

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: P332772-935

Luminaire Tested: **S124DIW-S575D1560U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332772-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S575D1560U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6701.8 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

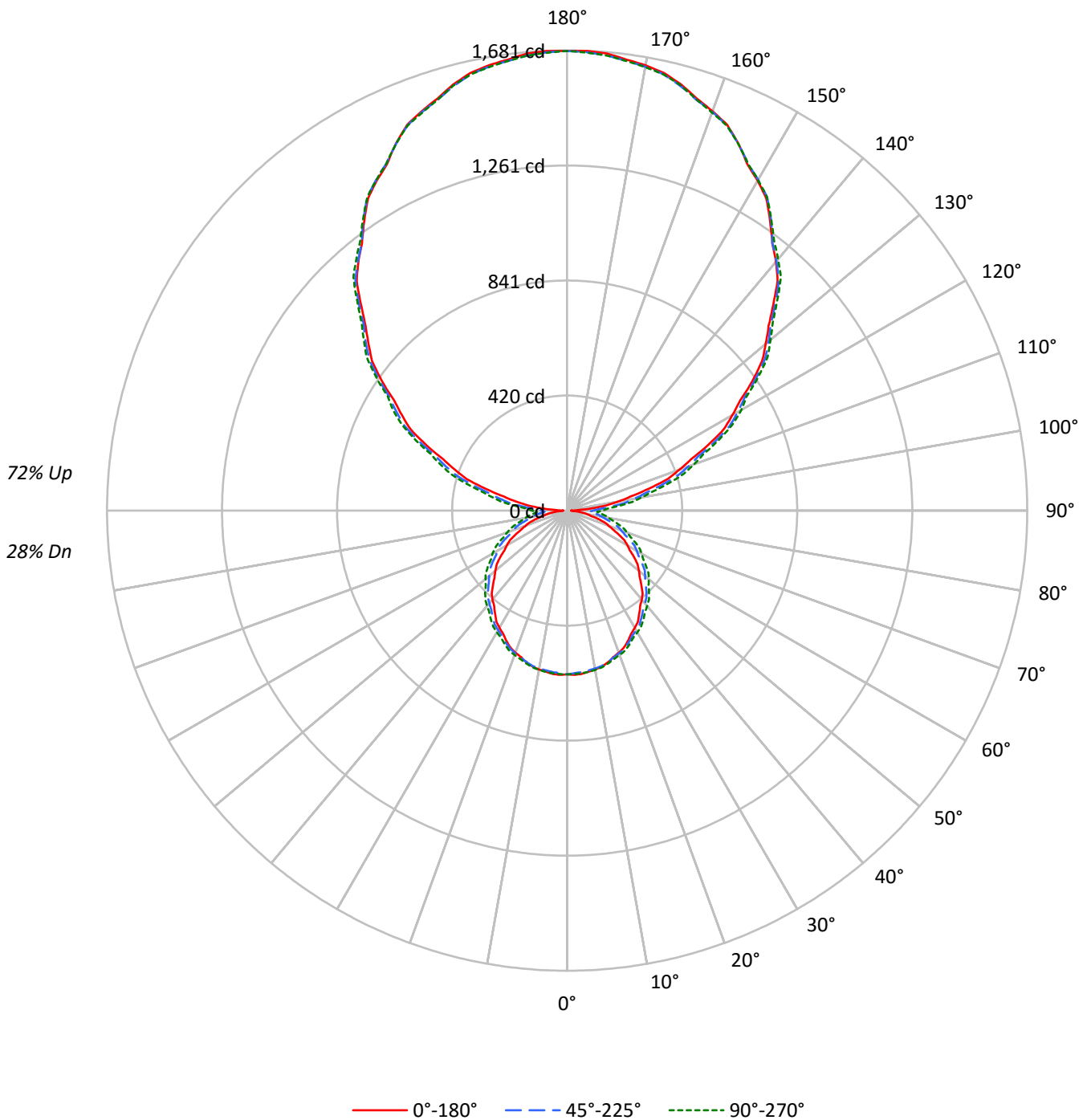
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23
2	84	76	70	65	75	68	63	59	53	50	47	40	37	35	27	25	24	18
3	76	67	60	54	68	60	54	49	47	42	39	35	32	29	24	22	20	15
4	70	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	35	37	32	28	27	24	21	19	17	15	11
6	58	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	15	13	11	9
8	50	38	30	25	44	34	28	23	27	22	19	20	17	14	14	12	10	8
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7
10	43	31	24	20	39	28	22	18	23	18	15	17	14	11	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4830	4830	4830
5°	4845	4721	4734
10°	4816	4644	4639
15°	4772	4554	4529
20°	4707	4455	4422
25°	4634	4345	4302
30°	4555	4235	4181
35°	4464	4122	4074
40°	4393	4015	3964
45°	4286	3916	3867
50°	4195	3803	3767
55°	4102	3695	3648
60°	3957	3557	3541
65°	3798	3411	3409
70°	3603	3243	3253
75°	3334	3060	3114
80°	3035	2882	2977
85°	2656	2725	2896



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.7	0.8
10°-20°	162.3	2.4
20°-30°	245.5	3.7
30°-40°	297.0	4.4
40°-50°	314.0	4.7
50°-60°	295.5	4.4
60°-70°	245.2	3.7
70°-80°	172.2	2.6
80°-90°	102.4	1.5
90°-100°	168.5	2.5
100°-110°	370.8	5.5
110°-120°	585.4	8.7
120°-130°	750.2	11.2
130°-140°	831.4	12.4
140°-150°	811.5	12.1
150°-160°	681.3	10.2
160°-170°	453.3	6.8
170°-180°	158.7	2.4
0°-30°	464.5	6.9
0°-40°	761.4	11.4
0°-60°	1370.9	20.5
0°-90°	1890.6	28.2
90°-120°	1124.7	16.8
90°-150°	3517.8	52.5
90°-180°	4811.0	71.8
0°-180°	6701.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	598	598	598	598	598	
5°	599	597	592	597	597	57
15°	574	575	573	578	578	162
25°	525	529	531	538	539	242
35°	460	468	474	483	486	288
45°	383	396	409	420	423	296
55°	300	314	334	347	352	267
65°	208	229	252	268	274	206
75°	115	140	168	186	193	123
85°	36	64	94	113	121	38
90°	15	56	95	121	130	12
95°	87	121	157	178	185	94
105°	308	324	353	373	383	328
115°	570	577	595	608	612	562
125°	827	827	842	851	853	737
135°	1065	1072	1077	1085	1085	823
145°	1292	1297	1298	1301	1300	809
155°	1480	1480	1479	1483	1479	681
165°	1611	1607	1605	1612	1607	454
