

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: P332183-830

Luminaire Tested: **S123DIW-S1000D460U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332183-830
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: S123DIW-S1000D460U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5465.5 lumens
Efficiency: N/A
Efficacy: 118.3 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

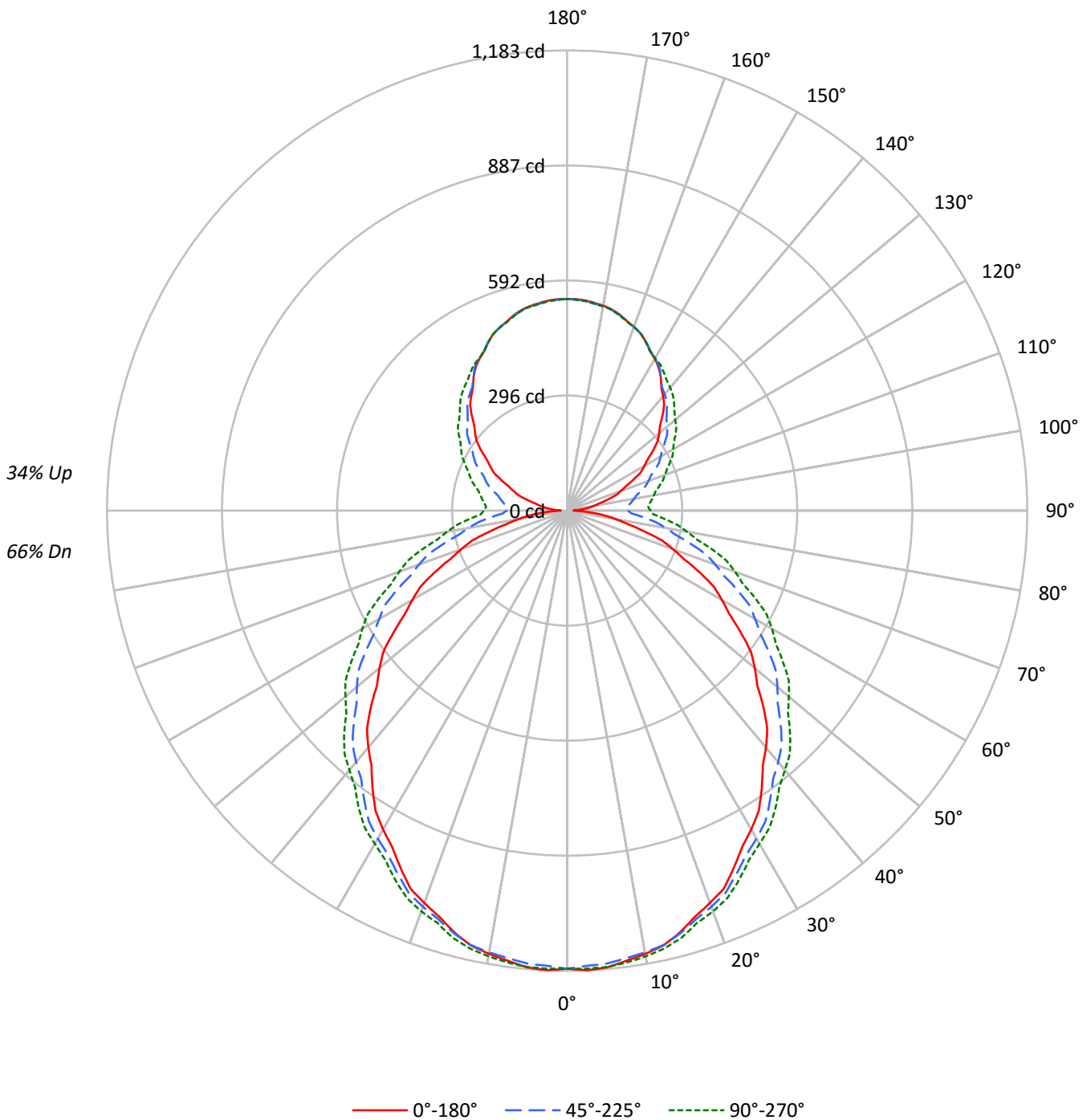
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66
1	100	95	90	86	94	89	85	82	79	76	73	69	67	65	61	59	57	53
2	91	82	75	69	85	77	71	66	68	64	60	60	57	53	53	50	47	43
3	82	72	64	57	77	68	60	55	60	54	49	53	48	44	46	43	40	36
4	75	63	55	48	70	60	52	46	53	47	42	47	42	38	41	37	34	31
5	69	56	48	41	64	53	45	39	47	41	36	42	37	33	37	33	29	26
6	63	51	42	36	59	48	40	34	43	36	31	38	33	28	33	29	26	23
7	59	46	37	31	55	43	35	30	39	32	28	34	29	25	30	26	23	20
8	55	41	33	28	51	39	32	27	35	29	24	32	26	22	28	24	20	18
9	51	38	30	25	48	36	29	24	32	26	22	29	24	20	26	21	18	16
10	48	35	27	22	45	33	26	21	30	24	20	27	22	18	24	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.6	2.0
10°-20°	318.2	5.8
20°-30°	476.0	8.7
30°-40°	568.4	10.4
40°-50°	594.7	10.9
50°-60°	558.1	10.2
60°-70°	466.1	8.5
70°-80°	333.5	6.1
80°-90°	200.5	3.7
90°-100°	160.2	2.9
100°-110°	197.7	3.6
110°-120°	241.6	4.4
120°-130°	272.2	5.0
130°-140°	282.3	5.2
140°-150°	265.4	4.9
150°-160°	220.6	4.0
160°-170°	146.9	2.7
170°-180°	51.4	0.9
0°-30°	905.9	16.6
0°-40°	1474.3	27.0
0°-60°	2627.1	48.1
0°-90°	3627.2	66.4
90°-120°	599.5	11.0
90°-150°	1419.4	26.0
90°-180°	1838.0	33.6
0°-180°	5465.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	17	84	155	199	214	13
95°	39	93	159	198	213	39
105°	106	140	197	232	245	113
115°	188	206	250	280	291	186
125°	270	273	307	331	340	241
135°	347	349	362	383	389	268
145°	419	419	420	430	434	262
155°	479	479	479	481	478	220
165°	522	520	520	522	520	147
175°	542	541	541	543	540	52
180°	544	544	544	544	544	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.2	48.6	63.0	77.4	91.7	106.3	121.1	135.9	150.7	165.5	175.2
90°	17.1	32.0	46.9	61.8	76.8	92.1	107.9	123.7	139.4	155.2	165.3
92.5°	26.0	39.2	52.5	65.7	79.0	93.1	108.1	123.1	138.2	153.2	163.0
95°	39.3	51.1	62.9	74.6	86.4	99.7	114.4	129.1	143.9	158.6	167.9
97.5°	57.3	67.9	78.4	88.9	99.4	111.7	125.5	139.4	153.4	167.2	176.2
100°	69.7	79.4	89.0	98.7	108.4	120.1	133.7	147.2	160.8	174.4	182.9
102.5°	84.0	92.6	101.1	109.6	118.2	129.2	142.7	156.3	169.8	183.2	191.6
105°	106.4	113.4	120.5	127.4	134.5	144.6	157.7	170.8	183.9	197.0	205.0
107.5°	131.1	137.0	143.0	148.9	154.9	163.8	175.8	187.8	199.7	211.7	219.6
