

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: P331509-930

Luminaire Tested: **S122DIW-S485D970U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331509-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D970U930-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4760.6 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

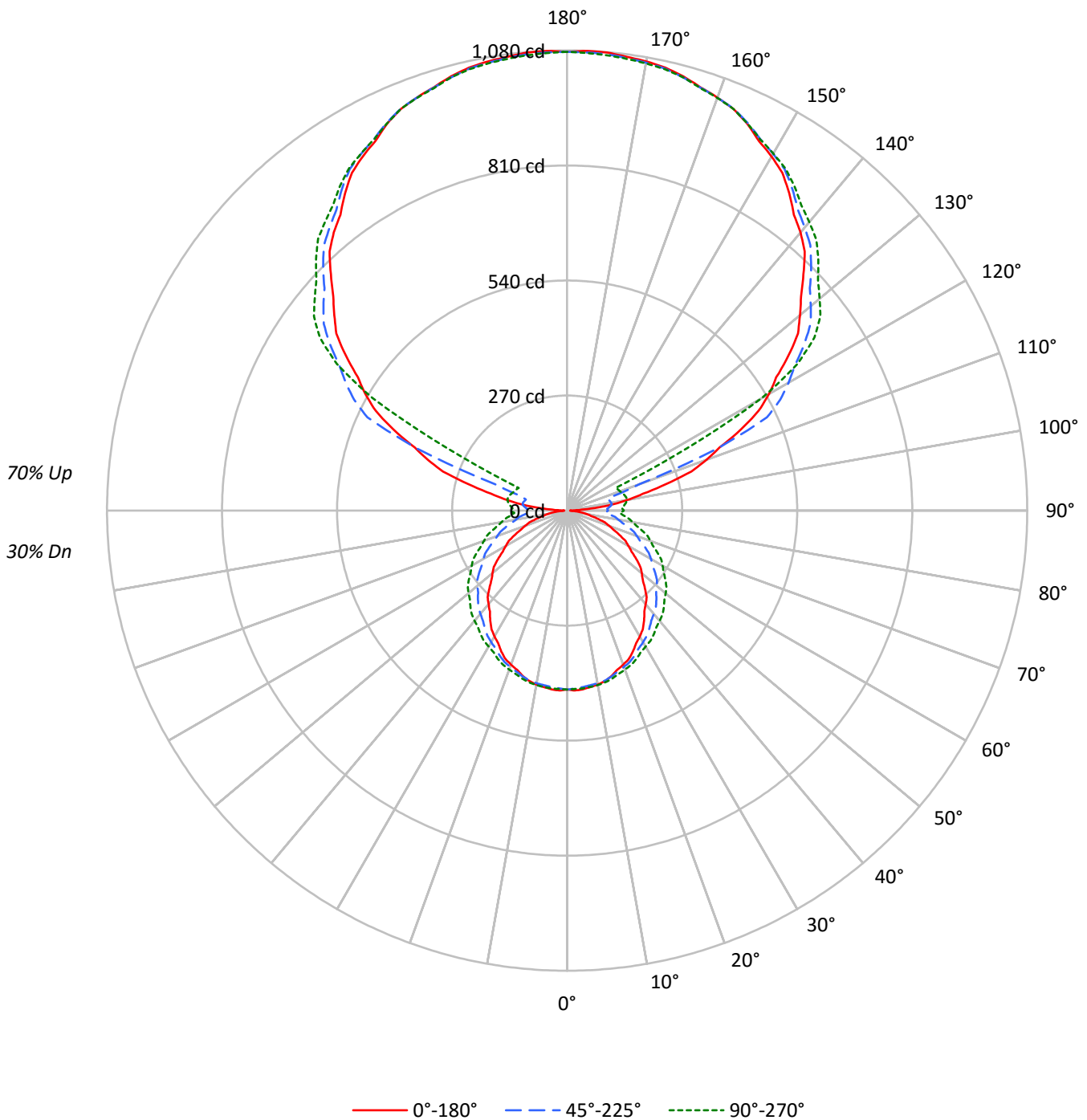
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331509-930

