

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: P332723-840

Luminaire Tested: **S124DIW-S350D770U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332723-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D770U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4558.2 lumens
Efficiency: N/A
Efficacy: 149.9 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

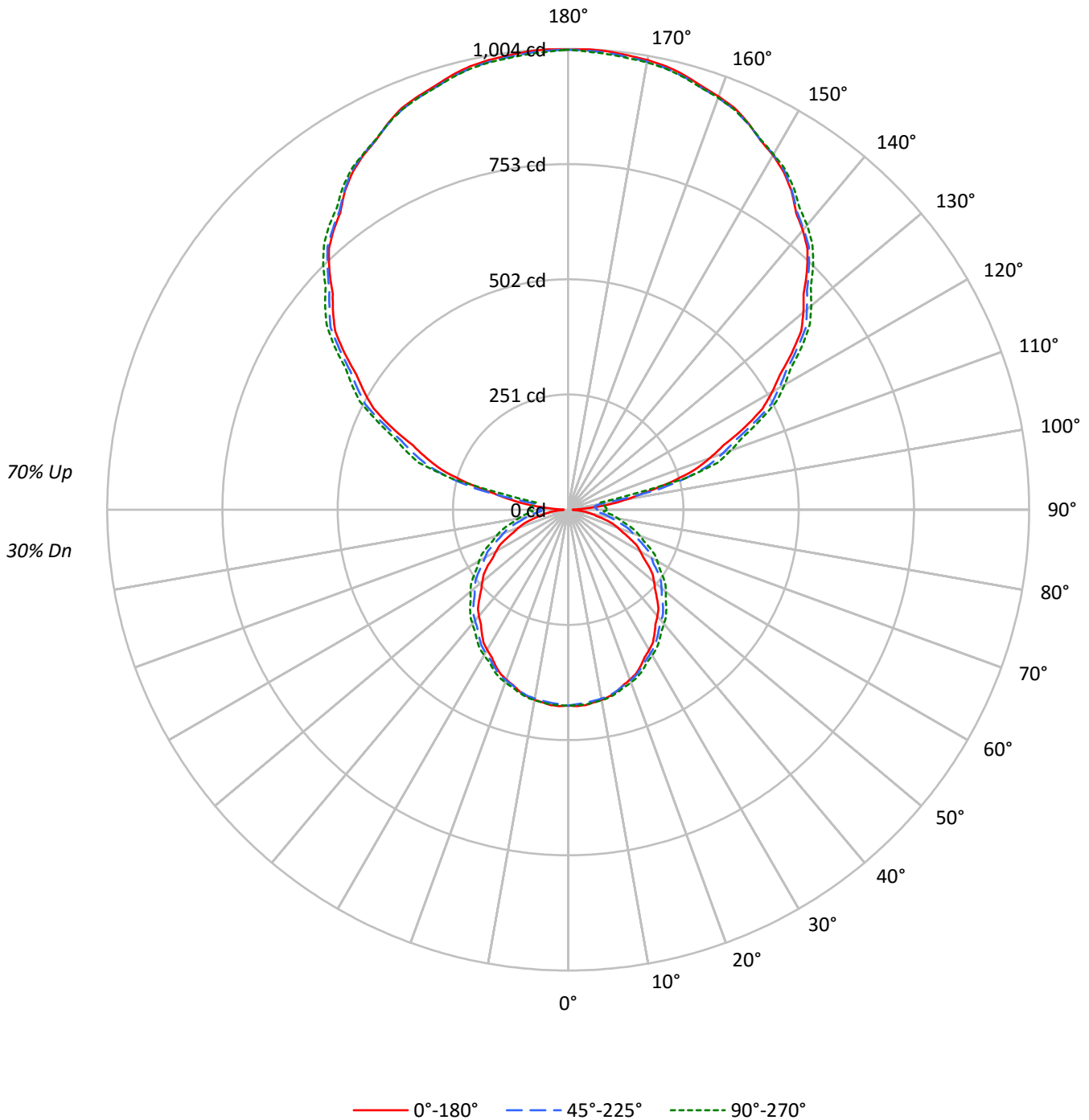
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332723-840