175°	1676	1670	1668	1676	1668	159
180°	1679	1679	1679	1679	1679	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	600.5	600.1	599.8	599.3	599.0	598.4	597.4	596.5	595.5	594.5	595.4
5°	599.0	598.6	598.1	597.6	597.2	596.4	595.4	594.3	593.3	592.3	593.5
7.5°	593.9	593.6	593.3	593.1	592.8	592.3	591.4	590.6	589.6	588.8	590.1
10°	589.6	589.4	589.3	589.2	589.0	588.6	587.8	587.0	586.3	585.6	586.9
12.5°	583.7	583.7	583.7	583.6	583.6	583.3	582.8	582.3	581.8	581.3	582.5
15°	574.2	574.4	574.5	574.6	574.8	574.6	574.2	573.8	573.3	572.8	574.2
17.5°	561.2	561.6	562.1	562.5	563.0	563.2	563.1	563.0	562.9	562.8	564.1
20°	552.1	552.5	552.9	553.5	553.9	554.1	554.3	554.5	554.6	554.7	556.2
22.5°	541.9	542.4	543.0	543.5	544.2	544.6	544.8	545.1	545.4	545.6	547.2
25°	525.3	526.2	527.1	528.0	528.8	529.5	529.9	530.4	530.9	531.3	533.0
27.5°	506.8	508.1	509.4	510.7	512.0	513.0	513.7	514.4	515.1	515.7	517.3
30°	494.5	495.7	496.8	498.0	499.2	500.3	501.4	502.4	503.4	504.5	506.2
32.5°	481.0	482.5	483.9	485.3	486.8	488.1	489.2	490.4	491.5	492.8	494.6
35°	459.6	461.4	463.2	464.9	466.7	468.4	469.8	471.4	472.9	474.3	476.5
37.5°	438.1	440.1	442.1	444.2	446.3	448.2	450.0	451.9	453.7	455.6	457.7
40°	424.1	426.0	428.0	429.9	431.9	433.9	435.9	438.0	440.1	442.2	444.4
42.5°	408.0	410.2	412.3	414.6	416.7	419.0	421.5	423.9	426.4	428.8	431.3
45°	383.2	386.1	388.9	391.8	394.5	397.4	400.2	403.0	405.9	408.7	411.2
47.5°	359.6	362.4	365.3	368.2	371.2	374.3	377.5	380.8	384.1	387.4	390.0
50°	342.3	345.6	348.9	352.2	355.5	358.8	362.1	365.3	368.6	371.9	374.8
52.5°	325.2	328.5	331.7	335.0	338.3	341.8	345.6	349.3	353.1	356.8	359.8
55°	300.1	303.2	306.4	309.5	312.6	316.4	320.9	325.4	329.8	334.3	337.3
57.5°	272.2	276.0	279.9	283.8	287.7	291.8	296.2	300.7	305.1	309.5	313.1
60°	253.9	257.8	261.7	265.5	269.4	273.8	278.7	283.6	288.5	293.4	296.9
62.5°	236.3	240.5	244.7	248.9	253.1	257.7	262.6	267.5	272.5	277.4	280.8
65°	207.7	212.5	217.2	222.0	226.8	231.7	236.7	241.8	246.8	251.9	255.6
67.5°	180.2	185.3	190.4	195.4	200.4	205.7	211.1	216.5	222.0	227.4	231.2
70°	161.4	166.5	171.6	176.7	181.8	187.1	192.7	198.4	204.1	209.7	213.7
72.5°	143.3	148.4	153.6	158.8	163.9	169.5	175.6	181.6	187.6	193.6	197.5
75°	115.2	120.7	126.2	131.7	137.2	143.2	149.4	155.7	162.0	168.2	172.4
77.5°	89.1	95.0	100.8	106.6	112.4	118.6	125.2	131.7	138.3	144.8	149.0
80°	73.0	79.0	85.0	90.9	96.9	103.1	109.7	116.2	122.8	129.3	133.8
