

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: P332154-830

Luminaire Tested: **S123DIW-S775D460U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332154-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D460U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4726.4 lumens
Efficiency: N/A
Efficacy: 125.4 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: Semi-Direct

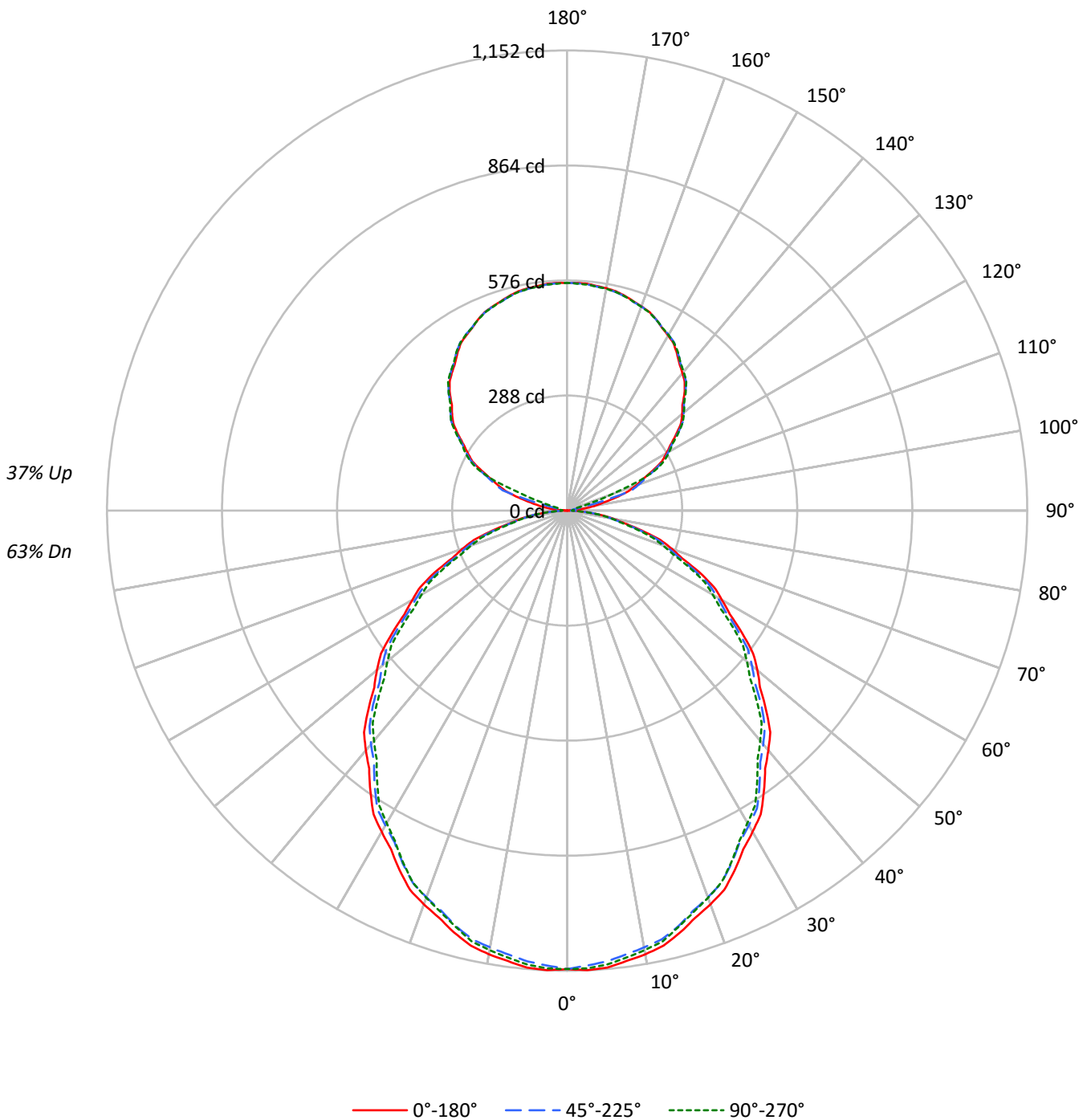
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	101	96	92	89	94	90	87	84	79	77	74	69	68	66	60	59	58	53
2	92	84	78	72	86	79	73	69	70	65	62	61	58	55	53	51	48	44
3	84	74	66	60	78	70	63	57	61	56	52	54	50	46	47	44	41	38
4	77	65	57	51	71	62	54	49	55	49	44	48	43	40	42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38	43	38	34	38	34	31	28
6	65	52	44	38	61	50	42	36	44	38	33	39	34	30	34	30	27	25
7	60	47	39	33	56	45	37	32	40	34	29	36	31	27	31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24	30	25	22	27	23	20	18
10	49	36	29	24	46	34	28	23	31	25	21	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12355	12355	12355
5°	12413	12241	12327
10°	12329	12136	12211
15°	12186	11999	12021
20°	12016	11802	11813
25°	11792	11569	11545
30°	11543	11309	11225
35°	11284	11037	10893
40°	11011	10732	10568
45°	10712	10456	10201
50°	10412	10114	9833
55°	10021	9760	9466
60°	9623	9347	9052
65°	9276	8899	8621
70°	8759	8387	8013
75°	8006	7719	7390
80°	7221	6912	6856
85°	6336	6101	5854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	2.3
10°-20°	305.3	6.5
20°-30°	451.0	9.5
30°-40°	526.8	11.1
40°-50°	529.6	11.2
50°-60°	465.2	9.8
60°-70°	346.6	7.3
70°-80°	197.5	4.2
80°-90°	58.3	1.2
90°-100°	20.7	0.4
100°-110°	98.8	2.1
110°-120°	237.2	5.0
120°-130°	302.1	6.4
130°-140°	322.8	6.8
140°-150°	301.8	6.4
150°-160°	243.5	5.2
160°-170°	157.1	3.3
170°-180°	54.2	1.1
0°-30°	864.4	18.3
0°-40°	1391.1	29.4
0°-60°	2385.9	50.5
0°-90°	2988.3	63.2
90°-120°	356.7	7.5
90°-150°	1283.4	27.2
90°-180°	1738.0	36.8
0°-180°	4726.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1148	1148	1148	1148	1148	
5°	1149	1143	1133	1142	1141	109
15°	1094	1089	1077	1084	1079	308
25°	993	987	974	975	972	457
35°	859	852	840	834	829	537
45°	704	699	687	675	670	543
55°	534	532	520	510	504	478
65°	364	359	349	342	338	359
75°	192	189	186	181	178	206
85°	51	50	49	48	47	56
90°	0	5	10	12	13	4
95°	26	10	13	16	16	32
105°	126	128	93	22	19	134
