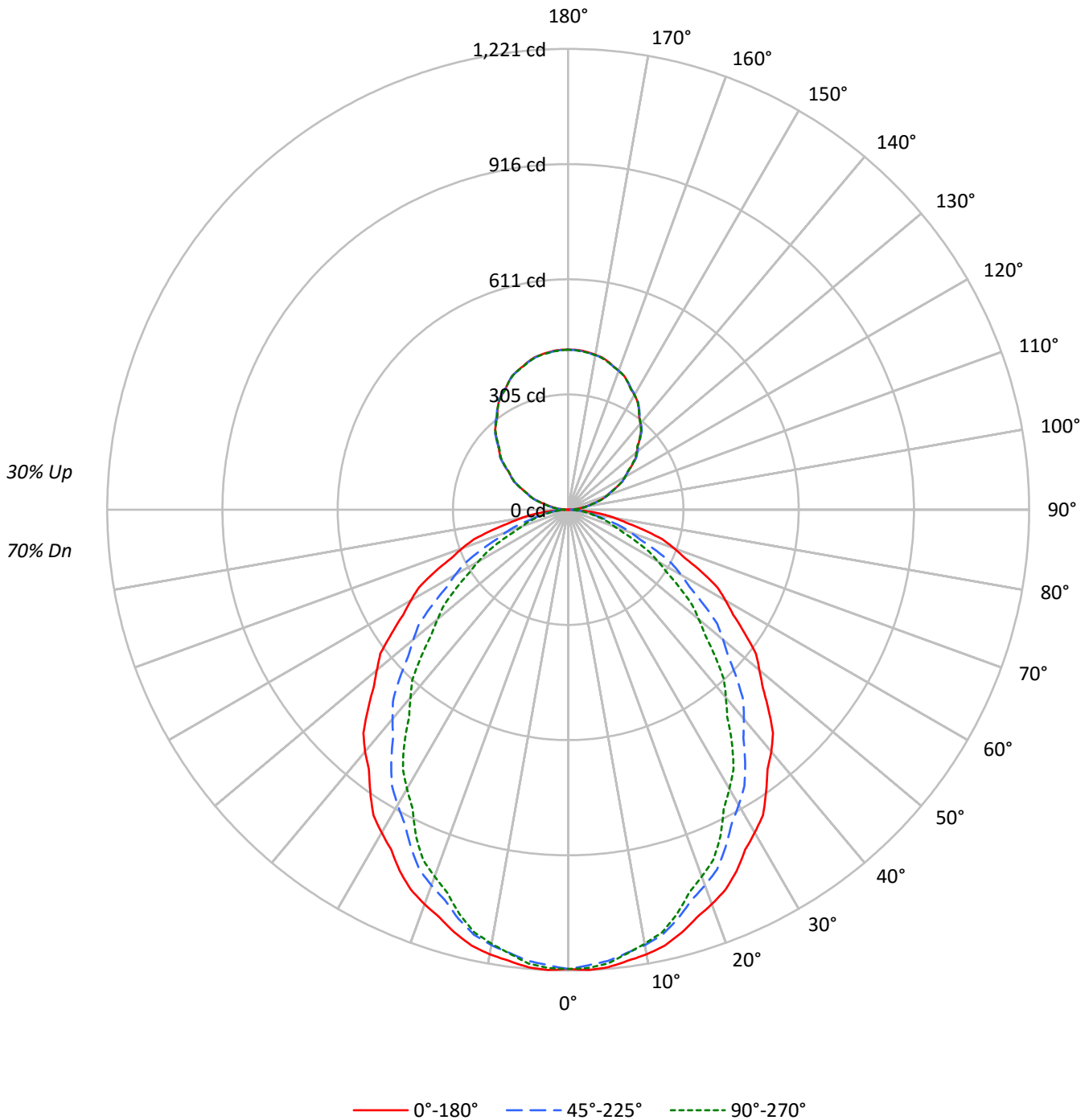
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	94	94	94	84	84	84	75	75	75	70
1	103	98	95	91	97	93	90	87	84	81	79	75	73	71	67	65	64	60
2	94	87	80	75	89	82	77	72	74	70	66	66	63	60	59	57	55	51
3	86	77	69	63	81	73	66	61	66	60	56	59	55	51	53	50	47	44
4	79	68	60	54	74	65	58	52	59	53	48	53	48	44	48	44	41	38
5	73	61	53	47	69	58	51	45	53	47	42	48	43	39	43	39	36	33
6	67	55	47	41	63	52	45	40	48	42	37	43	38	34	39	35	32	29
7	62	50	42	36	59	48	40	35	44	37	33	40	34	31	36	32	28	26
8	58	46	38	32	55	44	36	31	40	34	29	36	31	27	33	29	26	23
9	54	42	34	29	51	40	33	28	37	31	26	34	28	25	31	26	23	21
10	51	38	31	26	48	37	30	26	34	28	24	31	26	23	28	24	21	19

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

	0°	45°	90°
0°	13099	13099	13099
5°	13149	12967	13042
10°	13074	12804	12761
15°	12933	12504	12373
20°	12741	12129	11848
25°	12542	11709	11334
30°	12279	11225	10611
35°	12009	10738	9947
40°	11760	10165	9125
45°	11432	9601	8383
50°	11072	8957	7552
55°	10704	8223	6778
60°	10368	7436	5927
65°	9928	6584	5076
70°	9379	5530	4101
75°	8576	4350	3855
80°	7649	3856	3546
85°	6459	3409	3162



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.3	2.9
10°-20°	317.9	8.1
20°-30°	457.8	11.7
30°-40°	515.7	13.1
40°-50°	493.3	12.6
50°-60°	404.0	10.3
60°-70°	272.6	6.9
70°-80°	137.1	3.5
80°-90°	37.5	1.0
90°-100°	27.6	0.7
100°-110°	82.7	2.1
110°-120°	140.6	3.6
120°-130°	185.0	4.7
130°-140°	207.9	5.3
140°-150°	204.4	5.2
150°-160°	172.0	4.4
160°-170°	114.5	2.9
170°-180°	40.1	1.0
0°-30°	890.0	22.7
0°-40°	1405.7	35.8
0°-60°	2303.0	58.7
0°-90°	2750.3	70.1
90°-120°	250.9	6.4
90°-150°	848.1	21.6
90°-180°	1175.0	29.9
0°-180°	3925.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1217	1217	1217	1217	1217	
5°	1217	1212	1200	1208	1207	115
15°	1161	1149	1122	1117	1110	327
25°	1056	1030	986	966	954	485
35°	914	877	817	776	757	572
45°	751	705	631	576	551	579
55°	570	520	438	383	361	511
65°	390	334	258	212	199	386
75°	206	159	105	95	93	220
85°	52	32	28	26	26	59
90°	0	4	8	9	10	4
95°	20	22	25	26	26	22
105°	75	76	79	79	79	80
115°	142	142	142	142	142	140
125°	207	208	208	206	205	185
135°	269	271	270	269	268	207
145°	326	327	328	327	326	204
155°	373	373	374	375	373	172
165°	407	406	406	408	405	115
175°	423	422	422	423	421	40
