

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: P332134-840

Luminaire Tested: **S123DIW-S560D1030U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332134-840
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-S560D1030U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6553.6 lumens
Efficiency: N/A
Efficacy: 145.0 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-Indirect

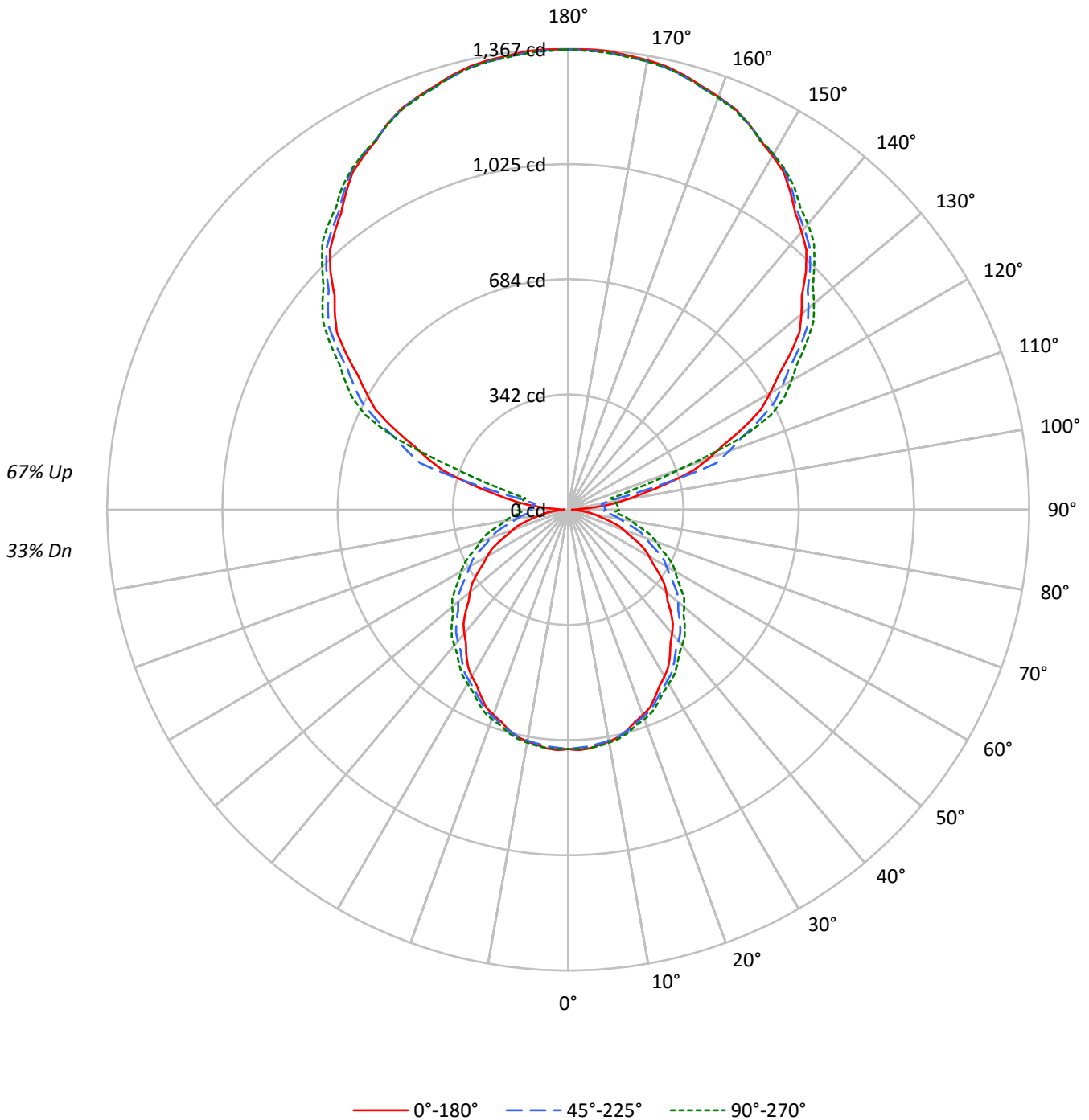
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33
1	93	89	85	81	84	80	77	74	64	61	59	49	47	46	35	34	33	27
2	85	77	71	66	76	70	64	60	55	52	48	42	40	38	30	29	27	22
3	77	68	60	54	69	61	55	50	49	44	40	37	34	31	27	25	23	18
4	70	60	52	46	63	54	47	42	43	38	34	33	30	27	24	21	20	15
5	64	53	45	39	58	48	41	36	38	33	29	29	26	23	21	19	17	13
6	59	47	39	33	53	43	36	31	34	29	25	27	23	20	19	17	15	12
7	55	42	35	29	49	39	32	27	31	26	22	24	20	18	17	15	13	10
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	13	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	15	12	10	8
10	44	32	25	20	39	29	23	19	24	19	15	19	15	12	14	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.0
10°-20°	191.9	2.9
20°-30°	287.0	4.4
30°-40°	342.8	5.2
40°-50°	358.6	5.5
50°-60°	336.5	5.1
60°-70°	281.1	4.3
70°-80°	201.1	3.1
80°-90°	123.7	1.9
90°-100°	124.9	1.9
100°-110°	291.9	4.5
110°-120°	605.2	9.2
120°-130°	744.7	11.4
130°-140°	782.6	11.9
140°-150°	725.0	11.1
150°-160°	583.2	8.9
160°-170°	376.4	5.7
170°-180°	129.7	2.0
0°-30°	546.3	8.3
0°-40°	889.0	13.6
0°-60°	1584.2	24.2
0°-90°	2190.1	33.4
90°-120°	1021.9	15.6
90°-150°	3274.2	50.0
90°-180°	4364.0	66.6
0°-180°	6553.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	11	59	112	141	152	10
95°	70	62	108	138	147	83
105°	308	333	280	132	131	327
115°	571	587	623	651	662	563
125°	802	811	836	854	862	716
135°	997	1002	1014	1031	1032	767
145°	1149	1155	1157	1165	1169	719
155°	1265	1263	1264	1268	1263	583
165°	1334	1331	1330	1337	1331	377
175°	1365	1361	1361	1368	1360	130
180°	1365	1365	1365	1365	1365	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	20.8	29.8	38.8	47.8	56.9	66.0	75.3	84.7	94.1	103.4	109.5
90°	11.1	21.7	32.4	43.1	53.8	64.9	76.6	88.4	100.1	111.8	118.5
92.5°	28.3	35.2	42.2	49.2	56.1	65.0	75.9	86.7	97.6	108.5	115.6
95°	70.4	67.9	65.3	62.8	60.2	64.4	75.3	86.2	97.1	108.1	114.9
97.5°	131.9	133.8	135.7	137.6	139.6	136.4	128.3	120.1	111.9	103.7	110.6
100°	178.3	188.4	198.4	208.4	218.4	209.7	182.6	155.3	128.1	100.8	107.6
102.5°	231.4	239.5	247.7	255.9	264.1	252.9	222.3	191.6	161.0	130.4	129.6
105°	308.4	315.1	321.6	328.3	334.9	331.7	318.8	306.0	293.1	280.1	245.1
107.5°	389.1	394.6	400.0	405.6	411.0	418.9	429.1	439.3	449.5	459.8	435.0
110°	442.8	447.7	452.6	457.5	462.4	469.6	478.9	488.3	497.6	507.0	504.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	494.7	499.0	503.1	507.3	511.4	518.1	527.1	536.2	545.3	554.4	558.9