CATALOG NUMBER: S124DIW-S350D770U840-4F0-1E-UDD-D

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	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	88	84	81	83	79	76	73	62	60	58	46	45	44	32	31	30	24
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8
9	46	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	9	7
10	43	32	24	20	39	29	22	18	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.9
10°-20°	115.8	2.5
20°-30°	175.1	3.8
30°-40°	211.9	4.6
40°-50°	224.0	4.9
50°-60°	210.8	4.6
60°-70°	174.9	3.8
70°-80°	122.9	2.7
80°-90°	72.3	1.6
90°-100°	75.5	1.7
100°-110°	249.1	5.5
110°-120°	438.6	9.6
120°-130°	542.3	11.9
130°-140°	572.9	12.6
140°-150°	532.0	11.7
150°-160°	428.2	9.4
160°-170°	276.2	6.1
170°-180°	95.2	2.1
0°-30°	331.4	7.3
0°-40°	543.2	11.9
0°-60°	978.1	21.5
0°-90°	1348.2	29.6
90°-120°	763.2	16.7
90°-150°	2410.4	52.9
90°-180°	3210.0	70.4
0°-180°	4558.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	10	37	64	82	88	7
95°	48	39	58	75	80	58
105°	230	244	265	282	261	241
115°	424	431	445	457	461	417
125°	594	597	607	618	622	530
135°	736	735	741	750	755	567
145°	848	849	849	853	856	529
155°	929	929	927	930	928	428
165°	980	976	976	981	975	277
175°	1002	998	998	1004	996	95
180°	1002	1002	1002	1002	1002	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.6	19.3	24.0	28.7	33.4	38.2	43.1	48.1	52.9	57.9	61.2
90°	9.9	16.0	22.0	28.2	34.2	40.2	46.2	52.0	57.9	63.8	67.9
92.5°	16.7	20.6	24.5	28.5	32.4	37.4	43.2	49.1	55.0	60.9	64.9
95°	47.5	45.2	43.1	41.0	38.8	40.0	44.5	49.1	53.5	58.1	61.9
97.5°	93.2	99.8	106.3	112.8	119.4	115.5	101.3	86.9	72.7	58.4	61.3
100°	128.2	133.9	139.7	145.5	151.3	144.7	125.8	107.0	88.2	69.3	69.4
102.5°	167.7	172.4	177.0	181.7	186.2	189.0	190.2	191.2	192.3	193.3	165.5
105°	229.9	233.1	236.2	239.3	242.5	246.4	251.2	255.9	260.6	265.4	269.5
107.5°	288.4	290.7	293.0	295.2	297.4	300.9	305.8	310.6	315.5	320.3	323.8
110°	327.7	329.6	331.6	333.7	335.6	338.9	343.7	348.4	353.1	357.8	360.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.7	367.9	370.1	372.3	374.6	377.6	381.6	385.7	389.7	393.6	396.0
115°	424.1	425.6	427.1	428.5	430.0	432.3	435.6	438.8	442.0	445.2	447.9
117.5°	477.3	478.5	479.8	481.0	482.2	484.6	488.2	491.7	495.2	498.8	500.9
120°	512.9	513.8	514.8	515.8	516.8	518.8	521.7	524.6	527.6	530.4	532.9
122.5°	546.4	546.9	547.3	547.9	548.4	550.1	553.3	556.4	559.6	562.7	565.0
125°	594.1	594.7	595.2	595.8	596.3	597.7	600.1	602.4	604.7	607.0	609.6
127.5°	639.5	639.6	639.7	639.7	639.9	641.3	644.1	646.9	649.6	652.5	654.3
130°	668.6	668.6	668.7	668.7	668.8	669.9	672.2	674.4	676.5	678.7	680.9
132.5°	695.6	695.8	696.0	696.2	696.3	697.4	699.4	701.5	703.4	705.4	707.4
135°	735.6	735.4	735.3	735.1	734.9	735.5	736.9	738.3	739.7	741.1	743.2
137.5°	771.4	771.3	771.3	771.3	771.2	771.7	772.8	774.0	775.1	776.2	778.1
140°	794.8	795.1	795.3	795.5	795.7	796.1	796.5	796.9	797.4	797.8	799.7
142.5°	815.4	816.0	816.6	817.2	817.7	818.1	818.2	818.3	818.5	818.6	820.2
145°	847.6	847.9	848.3	848.7	849.1	849.3	849.3	849.3	849.3	849.3	850.1
147.5°	873.1	874.0	874.8	875.7	876.5	876.8	876.7	876.5	876.3	876.2	876.4
150°	891.8	892.3	892.9	893.4	894.0	894.2	894.0	893.8	893.7	893.5	893.5
152.5°	907.0	907.5	908.0	908.5	909.0	909.1	908.8	908.6	908.3	908.0	908.2
155°	928.8	929.0	929.1	929.3	929.5	929.3	928.8	928.3	927.8	927.3	928.0
157.5°	947.3	947.2	947.1	947.0	946.8	946.4	945.9	945.3	944.7	944.2	945.0
160°	958.0	957.5	957.0	956.5	956.0	955.6	955.5	955.3	955.1	955.0	956.0
162.5°	967.6	966.9	966.3	965.7	965.0	964.6	964.5	964.3	964.1	964.0	965.0
165°	979.8	978.9	978.1	977.2	976.4	976.0	976.0	976.0	976.0	976.0	977.3
167.5°	989.4	988.5	987.6	986.7	985.8	985.4	985.3	985.2	985.1	985.0	986.4
170°	994.7	993.7	992.7	991.7	990.8	990.3	990.5	990.7	990.8	991.0	992.3
172.5°	998.4	997.3	996.3	995.3	994.3	993.9	994.1	994.2	994.4	994.6	995.9
175°	1002.2	1001.2	1000.3	999.3	998.3	997.8	997.9	998.2	998.4	998.5	1000.0
177.5°	1004.0	1003.1	1002.2	1001.2	1000.3	1000.0	1000.3	1000.5	1000.8	1001.0	1002.1
180°	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	64.4	67.8	71.0	73.1	74.1	75.1	76.1	77.2
90°	72.0	76.0	80.2	82.8	83.9	85.1	86.3	87.5
92.5°	68.9	72.9	76.9	79.4	80.3	81.2	82.1	83.0
95°	65.8	69.7	73.5	76.0	77.2	78.3	79.4	80.5
97.5°	64.2	67.1	70.0	71.9	73.0	74.1	75.1	76.2
100°	69.4	69.4	69.5	69.9	70.8	71.7	72.6	73.6
102.5°	137.8	110.1	82.3	68.8	69.7	70.5	71.4	72.3
105°	273.8	277.9	282.1	281.6	276.4	271.2	266.1	260.9
107.5°	327.1	330.4	333.8	336.1	337.5	338.9	340.3	341.7
110°	363.3	366.2	368.9	371.0	372.3	373.7	375.1	376.4