180°	424	424	424	424	424	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9
2.5°	1220.8	1220.1	1219.4	1218.7	1218.0	1216.6	1214.5	1212.4	1210.3	1208.2	1210.1
5°	1216.9	1215.8	1214.7	1213.6	1212.5	1210.6	1208.0	1205.3	1202.7	1200.1	1202.0
7.5°	1205.6	1204.5	1203.2	1202.0	1200.9	1198.5	1195.1	1191.8	1188.4	1184.9	1186.0
10°	1196.2	1194.6	1193.1	1191.6	1190.0	1187.2	1183.3	1179.4	1175.4	1171.5	1171.7
12.5°	1182.7	1181.0	1179.3	1177.6	1175.9	1172.6	1167.8	1163.0	1158.1	1153.3	1153.2
15°	1160.6	1158.2	1155.7	1153.4	1150.9	1146.7	1140.6	1134.4	1128.2	1122.1	1121.1
17.5°	1132.7	1130.0	1127.2	1124.4	1121.5	1116.3	1108.4	1100.6	1092.8	1085.1	1082.7
20°	1112.3	1108.7	1105.2	1101.7	1098.3	1092.3	1083.9	1075.6	1067.3	1058.9	1056.1
22.5°	1089.4	1085.3	1081.3	1077.2	1073.2	1066.8	1057.9	1049.0	1040.2	1031.3	1027.7
25°	1056.0	1050.6	1045.0	1039.5	1034.1	1026.2	1016.2	1006.1	996.0	985.9	981.3
27.5°	1015.5	1009.5	1003.4	997.4	991.4	982.7	971.5	960.3	949.0	937.7	931.3
30°	987.9	981.3	974.8	968.2	961.6	952.2	939.9	927.6	915.3	903.1	895.6
32.5°	960.3	952.8	945.4	937.9	930.5	920.2	907.2	894.3	881.3	868.3	860.2
35°	913.9	906.0	898.1	890.2	882.3	871.6	858.0	844.3	830.8	817.2	807.8
37.5°	867.0	858.1	849.3	840.6	831.8	820.2	805.7	791.2	776.7	762.1	751.4
40°	836.9	827.3	817.6	807.9	798.3	785.7	770.2	754.6	739.0	723.4	712.0
42.5°	803.0	793.3	783.6	774.0	764.4	751.5	735.4	719.3	703.2	687.1	674.7
45°	751.0	741.2	731.3	721.4	711.5	698.2	681.3	664.4	647.5	630.7	618.1
47.5°	699.2	688.3	677.5	666.7	655.8	642.0	625.1	608.1	591.3	574.4	560.8
50°	661.2	650.9	640.6	630.3	620.0	606.0	588.2	570.4	552.7	534.9	521.3
52.5°	627.3	616.1	604.9	593.7	582.6	568.2	550.5	533.0	515.4	497.8	483.7
55°	570.4	559.7	548.9	538.2	527.4	512.7	494.1	475.5	456.9	438.2	425.5
57.5°	517.9	506.2	494.6	482.8	471.1	455.9	437.2	418.4	399.6	381.0	368.9
60°	481.6	469.6	457.5	445.4	433.4	418.2	400.0	381.8	363.6	345.4	333.6
62.5°	445.3	433.2	421.1	409.1	397.1	381.9	363.7	345.5	327.3	309.1	297.9
65°	389.8	377.8	365.7	353.6	341.6	327.0	309.9	292.8	275.7	258.5	247.8
67.5°	334.4	322.2	310.0	297.7	285.6	271.3	254.9	238.5	222.1	205.7	197.7
70°	298.0	286.3	274.4	262.5	250.7	237.0	221.7	206.4	191.1	175.7	168.0
72.5°	261.7	250.1	238.4	226.7	215.1	202.3	188.3	174.4	160.4	146.5	140.2
75°	206.2	195.8	185.2	174.7	164.2	152.9	140.8	128.8	116.7	104.6	102.5