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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	92	92	92	92	72	72	72	54	54	54	38	38	38	30
1	92	88	84	80	83	79	75	72	62	59	57	46	45	43	32	31	30	23
2	84	76	70	65	75	68	63	58	54	50	47	40	38	35	27	26	25	19
3	76	67	59	53	68	60	53	48	47	42	39	35	32	29	24	22	20	16
4	69	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	34	37	32	28	28	24	21	19	17	15	11
6	58	46	38	33	52	42	35	30	33	28	24	25	21	18	17	15	13	10
7	54	42	34	28	48	38	31	26	30	25	21	22	19	16	16	13	11	9
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	12	10	8
9	46	34	27	22	41	31	24	20	25	20	16	19	15	13	13	11	9	7
10	43	31	24	19	39	28	22	18	23	18	15	17	14	11	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6783	6783	6783
5°	6816	6530	6505
10°	6774	6337	6266
15°	6681	6133	6014
20°	6562	5913	5771
25°	6445	5701	5552
30°	6282	5486	5330
35°	6116	5276	5174
40°	5941	5099	5017
45°	5775	4940	4885
50°	5598	4794	4753
55°	5410	4638	4620
60°	5180	4477	4479
65°	4944	4290	4310
70°	4679	4085	4131
75°	4335	3888	3964
80°	3800	3685	3794
85°	3277	3510	3661



