

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: P331999-940

Luminaire Tested: **S123DIP-S775D1195U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331999-940  
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-S775D1195U940-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6680.1 lumens  
Efficiency: N/A  
Efficacy: 117.4 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: General Diffuse

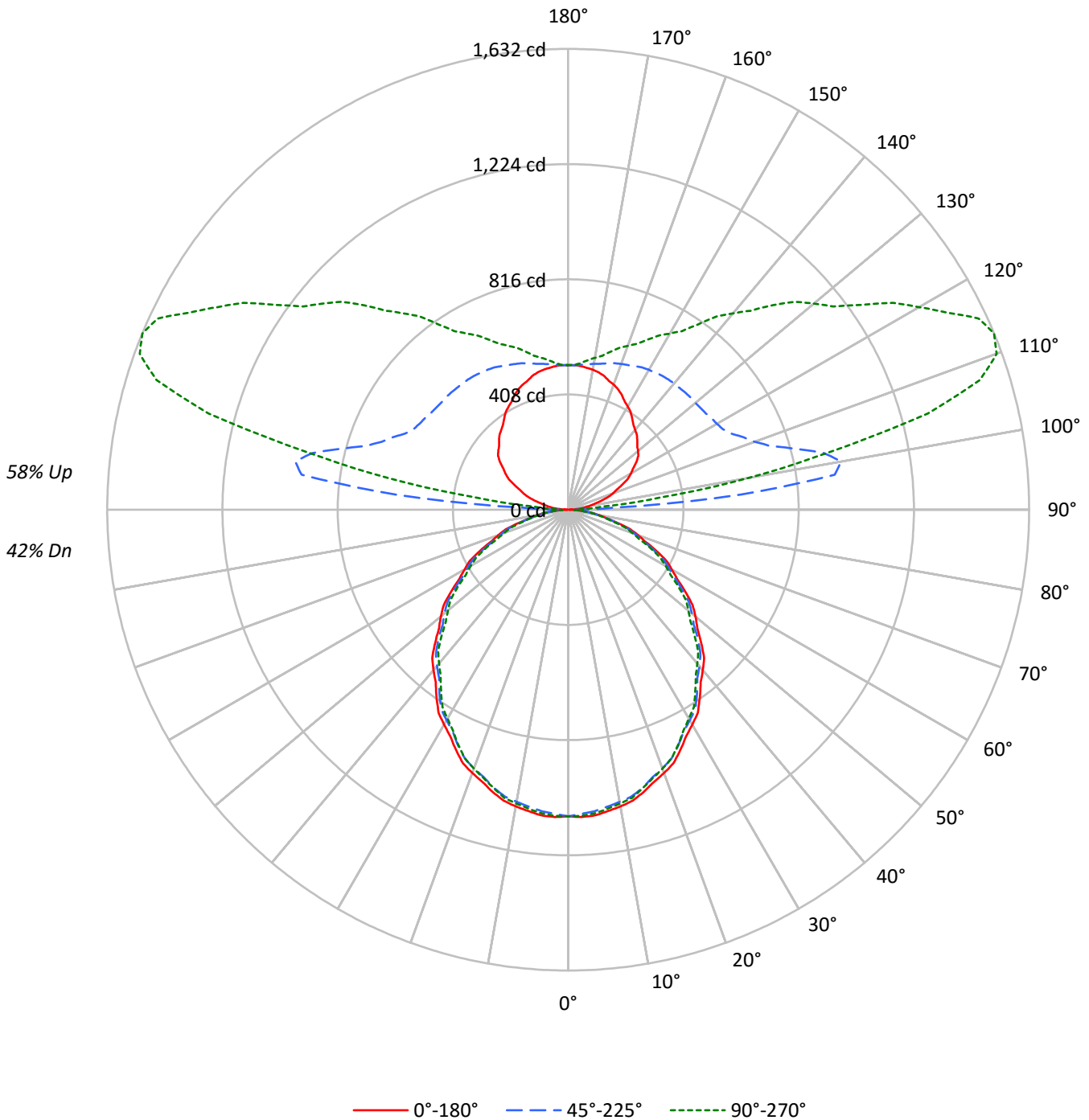
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	84	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	36	35	30
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	34	31	30	25
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	28	25	22
5	67	55	47	41	61	51	44	38	42	37	33	34	31	27	27	24	22	19
6	62	50	42	36	56	46	39	33	38	33	29	31	27	24	25	22	19	16
7	57	45	37	31	52	41	34	29	35	29	25	28	24	21	22	19	17	15
8	53	41	33	28	48	37	31	26	31	26	22	26	22	19	21	18	15	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	18	15	13	11

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

	0°	45°	90°
0°	11689	11689	11689
5°	11743	11581	11662
10°	11664	11481	11552
15°	11529	11352	11373
20°	11369	11165	11176
25°	11156	10946	10923
30°	10920	10700	10618
35°	10674	10441	10306
40°	10418	10153	9997
45°	10135	9893	9651
50°	9851	9568	9302
55°	9481	9233	8955
60°	9104	8844	8564
65°	8777	8420	8155
70°	8286	7934	7582
75°	7573	7303	6991
80°	6831	6540	6484
85°	5990	5768	5545



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.3	1.5
10°-20°	288.8	4.3
20°-30°	426.6	6.4
30°-40°	498.4	7.5
40°-50°	501.0	7.5
50°-60°	440.1	6.6
60°-70°	327.9	4.9
70°-80°	186.8	2.8
80°-90°	57.6	0.9
90°-100°	284.8	4.3
100°-110°	806.5	12.1
110°-120°	793.4	11.9
120°-130°	632.8	9.5
130°-140°	498.9	7.5
140°-150°	372.4	5.6
150°-160°	259.6	3.9
160°-170°	152.5	2.3
170°-180°	49.6	0.7
0°-30°	817.7	12.2
0°-40°	1316.1	19.7
0°-60°	2257.3	33.8
0°-90°	2829.5	42.4
90°-120°	1884.7	28.2
90°-150°	3388.9	50.7
90°-180°	3851.0	57.6
0°-180°	6680.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1086	1086	1086	1086	1086	
5°	1087	1082	1072	1081	1079	103
15°	1035	1030	1019	1025	1021	292
25°	939	933	922	922	920	432
35°	812	806	795	789	784	508
45°	666	662	650	639	634	514
55°	505	504	492	482	477	452
65°	345	340	331	323	320	340
75°	182	178	176	171	168	195
85°	48	47	47	45	45	53
90°	2	12	26	29	30	5
95°	35	114	614	179	120	38
105°	120	178	833	1457	1318	128