115°	237	239	243	247	249	234
125°	334	337	339	340	340	298
135°	415	418	420	421	420	320
145°	479	482	483	484	484	300
155°	528	527	528	529	527	243
165°	557	556	555	558	556	157
175°	570	568	568	571	568	54
180°	570	570	570	570	570	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8
2.5°	1151.7	1151.0	1150.4	1149.6	1149.0	1147.6	1145.7	1143.8	1141.8	1139.9	1141.6
5°	1148.8	1147.6	1146.6	1145.5	1144.3	1142.6	1140.2	1137.8	1135.4	1132.9	1135.2
7.5°	1137.6	1136.4	1135.3	1134.3	1133.1	1131.3	1128.8	1126.3	1123.8	1121.3	1123.3
10°	1128.0	1126.9	1125.9	1124.7	1123.7	1121.7	1118.8	1116.0	1113.1	1110.3	1112.3
12.5°	1115.4	1114.5	1113.6	1112.7	1111.7	1109.9	1107.3	1104.6	1101.9	1099.2	1100.7
15°	1093.5	1092.6	1091.7	1090.9	1090.0	1088.2	1085.2	1082.4	1079.6	1076.8	1078.5
17.5°	1068.0	1066.9	1065.7	1064.6	1063.5	1061.5	1058.7	1055.7	1052.9	1050.1	1051.3
20°	1049.0	1047.7	1046.5	1045.2	1043.9	1041.7	1038.9	1036.0	1033.2	1030.3	1031.2
22.5°	1027.7	1026.4	1025.1	1023.8	1022.5	1020.4	1017.6	1014.7	1011.9	1009.0	1009.7
25°	992.9	991.6	990.2	988.9	987.6	985.5	982.6	979.8	976.9	974.1	974.3
27.5°	955.5	954.2	953.0	951.7	950.5	948.3	945.2	942.2	939.1	935.9	936.1
30°	928.7	927.6	926.5	925.4	924.3	922.2	919.2	916.1	913.0	909.9	909.9
32.5°	901.8	900.4	898.9	897.5	896.1	894.2	891.7	889.4	887.0	884.7	883.4
35°	858.7	857.3	856.0	854.7	853.4	851.3	848.4	845.6	842.7	839.9	838.6
37.5°	814.4	812.8	811.1	809.4	807.8	805.5	802.6	799.7	796.7	793.9	792.3
40°	783.6	782.3	781.0	779.7	778.4	776.2	773.1	770.1	766.9	763.8	762.1
42.5°	752.8	751.3	749.8	748.4	746.9	744.6	741.5	738.4	735.4	732.3	730.6
45°	703.7	702.8	701.9	701.1	700.1	698.3	695.4	692.6	689.8	686.9	684.3
47.5°	654.9	653.7	652.3	651.1	649.8	647.8	645.2	642.5	639.8	637.2	634.5
50°	621.8	620.7	619.5	618.5	617.4	615.4	612.6	609.7	606.8	604.0	601.6
52.5°	587.0	586.3	585.5	584.8	584.0	582.1	579.1	576.1	573.1	570.0	568.0
55°	534.0	533.7	533.5	533.3	533.0	531.5	528.7	525.8	522.9	520.1	517.7
57.5°	483.4	482.7	481.9	481.2	480.4	478.9	476.6	474.3	472.0	469.8	467.6
60°	447.0	446.9	446.7	446.4	446.2	444.8	442.1	439.5	436.9	434.2	432.3
62.5°	414.7	414.2	413.6	413.0	412.5	410.9	408.2	405.6	402.9	400.3	398.3
65°	364.2	363.1	361.9	360.9	359.8	358.2	355.9	353.7	351.6	349.4	347.6
67.5°	310.7	309.7	308.8	307.7	306.8	305.5	303.9	302.2	300.5	298.9	297.3
70°	278.3	277.0	275.7	274.4	273.1	271.7	270.4	269.1	267.8	266.5	264.9