77.5°	155.7	146.2	136.7	127.1	117.6	109.1	101.2	93.5	85.8	77.9	76.8
80°	123.4	114.3	105.4	96.4	87.4	80.6	76.0	71.4	66.8	62.2	61.5
82.5°	92.6	84.8	77.0	69.3	61.5	56.6	54.4	52.2	50.1	48.0	47.3
85°	52.3	47.5	42.7	37.8	33.0	30.3	29.6	28.9	28.3	27.6	27.2
87.5°	19.0	17.2	15.5	13.7	11.9	11.1	11.3	11.5	11.7	11.9	11.8
90°	0.4	1.0	1.8	2.5	3.3	4.1	5.1	6.0	7.1	8.0	8.3
92.5°	8.1	8.6	9.0	9.6	10.1	10.6	11.1	11.7	12.3	12.8	13.0
95°	19.7	20.2	20.6	21.2	21.7	22.2	22.9	23.5	24.0	24.7	25.0
97.5°	34.9	35.3	35.7	36.1	36.5	36.9	37.3	37.7	38.2	38.5	38.9
100°	45.3	45.7	46.2	46.7	47.0	47.5	47.9	48.3	48.6	48.9	49.2
102.5°	57.3	57.6	57.8	58.1	58.3	58.7	59.2	59.8	60.2	60.7	60.9
105°	74.9	75.1	75.2	75.4	75.5	76.0	76.6	77.3	77.9	78.6	78.6
107.5°	95.5	95.6	95.7	95.8	95.9	96.0	96.2	96.5	96.8	97.1	97.3
110°	108.3	108.4	108.6	108.7	108.9	109.0	109.1	109.3	109.4	109.6	109.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	121.6	121.7	121.8	121.9	122.0	122.0	122.1	122.1	122.1	122.2	122.4
115°	141.6	141.8	142.0	142.2	142.4	142.5	142.3	142.2	142.0	141.9	141.9
117.5°	161.6	161.8	162.0	162.1	162.3	162.2	162.0	161.8	161.6	161.5	161.5
120°	174.2	174.7	175.1	175.5	176.0	176.0	175.7	175.3	174.9	174.6	174.5
122.5°	187.3	187.6	187.9	188.2	188.6	188.6	188.4	188.2	188.0	187.8	187.7
125°	207.2	207.4	207.6	207.8	208.1	208.1	207.9	207.8	207.6	207.5	207.2
127.5°	225.6	226.0	226.5	227.0	227.4	227.6	227.4	227.2	227.2	227.0	226.6
130°	237.8	238.4	239.0	239.6	240.2	240.3	240.2	240.0	239.7	239.5	239.2
132.5°	250.1	250.7	251.3	251.8	252.4	252.7	252.5	252.3	252.1	252.0	251.7
135°	268.8	269.3	269.7	270.1	270.6	270.8	270.7	270.6	270.5	270.5	270.1
137.5°	286.2	286.5	286.8	287.2	287.6	287.9	288.0	288.2	288.4	288.6	288.3
140°	298.1	298.5	298.9	299.3	299.6	299.8	299.9	299.9	300.0	300.1	300.0
142.5°	309.1	309.4	309.8	310.2	310.5	310.8	310.9	311.0	311.1	311.3	311.2
145°	326.1	326.2	326.4	326.5	326.7	326.9	327.1	327.3	327.5	327.7	327.7
147.5°	341.0	341.3	341.6	341.9	342.0	342.3	342.5	342.7	342.9	343.2	343.2
150°	351.4	351.6	351.7	351.9	352.0	352.1	352.3	352.4	352.6	352.7	352.7
152.5°	360.0	360.1	360.3	360.5	360.8	360.9	361.0	361.1	361.2	361.3	361.4
155°	373.4	373.4	373.4	373.4	373.4	373.4	373.5	373.5	373.6	373.7	374.0
157.5°	384.8	384.7	384.7	384.6	384.5	384.5	384.6	384.6	384.7	384.7	385.0