115°	212	265	637	1397	1603	210
125°	295	349	595	1077	1264	262
135°	346	413	586	887	1025	267
145°	395	452	579	728	801	247
155°	449	484	560	637	664	206
165°	490	504	537	569	579	138
175°	511	511	515	522	521	48
180°	512	512	512	512	512	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9
2.5°	1089.6	1089.0	1088.3	1087.6	1087.0	1085.7	1083.9	1082.1	1080.2	1078.4	1080.0
5°	1086.8	1085.7	1084.8	1083.7	1082.6	1081.0	1078.7	1076.5	1074.2	1071.8	1074.0
7.5°	1076.2	1075.1	1074.1	1073.1	1072.0	1070.3	1067.9	1065.6	1063.2	1060.9	1062.7
10°	1067.2	1066.1	1065.1	1064.1	1063.1	1061.2	1058.5	1055.8	1053.1	1050.4	1052.3
12.5°	1055.3	1054.4	1053.6	1052.7	1051.8	1050.1	1047.6	1045.0	1042.5	1039.9	1041.3
15°	1034.6	1033.7	1032.9	1032.1	1031.2	1029.5	1026.7	1024.0	1021.4	1018.7	1020.3
17.5°	1010.4	1009.3	1008.3	1007.2	1006.1	1004.2	1001.6	998.8	996.1	993.5	994.6
20°	992.5	991.2	990.1	988.8	987.6	985.5	982.8	980.2	977.5	974.7	975.6
22.5°	972.3	971.1	969.8	968.6	967.3	965.4	962.7	960.0	957.3	954.6	955.3
25°	939.3	938.1	936.8	935.6	934.3	932.4	929.6	926.9	924.3	921.6	921.8
27.5°	904.0	902.8	901.6	900.4	899.2	897.2	894.2	891.4	888.4	885.5	885.6
30°	878.6	877.5	876.6	875.5	874.4	872.4	869.6	866.7	863.8	860.9	860.9
32.5°	853.2	851.9	850.4	849.1	847.7	846.0	843.6	841.4	839.2	837.0	835.8
35°	812.3	811.1	809.9	808.6	807.4	805.4	802.6	800.0	797.3	794.6	793.4
37.5°	770.4	768.9	767.3	765.7	764.2	762.1	759.3	756.5	753.8	751.1	749.6
40°	741.4	740.1	738.9	737.6	736.4	734.3	731.4	728.5	725.6	722.6	721.0
42.5°	712.2	710.8	709.4	708.0	706.6	704.5	701.5	698.6	695.7	692.8	691.2
45°	665.8	664.9	664.1	663.3	662.4	660.7	657.9	655.2	652.6	649.9	647.4
47.5°	619.6	618.4	617.2	616.0	614.7	612.9	610.4	607.9	605.3	602.8	600.3
50°	588.3	587.2	586.1	585.1	584.1	582.2	579.5	576.8	574.1	571.4	569.2
52.5°	555.4	554.6	553.9	553.2	552.5	550.7	547.9	545.0	542.2	539.3	537.3
55°	505.2	504.9	504.7	504.5	504.3	502.8	500.2	497.5	494.7	492.0	489.8
57.5°	457.4	456.6	455.9	455.2	454.5	453.1	450.9	448.7	446.6	444.4	442.4
60°	422.9	422.8	422.6	422.3	422.1	420.8	418.3	415.8	413.3	410.8	408.9
62.5°	392.4	391.8	391.3	390.7	390.2	388.7	386.2	383.7	381.2	378.7	376.8
65°	344.6	343.5	342.4	341.4	340.4	338.9	336.7	334.7	332.6	330.6	328.9
67.5°	293.9	293.0	292.1	291.1	290.3	289.0	287.5	285.9	284.3	282.8	281.2
70°	263.3	262.1	260.8	259.6	258.3	257.1	255.8	254.6	253.3	252.1	250.7
72.5°	231.2	230.2	229.3	228.5	227.6	226.4	225.0	223.6	222.1	220.7	219.5