115°	570.9	574.3	577.7	581.1	584.5	590.4	598.5	606.8	615.0	623.2	629.5
117.5°	645.2	648.1	651.1	654.0	656.9	661.9	668.6	675.5	682.4	689.2	695.1
120°	690.8	693.7	696.6	699.4	702.4	707.0	713.4	719.6	726.0	732.4	738.1
122.5°	737.9	739.9	742.0	744.2	746.3	750.5	756.8	763.1	769.3	775.5	780.6
125°	801.6	803.4	805.2	807.0	808.8	812.6	818.5	824.5	830.3	836.2	840.3
127.5°	864.0	865.8	867.4	869.0	870.6	874.0	879.2	884.4	889.7	894.8	899.0
130°	903.0	904.6	906.3	908.0	909.6	912.5	916.9	921.2	925.5	929.9	934.0
132.5°	939.8	941.5	943.3	945.0	946.8	949.5	952.9	956.3	959.9	963.3	967.3
135°	996.6	997.7	999.0	1000.2	1001.3	1003.3	1006.1	1008.9	1011.7	1014.5	1018.2
137.5°	1045.1	1046.7	1048.2	1049.9	1051.5	1053.0	1054.6	1056.1	1057.6	1059.2	1063.1
140°	1076.9	1078.3	1079.6	1081.1	1082.4	1083.7	1084.8	1086.0	1087.2	1088.4	1091.9
142.5°	1107.0	1108.2	1109.4	1110.6	1111.9	1112.9	1113.6	1114.4	1115.2	1116.0	1119.0
145°	1149.0	1150.3	1151.8	1153.2	1154.6	1155.5	1156.0	1156.4	1156.9	1157.3	1159.1
147.5°	1187.8	1188.8	1189.8	1190.8	1191.9	1192.7	1193.1	1193.6	1194.0	1194.5	1195.3
150°	1212.1	1212.7	1213.5	1214.2	1214.8	1215.4	1215.8	1216.3	1216.7	1217.2	1217.6
152.5°	1234.1	1234.4	1234.7	1235.0	1235.3	1235.6	1235.9	1236.1	1236.4	1236.7	1237.5
155°	1264.9	1264.4	1263.9	1263.5	1263.0	1262.9	1263.1	1263.3	1263.6	1263.8	1265.0
157.5°	1288.8	1288.8	1288.7	1288.7	1288.6	1288.5	1288.3	1288.0	1287.8	1287.6	1288.9
160°	1303.4	1303.1	1302.9	1302.7	1302.5	1302.2	1302.0	1301.8	1301.6	1301.4	1302.7
162.5°	1317.2	1316.6	1316.1	1315.5	1314.8	1314.4	1314.2	1314.0	1313.7	1313.5	1315.0
165°	1333.8	1333.1	1332.5	1331.8	1331.1	1330.7	1330.4	1330.2	1330.0	1329.8	1331.6
167.5°	1346.8	1345.9	1345.0	1344.1	1343.2	1342.7	1342.7	1342.7	1342.7	1342.7	1344.5
170°	1354.1	1353.2	1352.3	1351.4	1350.5	1350.1	1350.1	1350.1	1350.1	1350.1	1351.8
172.5°	1359.0	1357.9	1356.9	1355.7	1354.6	1354.2	1354.3	1354.5	1354.7	1354.9	1356.8
175°	1365.2	1364.1	1363.0	1361.9	1360.8	1360.3	1360.5	1360.8	1361.0	1361.2	1362.8
177.5°	1366.9	1365.9	1365.1	1364.2	1363.3	1362.9	1363.1	1363.3	1363.4	1363.6	1365.1
180°	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	115.4	121.5	127.5	131.5	133.2	135.0	136.8	138.7
90°	125.2	132.0	138.8	143.2	145.4	147.5	149.7	151.9
92.5°	122.7	129.9	137.0	141.5	143.4	145.2	147.0	149.0
95°	121.9	128.8	135.6	140.0	141.7	143.4	145.1	146.8
97.5°	117.5	124.4	131.4	135.8	137.7	139.7	141.7	143.6
100°	114.3	121.2	127.9	132.3	134.2	136.2	138.1	140.1
102.5°	128.9	128.2	127.3	128.1	130.2	132.3	134.4	136.5
105°	210.0	174.9	139.9	123.3	125.3	127.2	129.3	131.3
107.5°	410.4	385.8	361.1	334.6	306.0	277.4	248.8	220.4
110°	501.0	498.1	495.1	478.2	447.3	416.5	385.6	354.8