110°	146.5	151.8	157.1	162.5	167.8	176.3	187.8	199.4	211.0	222.6	230.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	163.6	168.0	172.3	176.6	181.0	188.6	199.5	210.6	221.6	232.5	240.2
115°	187.9	191.6	195.4	199.1	202.7	209.6	219.7	229.8	239.9	250.0	256.8
117.5°	213.5	215.7	218.1	220.4	222.7	228.6	237.9	247.3	256.7	266.1	272.9
120°	228.6	230.5	232.5	234.5	236.5	242.0	250.9	259.9	268.7	277.7	284.2
122.5°	245.2	246.4	247.6	248.7	249.9	254.9	263.5	272.2	281.0	289.6	295.8
125°	269.6	269.8	270.1	270.4	270.7	274.8	283.0	291.0	299.1	307.2	312.7
127.5°	293.1	293.4	293.8	294.1	294.4	297.8	304.5	311.1	317.7	324.4	329.5
130°	308.8	309.3	309.8	310.3	310.8	313.7	319.1	324.5	329.9	335.4	340.4
132.5°	323.5	324.2	324.9	325.6	326.3	328.9	333.2	337.5	342.0	346.3	351.0
135°	347.2	347.5	347.8	348.1	348.4	350.1	353.1	356.2	359.2	362.2	367.0
137.5°	369.2	369.5	369.7	369.9	370.2	371.4	373.3	375.3	377.4	379.4	383.5
140°	383.6	384.1	384.6	385.0	385.5	386.2	387.1	388.0	389.0	390.0	394.2
142.5°	397.6	397.8	398.0	398.3	398.6	398.9	399.2	399.5	399.9	400.2	404.0
145°	419.4	419.3	419.2	419.1	419.1	419.1	419.4	419.7	420.0	420.3	422.4
147.5°	437.3	437.6	438.0	438.3	438.7	438.9	439.2	439.5	439.8	440.1	440.7
150°	450.6	450.8	451.0	451.2	451.4	451.6	451.8	451.9	452.1	452.3	452.3
152.5°	461.6	461.8	462.1	462.3	462.6	462.8	462.9	463.1	463.2	463.3	463.4
155°	478.8	478.8	478.8	478.8	478.8	478.9	479.0	479.1	479.2	479.3	479.7
157.5°	493.5	493.4	493.3	493.1	493.0	493.0	493.1	493.2	493.2	493.3	493.7
160°	502.8	502.6	502.4	502.2	502.0	501.9	501.9	501.9	501.9	501.9	502.4
162.5°	511.0	510.7	510.4	510.1	509.9	509.8	509.8	509.9	510.0	510.1	510.6
165°	521.5	521.2	520.9	520.7	520.4	520.3	520.3	520.3	520.3	520.3	520.8
167.5°	530.0	529.6	529.2	528.9	528.5	528.3	528.4	528.5	528.6	528.6	529.2
170°	534.8	534.4	534.0	533.7	533.3	533.1	533.1	533.1	533.1	533.1	533.8
172.5°	538.6	538.2	537.8	537.4	537.0	536.8	536.8	536.8	536.8	536.8	537.4
175°	542.4	542.1	541.7	541.3	540.9	540.7	540.7	540.7	540.7	540.7	541.3
177.5°	544.1	543.8	543.5	543.2	542.9	542.7	542.7	542.7	542.7	542.7	543.2
180°	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	185.0	194.8	204.5	210.8	213.8	216.7	219.5	222.4
90°	175.3	185.4	195.5	202.1	205.1	208.1	211.2	214.2
92.5°	172.7	182.5	192.2	198.4	200.9	203.4	205.9	208.4
95°	177.0	186.2	195.5	201.5	204.3	207.2	210.1	212.9
97.5°	185.1	194.0	202.9	208.9	211.6	214.4	217.3	220.1
100°	191.5	200.0	208.6	214.4	217.4	220.5	223.5	226.6
102.5°	199.9	208.2	216.6	222.2	225.0	227.7	230.5	233.4
105°	213.0	220.9	228.9	234.3	237.0	239.8	242.6	245.3
107.5°	227.6	235.5	243.5	248.6	251.0	253.4	255.8	258.3
110°	238.2	246.0	253.8	258.7	260.8	262.9	265.0	267.1