75°	182.1	181.2	180.4	179.6	178.8	178.0	177.4	176.7	176.1	175.6	174.5
77.5°	138.6	138.1	137.7	137.2	136.7	136.2	135.4	134.6	133.9	133.1	132.4
80°	110.2	109.6	109.0	108.3	107.7	107.2	106.7	106.4	105.9	105.5	105.3
82.5°	82.6	82.4	82.3	82.1	82.0	81.9	81.9	81.8	81.7	81.6	81.2
85°	48.5	48.2	47.7	47.3	46.9	46.7	46.7	46.7	46.7	46.7	46.3
87.5°	19.8	19.8	19.7	19.8	19.7	19.8	20.2	20.7	21.1	21.6	21.2
90°	2.1	4.1	6.2	9.4	11.4	13.5	16.6	19.7	22.8	25.9	24.9
92.5°	12.8	19.1	27.7	35.8	44.6	59.9	87.0	131.6	175.3	159.3	120.2
95°	35.2	38.3	49.8	67.3	94.3	134.6	222.7	377.1	547.1	614.4	498.3
97.5°	60.1	61.1	70.0	85.3	111.9	155.6	239.8	413.8	697.1	952.1	1018.6
100°	76.7	77.7	85.0	99.4	124.3	164.7	237.3	390.6	663.1	981.1	1185.3
102.5°	94.1	95.9	102.4	116.0	138.4	175.5	240.6	370.7	613.3	927.3	1193.5
105°	120.2	123.3	129.5	142.0	161.6	193.8	249.7	356.4	552.2	832.9	1130.3
107.5°	147.9	151.1	157.0	169.2	187.7	217.6	266.7	355.3	513.3	749.7	1019.7
110°	167.8	170.9	176.1	187.5	205.1	234.2	280.8	359.5	498.3	702.4	950.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	186.1	189.2	194.4	205.7	223.4	251.6	294.9	367.8	490.1	670.9	889.6
115°	212.4	216.5	222.7	233.1	250.7	278.7	318.1	381.3	487.0	637.1	816.4
117.5°	238.7	243.4	248.6	258.2	277.9	303.8	342.7	399.0	488.8	617.2	772.2
120°	256.9	260.0	265.2	275.6	295.2	321.2	358.5	412.3	492.1	608.1	749.0
122.5°	272.7	275.8	281.0	292.1	311.0	338.6	375.1	424.8	497.9	602.4	730.0
125°	295.2	297.4	303.5	315.0	334.7	362.6	398.9	444.4	506.6	594.7	705.5
127.5°	312.5	315.6	323.2	334.8	356.6	384.6	419.5	460.7	516.6	590.9	684.0
130°	323.2	326.4	335.6	348.1	369.9	397.8	432.0	471.4	523.2	588.4	672.3
132.5°	331.5	335.5	345.6	360.5	382.3	409.5	442.8	481.3	528.2	587.6	661.6
135°	346.1	350.2	361.6	377.1	398.9	426.9	459.0	494.2	535.7	586.4	647.6
137.5°	359.7	364.1	375.2	391.8	413.4	439.3	470.1	503.7	540.6	584.1	635.3
140°	368.8	374.0	384.3	400.9	421.7	447.5	477.6	508.7	543.9	583.3	627.9
142.5°	378.8	383.2	394.3	409.2	430.0	454.2	483.4	513.6	546.4	581.7	621.2
145°	394.8	397.8	407.2	422.7	440.3	464.1	491.1	519.1	548.0	579.2	612.3
147.5°	410.9	412.8	421.9	435.3	452.4	472.6	497.3	522.4	548.0	575.2	603.6
150°	421.7	422.7	431.0	444.4	459.0	477.6	501.4	523.2	548.0	571.9	597.8
152.5°	432.5	432.7	441.0	452.7	465.6	483.4	503.9	524.9	545.5	567.8	591.2
155°	448.6	448.6	454.9	465.2	476.5	491.1	508.7	525.3	542.9	560.5	581.2