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CATALOG NUMBER: S123DIW-S560D1030U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	563.3	567.7	572.3	571.8	566.5	561.3	555.9	550.7
115°	636.0	642.4	648.7	653.1	655.3	657.6	659.8	662.2
117.5°	701.0	706.9	712.8	716.5	718.0	719.5	721.0	722.6
120°	743.9	749.6	755.4	758.9	760.1	761.2	762.4	763.7
122.5°	785.7	790.7	795.9	799.1	800.4	801.8	803.2	804.6
125°	844.3	848.4	852.4	855.4	857.0	858.6	860.3	861.9
127.5°	903.1	907.3	911.4	913.8	914.5	915.2	915.9	916.7
130°	938.3	942.4	946.5	949.0	949.6	950.1	950.7	951.3
132.5°	971.4	975.4	979.5	981.7	982.3	982.8	983.3	983.9
135°	1022.0	1025.8	1029.6	1031.6	1031.7	1031.9	1032.1	1032.3
137.5°	1066.8	1070.7	1074.4	1076.5	1076.9	1077.3	1077.7	1078.1
140°	1095.4	1098.8	1102.4	1104.3	1104.7	1105.1	1105.5	1105.9
142.5°	1122.0	1125.0	1128.0	1129.6	1129.9	1130.1	1130.3	1130.6
145°	1160.9	1162.9	1164.7	1165.9	1166.6	1167.3	1167.9	1168.6
147.5°	1196.2	1197.1	1197.9	1198.1	1197.7	1197.3	1196.9	1196.5
150°	1218.1	1218.5	1219.0	1219.0	1218.7	1218.4	1218.0	1217.7
152.5°	1238.3	1239.1	1239.9	1239.8	1238.8	1237.9	1236.9	1236.0
155°	1266.1	1267.2	1268.4	1268.2	1266.9	1265.6	1264.1	1262.8
157.5°	1290.3	1291.6	1292.9	1292.7	1291.0	1289.3	1287.5	1285.8
160°	1304.0	1305.5	1306.8	1306.7	1305.0	1303.5	1301.9	1300.3
162.5°	1316.6	1318.2	1319.7	1319.7	1318.4	1317.0	1315.6	1314.1
165°	1333.3	1335.1	1337.0	1337.1	1335.5	1333.9	1332.3	1330.8
167.5°	1346.4	1348.2	1350.0	1350.0	1348.2	1346.4	1344.5	1342.7
170°	1353.6	1355.4	1357.3	1357.3	1355.4	1353.6	1351.8	1350.1
172.5°	1358.6	1360.3	1362.1	1362.0	1360.1	1358.1	1356.0	1354.1
175°	1364.3	1365.9	1367.6	1367.5	1365.6	1363.8	1362.0	1360.2
177.5°	1366.5	1368.0	1369.4	1369.3	1367.5	1365.6	1363.8	1362.0
180°	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2

(END OF REPORT)