72.5°	244.4	243.4	242.4	241.5	240.5	239.3	237.8	236.3	234.8	233.3	232.0
75°	192.5	191.5	190.7	189.8	189.0	188.1	187.5	186.8	186.2	185.6	184.5
77.5°	146.5	146.0	145.5	145.1	144.5	143.9	143.1	142.3	141.6	140.7	140.0
80°	116.5	115.8	115.2	114.5	113.9	113.3	112.8	112.4	112.0	111.5	111.3
82.5°	87.3	87.1	87.0	86.8	86.7	86.6	86.5	86.4	86.3	86.2	85.9
85°	51.3	50.9	50.4	50.0	49.6	49.4	49.4	49.4	49.4	49.4	48.9
87.5°	20.6	20.3	20.0	19.6	19.2	19.1	19.2	19.2	19.3	19.4	19.3
90°	0.4	1.3	2.3	3.2	4.1	5.3	6.5	7.7	9.0	10.2	10.6
92.5°	7.9	7.6	7.4	7.1	6.8	7.2	8.1	9.0	9.9	10.8	11.4
95°	25.8	22.0	18.1	14.2	10.4	9.0	10.0	11.0	12.1	13.1	13.8
97.5°	51.9	50.1	48.4	46.8	45.0	40.7	33.9	27.1	20.5	13.7	14.4
100°	71.5	73.4	75.3	77.2	79.1	72.7	58.1	43.4	28.7	13.9	14.7
102.5°	93.9	95.3	96.6	98.0	99.3	92.0	76.0	59.9	43.9	27.9	25.5
105°	126.2	127.2	128.3	129.3	130.4	126.6	118.1	109.7	101.2	92.7	76.1
107.5°	160.2	161.1	161.9	162.7	163.5	164.7	166.0	167.3	168.6	169.9	157.8
110°	182.9	183.7	184.5	185.2	186.0	186.8	187.8	188.9	189.9	191.0	187.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.6	205.3	205.9	206.6	207.4	208.2	209.2	210.3	211.3	212.4	212.4
115°	236.7	237.2	237.8	238.4	238.9	239.7	240.5	241.4	242.2	243.1	244.0
117.5°	267.8	268.5	269.2	269.8	270.6	271.2	271.5	272.0	272.5	272.9	273.6
120°	287.1	287.9	288.8	289.6	290.5	291.1	291.3	291.6	291.9	292.2	292.9
122.5°	306.8	307.5	308.1	308.9	309.5	310.1	310.5	310.8	311.1	311.5	312.0
125°	333.7	334.4	335.2	335.9	336.7	337.2	337.6	338.0	338.4	338.7	338.9
127.5°	359.8	360.5	361.3	362.0	362.8	363.4	363.8	364.3	364.8	365.2	365.5
130°	376.1	376.8	377.6	378.3	379.1	379.7	380.0	380.4	380.8	381.1	381.4
132.5°	391.6	392.4	393.1	393.9	394.6	395.1	395.5	395.8	396.1	396.3	396.7
135°	415.4	415.9	416.5	417.1	417.6	418.1	418.5	418.9	419.2	419.6	419.9
137.5°	435.7	436.5	437.2	437.9	438.6	439.0	439.3	439.5	439.7	439.9	440.4
140°	449.3	449.9	450.4	451.0	451.6	451.9	452.2	452.5	452.8	453.1	453.5
142.5°	461.8	462.4	463.0	463.5	464.1	464.5	464.8	465.1	465.3	465.6	465.9
145°	479.4	480.0	480.7	481.4	482.0	482.4	482.6	482.8	483.0	483.1	483.3
147.5°	495.9	496.3	496.7	497.2	497.6	497.9	498.1	498.3	498.5	498.7	498.9
150°	506.1	506.3	506.6	506.9	507.2	507.4	507.6	507.7	507.9	508.1	508.3
152.5°	515.2	515.3	515.5	515.6	515.8	515.9	515.9	516.0	516.1	516.3	516.6
155°	528.0	527.8	527.6	527.5	527.4	527.3	527.4	527.4	527.5	527.6	528.1