157.5°	461.5	462.3	467.3	476.4	486.1	497.3	511.4	526.3	539.4	554.1	570.0
160°	471.4	471.4	475.5	483.8	491.1	501.4	513.9	526.3	537.7	549.1	562.6
162.5°	478.8	478.8	482.1	488.8	495.3	503.9	514.7	525.5	534.4	544.1	555.1
165°	490.1	489.0	491.1	496.2	500.4	507.7	515.9	523.2	529.4	536.6	544.9
167.5°	498.6	497.3	498.3	502.3	505.2	509.7	515.8	521.6	524.4	529.2	535.2
170°	503.5	501.4	502.5	505.6	507.7	509.7	514.9	519.1	521.1	524.2	529.4
172.5°	506.8	505.6	505.8	508.1	509.3	510.6	514.9	518.3	518.6	520.0	523.6
175°	510.8	509.7	508.7	510.8	510.8	511.8	513.9	515.9	514.9	514.9	517.0
177.5°	512.6	511.8	511.0	511.8	511.8	511.8	512.6	514.2	512.6	511.8	512.6
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9
2.5°	1081.7	1083.4	1085.0	1085.8	1085.7	1085.5	1085.3	1085.1
5°	1076.0	1078.1	1080.2	1081.0	1080.6	1080.2	1079.8	1079.3
7.5°	1064.6	1066.5	1068.4	1069.2	1068.9	1068.6	1068.4	1068.2
10°	1054.2	1056.0	1057.8	1058.6	1058.2	1057.7	1057.4	1056.9
12.5°	1042.7	1044.0	1045.4	1046.0	1045.7	1045.4	1045.3	1045.0
15°	1022.0	1023.6	1025.3	1025.5	1024.2	1023.0	1021.8	1020.6
17.5°	995.8	996.9	998.1	998.4	998.0	997.6	997.1	996.7
20°	976.4	977.2	978.1	978.2	977.6	977.0	976.3	975.7
22.5°	955.9	956.6	957.3	957.2	956.4	955.6	954.8	954.0
25°	921.9	922.2	922.4	922.2	921.6	921.0	920.3	919.7
27.5°	885.8	886.0	886.2	885.8	885.1	884.3	883.5	882.7
30°	860.9	860.9	860.9	860.1	858.7	857.2	855.8	854.3
32.5°	834.6	833.5	832.3	831.3	830.5	829.7	828.9	828.2
35°	792.1	790.9	789.6	788.5	787.4	786.4	785.3	784.3
37.5°	748.1	746.5	745.1	744.0	743.3	742.7	742.0	741.4
40°	719.3	717.7	716.0	714.8	714.0	713.1	712.3	711.5
42.5°	689.5	687.8	686.2	684.9	684.1	683.2	682.4	681.6
45°	644.9	642.4	639.9	638.1	637.1	636.1	635.0	634.0
47.5°	597.9	595.5	593.0	591.3	590.4	589.5	588.6	587.6
50°	566.9	564.5	562.3	560.5	559.3	558.0	556.8	555.5
52.5°	535.4	533.4	531.5	529.9	528.7	527.4	526.2	525.0
55°	487.5	485.2	483.0	481.3	480.2	479.2	478.1	477.2
57.5°	440.3	438.4	436.3	434.7	433.5	432.3	431.1	429.9
60°	407.1	405.2	403.3	401.9	400.8	399.8	398.8	397.8
62.5°	375.0	373.1	371.2	370.0	369.3	368.5	367.8	367.1
65°	327.2	325.6	323.9	322.7	322.1	321.5	320.8	320.2
67.5°	279.8	278.4	276.9	275.7	274.9	274.0	273.1	272.2
70°	249.2	247.7	246.3	245.0	244.0	243.0	241.9	240.9
72.5°	218.1	216.9	215.6	214.6	214.1	213.6	213.0	212.5
75°	173.4	172.5	171.4	170.6	170.0	169.3	168.7	168.1
77.5°	131.7	131.0	130.3	130.0	130.0	130.0	130.0	130.0