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CATALOG NUMBER: S124DIW-S350D770U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	398.3	400.6	402.8	404.8	406.3	407.7	409.2	410.7
115°	450.6	453.2	456.0	457.7	458.4	459.1	459.9	460.6
117.5°	503.0	505.1	507.4	508.8	509.6	510.4	511.1	511.9
120°	535.3	537.8	540.3	541.7	542.3	542.8	543.3	543.8
122.5°	567.3	569.7	572.0	573.4	573.8	574.2	574.6	575.1
125°	612.1	614.6	617.1	618.8	619.7	620.5	621.3	622.0
127.5°	656.1	657.9	659.7	661.0	661.6	662.1	662.7	663.3
130°	682.9	685.0	687.1	688.4	689.0	689.7	690.3	690.9
132.5°	709.4	711.3	713.4	714.7	715.2	715.7	716.1	716.6
135°	745.3	747.3	749.3	750.8	751.7	752.8	753.7	754.7
137.5°	780.0	781.9	783.9	785.0	785.5	785.9	786.3	786.7
140°	801.5	803.4	805.3	806.6	807.3	808.0	808.7	809.4
142.5°	821.7	823.3	825.0	826.0	826.5	826.9	827.4	827.9
145°	850.9	851.7	852.5	853.3	854.0	854.9	855.6	856.4
147.5°	876.6	876.8	877.0	877.4	877.9	878.4	878.9	879.4
150°	893.5	893.5	893.5	893.6	893.8	893.9	894.1	894.2
152.5°	908.5	908.7	909.0	909.1	909.0	908.9	908.8	908.7
155°	928.6	929.3	929.9	930.0	929.5	929.0	928.5	928.1
157.5°	945.9	946.8	947.7	947.7	946.8	945.9	945.0	944.2
160°	957.0	958.0	959.0	959.0	958.0	957.0	956.0	955.0
162.5°	966.0	966.9	968.0	968.0	966.8	965.6	964.5	963.4
165°	978.7	980.0	981.3	981.3	979.8	978.3	976.7	975.2
167.5°	988.0	989.4	990.9	990.8	989.1	987.4	985.7	984.1
170°	993.6	995.0	996.3	996.1	994.5	992.8	991.2	989.5
172.5°	997.2	998.6	999.9	999.7	997.8	996.1	994.3	992.5
175°	1001.5	1003.0	1004.5	1004.2	1002.2	1000.3	998.3	996.2
177.5°	1003.2	1004.2	1005.3	1005.0	1003.4	1001.8	1000.3	998.7
180°	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2

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