160°	392.0	391.9	391.7	391.6	391.4	391.3	391.3	391.3	391.3	391.3	391.7
162.5°	398.4	398.2	398.0	397.8	397.6	397.6	397.6	397.7	397.8	397.8	398.1
165°	406.7	406.5	406.2	406.0	405.8	405.7	405.7	405.7	405.7	405.7	406.1
167.5°	413.3	413.0	412.7	412.4	412.1	412.0	412.1	412.1	412.2	412.3	412.6
170°	417.0	416.7	416.4	416.1	415.8	415.7	415.7	415.7	415.7	415.7	416.2
172.5°	420.0	419.6	419.3	419.1	418.8	418.6	418.6	418.6	418.6	418.6	419.1
175°	423.0	422.7	422.4	422.2	421.9	421.7	421.7	421.7	421.7	421.7	422.2
177.5°	424.2	424.0	423.8	423.6	423.3	423.2	423.2	423.2	423.2	423.2	423.6
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9
2.5°	1212.0	1214.0	1215.9	1216.7	1216.4	1216.0	1215.6	1215.3
5°	1204.0	1206.0	1208.0	1208.7	1208.3	1207.9	1207.4	1207.0
7.5°	1187.1	1188.2	1189.3	1189.5	1188.7	1188.0	1187.2	1186.5
10°	1172.0	1172.1	1172.3	1172.0	1170.8	1169.7	1168.7	1167.5
12.5°	1153.0	1152.9	1152.8	1152.1	1150.8	1149.5	1148.3	1147.0
15°	1119.9	1118.8	1117.8	1116.4	1114.9	1113.3	1111.8	1110.3
17.5°	1080.3	1078.1	1075.7	1073.5	1071.1	1068.8	1066.6	1064.3
20°	1053.3	1050.4	1047.5	1044.8	1042.2	1039.5	1036.9	1034.3
22.5°	1024.3	1020.7	1017.1	1014.1	1011.6	1009.2	1006.7	1004.3
25°	976.8	972.1	967.5	964.0	961.6	959.1	956.8	954.3
27.5°	924.9	918.6	912.2	907.1	903.4	899.8	896.1	892.4
30°	888.2	880.6	873.2	867.7	864.2	860.7	857.1	853.7
32.5°	852.0	843.9	835.7	829.7	826.0	822.4	818.7	815.0
35°	798.3	788.9	779.5	772.8	768.8	764.9	760.9	757.0
37.5°	740.6	730.0	719.3	711.5	706.6	701.7	696.9	692.0
40°	700.6	689.2	677.8	669.6	664.5	659.5	654.4	649.4
42.5°	662.1	649.7	637.3	628.8	624.2	619.7	615.2	610.7
45°	605.7	593.1	580.6	571.7	566.5	561.2	556.0	550.7
47.5°	547.1	533.6	520.0	510.9	506.1	501.4	496.8	492.1
50°	507.7	494.1	480.5	471.2	466.2	461.1	456.1	451.0
52.5°	469.6	455.4	441.3	432.0	427.4	422.9	418.4	413.9
55°	412.7	400.0	387.3	378.7	374.4	369.9	365.6	361.2
57.5°	356.9	344.9	332.9	325.0	321.3	317.5	313.8	310.1
60°	321.7	309.9	298.0	290.3	286.5	282.8	279.1	275.3
62.5°	286.8	275.7	264.6	257.0	253.1	249.2	245.3	241.4
65°	237.0	226.3	215.6	209.0	206.6	204.2	201.8	199.3
67.5°	189.6	181.6	173.5	168.2	165.7	163.1	160.5	157.9
70°	160.3	152.6	145.0	140.0	137.5	135.1	132.7	130.3
72.5°	133.9	127.6	121.4	117.7	116.7	115.7	114.7	113.7
75°	100.2	98.0	95.9	94.5	94.1	93.7	93.2	92.7
77.5°	75.6	74.4	73.2	72.4	72.0	71.5	71.1	70.7