82.5°	56.9	63.1	69.3	75.5	81.7	88.1	94.6	101.2	107.7	114.3	118.9
85°	35.5	41.8	48.0	54.2	60.5	67.0	73.7	80.4	87.1	93.8	98.2
87.5°	20.6	27.3	34.0	40.7	47.4	54.3	61.3	68.3	75.3	82.2	86.9
90°	14.6	23.8	32.9	42.0	51.1	60.0	68.8	77.5	86.2	94.9	100.9
92.5°	38.0	46.9	56.0	64.9	74.0	82.5	90.5	98.5	106.5	114.5	119.8
95°	86.6	94.1	101.6	109.2	116.7	124.5	132.6	140.7	148.9	157.0	161.9
97.5°	144.0	150.2	156.6	162.9	169.2	176.5	184.9	193.4	201.7	210.2	215.2
100°	189.2	194.2	199.1	204.2	209.2	215.9	224.4	232.7	241.2	249.5	254.2
102.5°	236.9	240.7	244.6	248.5	252.4	258.3	266.3	274.4	282.4	290.5	295.2
105°	308.5	311.8	315.0	318.3	321.6	326.6	333.2	339.8	346.6	353.2	357.8
107.5°	385.0	387.8	390.5	393.4	396.1	400.2	405.6	411.0	416.4	421.7	426.2
110°	436.4	439.0	441.7	444.4	447.0	450.8	455.7	460.6	465.5	470.5	473.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	489.8	491.8	493.8	495.8	497.7	500.9	505.3	509.8	514.3	518.8	521.9
115°	570.1	571.4	572.7	574.1	575.4	578.2	582.4	586.5	590.7	595.0	597.9
117.5°	646.3	647.3	648.3	649.4	650.4	652.9	656.9	661.0	665.0	669.1	671.1
120°	696.6	698.2	699.8	701.5	703.0	705.5	709.0	712.5	715.9	719.4	720.9
122.5°	749.6	750.1	750.7	751.2	751.8	753.9	757.6	761.2	764.9	768.6	770.6
125°	827.1	826.9	826.7	826.6	826.5	828.1	831.6	835.0	838.4	841.9	844.1
127.5°	897.9	898.5	899.2	900.0	900.7	902.2	904.7	907.1	909.5	911.8	914.0
130°	947.1	947.9	948.6	949.3	950.0	951.6	953.9	956.3	958.7	961.0	963.2
132.5°	998.0	998.5	999.0	999.4	1000.0	1001.1	1002.7	1004.4	1006.1	1007.7	1009.7
135°	1064.6	1066.3	1068.1	1069.8	1071.5	1072.9	1073.9	1075.0	1076.1	1077.1	1078.9
137.5°	1137.8	1138.5	1139.1	1139.8	1140.5	1141.3	1142.2	1143.2	1144.2	1145.1	1146.6
140°	1186.6	1187.1	1187.5	1187.9	1188.4	1188.6	1188.8	1189.0	1189.1	1189.2	1190.8
142.5°	1230.8	1231.3	1231.8	1232.4	1233.0	1233.0	1232.8	1232.4	1232.1	1231.7	1233.5
145°	1292.4	1293.4	1294.4	1295.5	1296.4	1297.1	1297.4	1297.7	1298.0	1298.2	1298.8
147.5°	1353.7	1355.0	1356.2	1357.5	1358.7	1359.2	1358.9	1358.7	1358.5	1358.2	1358.1
150°	1391.1	1392.1	1393.1	1394.1	1395.1	1395.6	1395.6	1395.6	1395.6	1395.6	1395.6
152.5°	1425.9	1426.5	1427.2	1427.9	1428.5	1429.0	1429.2	1429.4	1429.7	1429.9	1430.6
155°	1480.0	1480.0	1480.0	1480.0	1480.0	1479.9	1479.5	1479.3	1479.0	1478.7	1479.9
157.5°	1525.7	1525.2	1524.7	1524.1	1523.6	1523.4	1523.3	1523.2	1523.2	1523.1	1524.0
160°	1552.7	1552.4	1552.1	1551.9	1551.5	1551.3	1551.0	1550.7	1550.4	1550.1	1551.0