80°	105.1	104.9	104.7	104.6	104.6	104.6	104.6	104.6
82.5°	80.9	80.5	80.1	79.8	79.7	79.5	79.4	79.2
85°	45.8	45.5	45.0	44.9	44.9	44.9	44.9	44.9
87.5°	21.3	21.3	21.4	21.7	21.5	21.7	21.9	21.7
90°	25.9	26.9	28.0	30.1	29.0	30.1	31.1	30.1
92.5°	87.2	69.2	61.1	55.7	53.9	50.7	51.8	49.9
95°	373.0	252.8	197.9	160.6	140.9	131.6	124.3	120.2
97.5°	929.7	744.7	611.1	487.1	410.7	364.1	336.1	327.2
100°	1221.5	1137.6	1016.4	869.2	764.6	688.9	648.5	649.6
102.5°	1318.5	1315.7	1245.1	1151.8	1070.4	1010.6	976.8	953.0
105°	1346.8	1450.5	1470.2	1443.2	1395.5	1356.2	1323.0	1317.9
107.5°	1265.2	1433.4	1524.2	1561.1	1561.9	1548.6	1537.5	1527.9
110°	1187.3	1378.0	1508.5	1581.0	1610.0	1618.3	1616.2	1614.2





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CATALOG NUMBER: S123DIP-S775D1195U940-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1110.2	1305.0	1451.3	1544.5	1597.6	1623.3	1631.1	1631.6
115°	1008.1	1188.3	1340.6	1453.6	1531.2	1576.8	1597.6	1602.8
117.5°	934.1	1089.7	1226.5	1341.0	1422.1	1474.3	1504.1	1511.2
120°	895.1	1035.0	1159.3	1264.0	1345.8	1403.8	1428.7	1434.9
122.5°	864.4	991.0	1106.3	1203.5	1276.2	1328.4	1355.8	1363.6
125°	823.7	936.6	1036.0	1118.9	1185.3	1230.8	1256.7	1264.0
127.5°	788.0	888.7	978.4	1053.8	1112.9	1151.8	1175.3	1181.9
130°	765.6	858.9	942.8	1013.3	1068.2	1105.5	1127.2	1135.5
132.5°	744.9	830.7	908.8	976.0	1027.5	1064.8	1084.1	1089.9
135°	716.9	790.5	857.8	916.9	967.7	998.7	1017.4	1024.7
137.5°	691.4	751.7	809.8	860.9	903.7	935.1	950.8	955.6
140°	676.5	729.3	779.1	823.7	863.0	892.1	908.6	907.6
142.5°	662.5	707.8	750.9	789.7	823.2	848.9	863.8	862.8
145°	645.4	679.7	712.8	742.8	768.7	790.5	798.8	800.8
147.5°	631.6	658.7	685.5	706.8	726.5	741.2	749.0	749.8
150°	621.6	645.4	667.2	686.9	702.4	713.8	720.1	720.1
152.5°	612.5	633.0	652.3	668.7	680.9	691.4	695.2	695.2
155°	598.8	615.4	631.0	643.4	652.7	661.0	663.1	664.1
157.5°	584.3	598.2	610.2	619.9	628.0	634.3	635.9	635.7
160°	576.0	587.5	597.8	605.0	612.3	618.5	618.5	617.5
162.5°	566.1	575.9	585.3	591.7	596.6	601.9	601.9	600.9
165°	553.2	559.5	566.7	571.9	576.0	580.1	579.2	579.2
167.5°	542.1	546.8	551.0	554.7	556.5	559.5	558.4	558.4
170°	534.6	537.7	541.8	543.9	544.9	547.1	546.0	546.0
172.5°	528.0	530.2	533.6	534.8	535.0	537.1	535.2	534.4
175°	519.1	520.0	522.2	522.2	522.2	523.2	522.2	521.1
177.5°	513.4	514.2	515.1	515.1	514.2	515.1	513.4	513.4
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

(END OF REPORT)