80°	60.9	60.2	59.6	59.0	58.5	58.2	57.7	57.2
82.5°	46.7	46.0	45.3	45.0	44.9	44.8	44.7	44.6
85°	26.8	26.3	25.9	25.6	25.6	25.6	25.6	25.6
87.5°	11.6	11.5	11.4	11.3	11.1	10.9	10.8	10.7
90°	8.6	8.9	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	13.3	13.5	13.8	13.9	13.8	13.7	13.6	13.5
95°	25.3	25.5	25.8	26.0	26.0	26.0	26.0	26.0
97.5°	39.2	39.6	40.0	40.1	40.1	40.1	40.0	40.0
100°	49.4	49.7	49.9	50.0	50.1	50.3	50.5	50.6
102.5°	61.2	61.4	61.5	61.6	61.6	61.6	61.5	61.5
105°	78.6	78.6	78.6	78.7	78.8	79.0	79.2	79.3
107.5°	97.6	97.7	98.0	98.1	98.0	97.9	97.8	97.7
110°	110.2	110.5	110.7	110.8	110.7	110.6	110.4	110.3





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CATALOG NUMBER: S123RDIP-S775D365U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	122.8	123.2	123.6	123.7	123.7	123.7	123.6	123.6
115°	142.0	142.1	142.2	142.2	142.1	142.0	141.9	141.9
117.5°	161.5	161.5	161.5	161.3	161.1	160.9	160.7	160.5
120°	174.4	174.3	174.3	174.1	174.0	173.8	173.7	173.5
122.5°	187.5	187.3	187.1	186.9	186.7	186.4	186.2	186.1
125°	206.9	206.6	206.3	206.0	205.8	205.5	205.1	204.8
127.5°	226.1	225.7	225.3	224.9	224.6	224.2	223.9	223.6
130°	238.9	238.6	238.3	237.9	237.4	236.9	236.4	235.8
132.5°	251.3	250.9	250.6	250.2	249.8	249.4	249.0	248.6
135°	269.8	269.6	269.3	269.1	268.9	268.7	268.6	268.4
137.5°	288.0	287.8	287.4	287.1	286.8	286.5	286.3	286.0
140°	299.9	299.9	299.8	299.5	299.0	298.5	297.9	297.5
142.5°	311.1	311.0	311.0	310.8	310.4	310.0	309.5	309.2
145°	327.6	327.5	327.4	327.3	327.0	326.7	326.4	326.1
147.5°	343.2	343.2	343.2	342.9	342.5	342.0	341.6	341.1
150°	352.7	352.7	352.7	352.5	352.0	351.7	351.2	350.7
152.5°	361.5	361.7	361.7	361.6	361.2	360.8	360.4	360.1
155°	374.3	374.6	374.9	374.8	374.3	373.7	373.2	372.7
157.5°	385.3	385.7	386.0	385.9	385.5	385.1	384.7	384.3
160°	392.1	392.5	392.9	392.9	392.6	392.3	392.0	391.7
162.5°	398.5	398.9	399.3	399.2	398.7	398.2	397.8	397.3
165°	406.6	407.0	407.5	407.5	406.9	406.4	405.9	405.4
167.5°	413.1	413.6	414.1	414.1	413.6	413.1	412.6	412.3
170°	416.7	417.3	417.7	417.7	417.3	416.7	416.2	415.7
172.5°	419.5	420.0	420.5	420.5	419.9	419.4	418.9	418.4
175°	422.5	423.0	423.5	423.4	422.9	422.4	421.9	421.3
177.5°	424.0	424.2	424.6	424.6	424.2	423.8	423.4	422.9
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0

(END OF REPORT)