157.5°	538.1	538.0	538.0	538.0	538.0	537.9	537.8	537.7	537.6	537.5	538.1
160°	544.1	544.0	543.9	543.8	543.8	543.7	543.6	543.5	543.4	543.3	543.8
162.5°	549.9	549.7	549.4	549.2	548.9	548.7	548.7	548.6	548.5	548.4	549.0
165°	556.9	556.6	556.3	556.0	555.7	555.5	555.4	555.3	555.3	555.2	555.9
167.5°	562.3	561.9	561.6	561.2	560.8	560.6	560.6	560.6	560.6	560.6	561.4
170°	565.3	565.0	564.6	564.2	563.8	563.6	563.6	563.6	563.6	563.6	564.4
172.5°	567.3	566.9	566.5	566.0	565.5	565.3	565.4	565.5	565.6	565.6	566.4
175°	570.0	569.5	569.0	568.5	568.1	567.9	568.0	568.1	568.2	568.3	568.9
177.5°	570.6	570.2	569.9	569.5	569.1	569.0	569.1	569.1	569.2	569.3	569.9
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8
2.5°	1143.4	1145.2	1146.9	1147.7	1147.5	1147.4	1147.2	1147.0
5°	1137.4	1139.5	1141.8	1142.6	1142.2	1141.8	1141.3	1140.9
7.5°	1125.3	1127.3	1129.3	1130.1	1129.8	1129.5	1129.3	1129.1
10°	1114.3	1116.2	1118.1	1119.0	1118.5	1118.0	1117.7	1117.2
12.5°	1102.1	1103.5	1105.0	1105.6	1105.3	1105.0	1104.8	1104.6
15°	1080.2	1081.9	1083.7	1083.9	1082.6	1081.3	1080.1	1078.7
17.5°	1052.5	1053.8	1055.0	1055.4	1054.9	1054.4	1054.0	1053.5
20°	1032.1	1032.9	1033.9	1034.0	1033.3	1032.6	1032.0	1031.3
22.5°	1010.4	1011.2	1011.8	1011.7	1011.0	1010.1	1009.3	1008.4
25°	974.5	974.8	975.0	974.8	974.1	973.5	972.8	972.1
27.5°	936.3	936.5	936.7	936.3	935.6	934.7	933.9	933.0
30°	909.9	909.9	909.9	909.2	907.7	906.1	904.6	903.1
32.5°	882.2	881.0	879.8	878.7	877.9	877.0	876.2	875.4
35°	837.3	835.9	834.6	833.4	832.3	831.2	830.1	829.0
37.5°	790.7	789.1	787.6	786.5	785.7	785.0	784.3	783.6
40°	760.3	758.7	756.9	755.5	754.7	753.8	752.9	752.1
42.5°	728.8	727.0	725.3	724.0	723.1	722.2	721.3	720.5
45°	681.6	679.0	676.4	674.5	673.4	672.3	671.2	670.1
47.5°	632.0	629.4	626.8	625.0	624.1	623.1	622.2	621.1
50°	599.2	596.7	594.4	592.5	591.2	589.8	588.5	587.2
52.5°	565.9	563.8	561.8	560.2	558.8	557.5	556.2	554.9
55°	515.3	512.8	510.5	508.7	507.6	506.5	505.4	504.4
57.5°	465.4	463.4	461.2	459.5	458.2	456.9	455.6	454.4
60°	430.3	428.3	426.3	424.8	423.7	422.6	421.5	420.5
62.5°	396.3	394.4	392.4	391.1	390.3	389.6	388.8	388.0
65°	345.8	344.1	342.3	341.1	340.4	339.8	339.1	338.5
67.5°	295.8	294.3	292.7	291.4	290.6	289.6	288.7	287.8
70°	263.4	261.8	260.3	259.0	257.9	256.8	255.7	254.6
72.5°	230.5	229.2	227.9	226.9	226.3	225.7	225.2	224.6