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CATALOG NUMBER: S123DIW-S1000D460U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	247.8	255.4	263.1	268.2	270.6	273.1	275.6	278.1
115°	263.8	270.8	277.7	282.3	284.5	286.6	288.8	291.0
117.5°	279.7	286.3	293.1	297.5	299.4	301.4	303.4	305.4
120°	290.6	297.1	303.5	307.6	309.5	311.3	313.1	314.9
122.5°	301.8	307.9	314.0	317.9	319.6	321.3	323.1	324.8
125°	318.4	324.0	329.6	333.2	334.8	336.4	338.0	339.7
127.5°	334.6	339.8	344.9	348.2	349.7	351.2	352.7	354.2
130°	345.4	350.4	355.4	358.5	359.6	360.6	361.7	362.7
132.5°	355.7	360.4	365.2	368.3	369.7	371.1	372.6	374.0
135°	371.7	376.5	381.3	384.3	385.5	386.7	388.0	389.2
137.5°	387.6	391.7	395.8	398.4	399.4	400.5	401.6	402.7
140°	398.3	402.6	406.7	409.2	409.9	410.7	411.4	412.2
142.5°	407.6	411.4	415.1	417.5	418.4	419.2	420.2	421.1
145°	424.7	426.9	429.0	430.6	431.3	432.1	432.8	433.6
147.5°	441.4	442.1	442.8	443.4	443.8	444.2	444.7	445.2
150°	452.3	452.3	452.3	452.3	452.3	452.3	452.3	452.3
152.5°	463.5	463.7	463.9	463.7	463.4	463.0	462.6	462.2
155°	480.0	480.4	480.8	480.6	479.9	479.3	478.6	478.0
157.5°	494.2	494.6	494.9	494.8	494.4	493.8	493.2	492.8
160°	502.8	503.3	503.8	503.8	503.4	503.0	502.7	502.3
162.5°	511.0	511.5	512.0	511.9	511.3	510.7	510.1	509.4
165°	521.4	522.0	522.5	522.5	521.8	521.1	520.5	519.8
167.5°	529.8	530.4	530.9	530.9	530.4	529.8	529.2	528.6
170°	534.4	535.1	535.7	535.7	535.1	534.4	533.8	533.1
172.5°	538.0	538.6	539.1	539.1	538.5	537.8	537.2	536.5
175°	541.9	542.4	543.0	543.0	542.3	541.7	541.0	540.4
177.5°	543.7	544.1	544.5	544.5	543.9	543.5	542.9	542.3
180°	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8

(END OF REPORT)