162.5°	1577.6	1576.9	1576.1	1575.4	1574.6	1574.1	1573.8	1573.6	1573.2	1573.0	1574.5
165°	1611.1	1610.2	1609.4	1608.5	1607.7	1607.0	1606.4	1605.8	1605.2	1604.6	1606.4
167.5°	1636.8	1635.6	1634.4	1633.2	1632.0	1631.4	1631.5	1631.5	1631.6	1631.7	1633.4
170°	1651.4	1649.9	1648.5	1647.0	1645.6	1645.0	1645.3	1645.6	1645.9	1646.1	1647.9
172.5°	1661.7	1660.5	1659.3	1658.1	1656.9	1656.3	1656.4	1656.5	1656.5	1656.6	1658.5
175°	1676.0	1674.6	1673.2	1671.7	1670.3	1669.4	1669.1	1668.8	1668.5	1668.3	1670.3
177.5°	1680.7	1679.6	1678.4	1677.2	1676.1	1675.5	1675.5	1675.5	1675.5	1675.5	1677.1
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	596.2	597.0	597.9	598.2	598.1	598.0	597.9	597.8
5°	594.7	595.8	597.0	597.5	597.4	597.3	597.1	596.9
7.5°	591.5	592.8	594.2	594.8	594.6	594.4	594.3	594.2
10°	588.2	589.6	590.9	591.5	591.4	591.2	591.1	590.9
12.5°	583.8	585.0	586.2	586.8	586.8	586.7	586.7	586.7
15°	575.5	576.9	578.2	578.8	578.7	578.5	578.3	578.2
17.5°	565.5	566.9	568.3	568.9	568.8	568.7	568.5	568.4
20°	557.8	559.2	560.7	561.5	561.5	561.5	561.5	561.5
22.5°	548.6	550.1	551.6	552.5	552.7	552.9	553.2	553.5
25°	534.6	536.2	537.9	538.7	538.9	539.1	539.2	539.3
27.5°	518.8	520.3	521.9	522.7	522.9	523.1	523.2	523.4
30°	507.8	509.5	511.1	512.0	512.3	512.6	512.9	513.2
32.5°	496.5	498.3	500.2	501.3	501.6	501.9	502.2	502.5
35°	478.5	480.6	482.7	484.0	484.4	484.8	485.3	485.8
37.5°	459.9	461.9	464.1	465.4	465.8	466.3	466.7	467.3
40°	446.7	448.9	451.2	452.5	453.1	453.7	454.3	455.0
42.5°	433.8	436.2	438.7	440.1	440.7	441.1	441.6	442.0
45°	413.8	416.3	418.8	420.4	421.2	422.0	422.7	423.4
47.5°	392.6	395.3	397.9	399.6	400.5	401.4	402.3	403.2
50°	377.8	380.8	383.7	385.7	386.6	387.4	388.4	389.3
52.5°	362.8	365.8	368.8	370.7	371.6	372.5	373.3	374.3
55°	340.3	343.3	346.2	348.2	349.0	350.0	350.9	351.7
57.5°	316.6	320.2	323.7	325.9	326.7	327.5	328.4	329.2
60°	300.3	303.8	307.1	309.4	310.6	311.9	313.1	314.3
62.5°	284.2	287.7	291.1	293.3	294.5	295.8	297.0	298.2
65°	259.3	263.1	266.8	269.2	270.4	271.6	272.9	274.1
67.5°	235.0	238.8	242.5	245.0	246.2	247.3	248.5	249.6
70°	217.7	221.8	225.8	228.3	229.4	230.4	231.4	232.5
72.5°	201.4	205.3	209.2	211.7	212.9	214.0	215.2	216.4
75°	176.5	180.6	184.9	187.6	188.9	190.3	191.7	193.0
77.5°	153.3	157.6	161.8	164.6	166.0	167.5	168.8	170.3
80°	138.3	142.7	147.1	150.0	151.2	152.4	153.6	154.8
82.5°	123.5	128.0	132.7	135.6	136.9	138.2	139.5	140.9