75°	183.3	182.3	181.2	180.3	179.6	179.0	178.3	177.7
77.5°	139.2	138.5	137.7	137.4	137.4	137.4	137.4	137.4
80°	111.1	110.8	110.7	110.6	110.6	110.6	110.6	110.6
82.5°	85.5	85.1	84.6	84.4	84.3	84.1	83.9	83.7
85°	48.4	48.1	47.6	47.4	47.4	47.4	47.4	47.4
87.5°	19.2	19.1	19.0	18.9	19.0	19.0	19.0	19.1
90°	10.9	11.3	11.7	12.0	12.2	12.3	12.5	12.7
92.5°	12.1	12.6	13.3	13.6	13.8	13.9	13.9	14.0
95°	14.4	15.1	15.7	16.1	16.1	16.1	16.1	16.1
97.5°	15.2	15.9	16.7	17.1	17.2	17.2	17.3	17.4
100°	15.5	16.2	17.0	17.4	17.5	17.6	17.7	17.8
102.5°	23.2	20.8	18.6	17.4	17.6	17.8	17.9	18.1
105°	59.4	42.8	26.1	17.9	18.1	18.3	18.5	18.7
107.5°	145.5	133.4	121.1	108.8	96.1	83.6	71.1	58.5
110°	184.7	181.6	178.5	170.3	156.8	143.4	129.9	116.5



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CATALOG NUMBER: S123DIW-S775D460U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	212.4	212.5	211.1	208.3	205.5	202.6	199.8
115°	245.0	245.9	246.9	247.5	247.9	248.3	248.6	249.0
117.5°	274.4	275.1	275.9	276.3	276.4	276.4	276.5	276.6
120°	293.7	294.5	295.2	295.6	295.6	295.6	295.6	295.6
122.5°	312.5	313.1	313.6	313.9	314.0	314.1	314.1	314.2
125°	339.1	339.3	339.5	339.7	339.9	340.1	340.3	340.4
127.5°	365.8	366.1	366.4	366.5	366.3	366.1	365.9	365.7
130°	381.8	382.2	382.6	382.7	382.5	382.3	382.1	381.9
132.5°	397.1	397.5	397.8	397.9	397.7	397.4	397.1	396.9
135°	420.2	420.5	420.8	420.8	420.5	420.2	419.9	419.6
137.5°	440.8	441.2	441.7	441.9	441.7	441.5	441.3	441.1
140°	453.8	454.2	454.6	454.7	454.5	454.3	454.1	453.9
142.5°	466.3	466.6	466.8	466.8	466.6	466.4	466.1	465.8
145°	483.5	483.7	483.9	484.0	484.0	484.0	484.0	484.0
147.5°	499.1	499.3	499.5	499.3	498.9	498.4	498.0	497.6
150°	508.5	508.7	508.9	508.9	508.6	508.3	508.0	507.7
152.5°	517.0	517.3	517.6	517.6	517.2	516.7	516.3	515.9
155°	528.6	529.0	529.5	529.4	528.9	528.3	527.7	527.3
157.5°	538.7	539.2	539.8	539.7	538.9	538.3	537.5	536.8
160°	544.4	545.0	545.5	545.5	544.9	544.2	543.6	542.9
162.5°	549.7	550.4	550.9	551.0	550.4	549.8	549.2	548.7
165°	556.7	557.4	558.2	558.2	557.5	556.9	556.3	555.6
167.5°	562.1	562.8	563.5	563.5	562.8	562.1	561.4	560.6
170°	565.1	565.9	566.7	566.7	565.9	565.1	564.4	563.6
172.5°	567.1	567.9	568.6	568.6	567.8	566.9	566.2	565.3
175°	569.6	570.2	570.9	570.9	570.1	569.4	568.6	567.9
177.5°	570.5	571.1	571.7	571.7	570.9	570.1	569.4	568.6
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0

(END OF REPORT)