85°	102.7	107.2	111.7	114.7	116.1	117.6	119.1	120.6
87.5°	91.5	96.3	100.9	103.9	105.4	106.8	108.2	109.6
90°	107.0	113.0	119.1	123.0	124.8	126.6	128.3	130.1
92.5°	125.0	130.3	135.4	138.9	140.4	141.9	143.4	145.0
95°	166.7	171.6	176.5	179.6	181.0	182.3	183.7	184.9
97.5°	220.1	225.0	230.0	233.1	234.4	235.7	236.9	238.2
100°	258.7	263.4	267.9	270.8	271.8	272.9	273.9	274.9
102.5°	299.9	304.6	309.4	312.4	313.7	315.1	316.6	318.0
105°	362.4	367.0	371.5	374.9	376.9	379.0	381.1	383.1
107.5°	430.7	435.1	439.6	442.4	443.4	444.4	445.4	446.4
110°	476.2	479.1	481.9	484.3	486.4	488.4	490.5	492.6



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CATALOG NUMBER: S124DIW-S575D1560U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	525.1	528.3	531.5	533.7	535.1	536.5	537.9	539.2
115°	600.9	603.9	606.9	608.7	609.5	610.3	611.1	611.7
117.5°	673.3	675.5	677.5	678.9	679.5	680.1	680.7	681.3
120°	722.5	723.9	725.5	727.1	728.9	730.6	732.5	734.3
122.5°	772.6	774.6	776.6	777.6	777.7	777.7	777.7	777.7
125°	846.4	848.6	850.8	852.1	852.5	852.7	853.1	853.4
127.5°	916.0	918.2	920.2	921.5	922.1	922.6	923.3	923.8
130°	965.3	967.4	969.5	970.4	970.2	969.9	969.7	969.4
132.5°	1011.7	1013.7	1015.7	1016.9	1017.4	1017.8	1018.2	1018.6
135°	1080.7	1082.5	1084.3	1085.2	1085.3	1085.3	1085.3	1085.4
137.5°	1148.0	1149.4	1150.8	1152.0	1153.0	1153.8	1154.8	1155.7
140°	1192.6	1194.2	1195.8	1196.9	1197.3	1197.8	1198.3	1198.7
142.5°	1235.1	1236.7	1238.4	1239.4	1240.0	1240.6	1241.1	1241.7
145°	1299.4	1300.0	1300.6	1300.8	1300.5	1300.3	1300.0	1299.8
147.5°	1358.0	1357.9	1357.8	1357.8	1358.0	1358.2	1358.4	1358.6
150°	1395.6	1395.6	1395.6	1395.5	1395.2	1394.9	1394.6	1394.3
152.5°	1431.2	1431.9	1432.6	1432.6	1431.8	1431.2	1430.4	1429.6
155°	1481.0	1482.1	1483.3	1483.3	1482.1	1481.0	1479.9	1478.7
157.5°	1524.8	1525.7	1526.6	1526.5	1525.5	1524.6	1523.5	1522.6
160°	1551.9	1552.7	1553.6	1553.2	1551.9	1550.4	1548.9	1547.5
162.5°	1576.1	1577.6	1579.2	1579.2	1577.8	1576.4	1574.9	1573.5
165°	1608.1	1609.8	1611.5	1611.9	1610.7	1609.6	1608.3	1607.2
167.5°	1635.1	1636.8	1638.6	1638.6	1636.8	1635.0	1633.1	1631.3
170°	1649.7	1651.4	1653.1	1652.9	1651.0	1648.9	1646.9	1644.9
172.5°	1660.5	1662.4	1664.4	1664.4	1662.3	1660.4	1658.3	1656.3
175°	1672.3	1674.3	1676.4	1676.4	1674.3	1672.3	1670.3	1668.3
177.5°	1678.8	1680.3	1682.0	1681.9	1680.0	1678.2	1676.4	1674.5
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6

(END OF REPORT)