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.8	0.8
10°-20°	114.2	2.4
20°-30°	173.0	3.6
30°-40°	210.7	4.4
40°-50°	226.7	4.8
50°-60°	220.1	4.6
60°-70°	192.2	4.0
70°-80°	148.0	3.1
80°-90°	102.0	2.1
90°-100°	104.3	2.2
100°-110°	181.7	3.8
110°-120°	385.0	8.1
120°-130°	599.5	12.6
130°-140°	625.8	13.1
140°-150°	575.8	12.1
150°-160°	461.8	9.7
160°-170°	297.6	6.3
170°-180°	102.4	2.2
0°-30°	327.0	6.9
0°-40°	537.7	11.3
0°-60°	984.5	20.7
0°-90°	1426.7	30.0
90°-120°	671.0	14.1
90°-150°	2472.1	51.9
90°-180°	3334.0	70.0
0°-180°	4760.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	420	420	420	420	420	
5°	421	419	416	419	419	40
15°	402	403	403	408	408	113
25°	365	370	375	382	384	168
35°	315	325	337	350	354	197
45°	258	275	296	314	321	199
55°	198	220	251	273	281	177
65°	135	165	201	225	234	134
75°	75	109	148	173	182	79
85°	22	60	99	123	133	24
90°	7	51	96	123	133	6
95°	56	61	100	126	134	66
105°	240	269	100	129	140	257
115°	450	472	517	191	125	443
125°	634	646	679	700	709	566
135°	784	797	810	830	834	606
145°	909	909	922	930	930	569
155°	1001	995	1003	1007	1002	461
165°	1055	1051	1052	1057	1052	298
175°	1079	1074	1075	1080	1073	103
180°	1077	1077	1077	1077	1077	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1
2.5°	422.6	422.2	421.9	421.6	421.3	420.7	420.0	419.2	418.5	417.7	418.2
5°	421.3	420.9	420.5	420.1	419.7	419.1	418.3	417.5	416.7	415.9	416.7
7.5°	417.6	417.3	417.0	416.8	416.5	416.0	415.4	414.8	414.2	413.5	414.5
10°	414.7	414.4	414.1	413.8	413.6	413.3	412.9	412.5	412.1	411.6	412.7
12.5°	409.8	409.9	409.9	409.9	410.0	409.9	409.6	409.3	409.0	408.7	409.8
15°	401.9	402.1	402.4	402.7	402.9	403.1	403.1	403.1	403.1	403.1	404.3
17.5°	391.7	392.2	392.8	393.4	394.0	394.4	394.8	395.3	395.7	396.2	397.4
20°	384.8	385.5	386.2	386.9	387.5	388.2	388.7	389.2	389.8	390.3	391.8
22.5°	377.5	378.3	379.1	379.8	380.7	381.4	382.2	382.9	383.7	384.5	386.0
25°	365.3	366.3	367.2	368.2	369.1	370.2	371.5	372.7	373.9	375.0	376.7
27.5°	350.7	352.3	353.8	355.4	356.9	358.4	359.8	361.3	362.6	364.1	366.2
30°	341.0	342.8	344.5	346.3	348.1	349.8	351.6	353.3	355.1	356.8	359.0
32.5°	330.3	332.2	334.2	336.2	338.2	340.2	342.3	344.4	346.4	348.5	351.0
35°	314.8	317.1	319.4	321.7	324.0	326.4	329.0	331.6	334.1	336.7	339.7
37.5°	298.0	300.7	303.3	306.0	308.6	311.6	315.0	318.2	321.6	324.9	328.2
40°	286.8	289.8	292.8	295.7	298.7	302.0	305.7	309.3	313.0	316.7	320.2
42.5°	276.1	279.1	282.0	285.0	288.0	291.6	295.8	299.9	304.2	308.3	312.2
45°	258.2	261.8	265.5	269.1	272.8	277.0	281.7	286.4	291.2	296.0	300.1
47.5°	240.5	244.5	248.5	252.4	256.4	261.2	266.8	272.3	277.9	283.4	287.8
50°	228.4	232.5	236.8	240.9	245.1	250.2	256.3	262.4	268.6	274.6	279.2
52.5°	216.6	221.0	225.4	229.9	234.3	239.7	246.1	252.5	258.9	265.4	270.0
55°	197.9	202.8	207.7	212.5	217.4	223.3	230.4	237.4	244.4	251.4	256.3
57.5°	179.4	184.9	190.4	195.8	201.4	207.7	214.8	222.0	229.2	236.4	241.7
60°	166.2	172.0	177.9	183.7	189.5	196.2	204.0	211.7	219.4	227.1	232.3
62.5°	154.5	160.5	166.6	172.7	178.7	185.6	193.2	201.0	208.7	216.4	221.8
65°	135.2	141.8	148.5	155.1	161.7	169.0	177.0	185.0	193.0	201.0	206.5
67.5°	117.4	124.3	131.3	138.2	145.1	152.6	160.9	169.0	177.2	185.3	190.9
70°	104.8	111.8	118.8	125.8	132.9	140.6	149.0	157.4	165.8	174.1	179.9
72.5°	93.0	100.3	107.5	114.8	122.1	130.0	138.4	146.9	155.4	163.9	169.7
75°	74.9	82.5	90.0	97.6	105.2	113.3	122.0	130.6	139.3	148.0	153.8
77.5°	57.4	65.3	73.2	81.1	89.1	97.4	106.2	115.0	123.8	132.6	138.4
80°	45.7	53.9	62.2	70.4	78.7	87.2	96.0	104.8	113.6	122.4	128.1
82.5°	36.0	44.1	52.2	60.3	68.5	77.0	85.9	94.8	103.7	112.7	118.3
85°	21.9	30.3	38.7	47.1	55.4	64.0	72.6	81.3	90.0	98.7	104.4
87.5°	12.1	20.5	28.9	37.4	45.9	54.5	63.5	72.4	81.4	90.3	96.0
90°	6.8	16.6	26.3	36.1	45.9	55.8	65.8	75.9	85.9	96.0	102.2
92.5°	21.4	28.5	35.6	42.7	49.9	58.0	67.0	76.0	85.0	94.1	99.8
95°	55.5	56.2	56.8	57.5	58.1	63.1	72.4	81.8	91.1	100.4	106.4
97.5°	104.8	94.3	83.9	73.5	62.9	63.0	73.6	84.2	94.8	105.4	111.1
100°	142.2	123.4	104.8	86.0	67.3	63.2	73.7	84.2	94.7	105.3	111.7
102.5°	182.8	182.4	181.9	181.5	181.0	172.2	154.9	137.6	120.4	103.1	109.8
105°	239.9	249.0	258.1	267.3	276.3	260.8	220.5	180.3	140.1	99.9	106.6
107.5°	305.7	313.0	320.3	327.7	335.0	313.6	263.7	213.8	163.9	113.9	116.5
110°	347.6	353.9	360.2	366.6	372.9	354.4	311.0	267.6	224.2	180.8	167.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	387.4	392.9	398.4	403.9	409.4	409.1	403.1	397.1	390.9	384.9	326.1
115°	450.4	454.9	459.3	463.7	468.1	475.6	485.9	496.4	506.8	517.2	441.1
117.5°	506.1	510.3	514.5	518.8	523.1	529.5	538.1	546.7	555.3	563.9	548.5
120°	547.1	550.3	553.4	556.6	559.7	565.6	574.1	582.6	591.1	599.7	605.5
122.5°	582.0	585.0	588.0	590.9	593.9	599.6	608.1	616.5	625.0	633.5	638.5
125°	634.5	636.8	639.1	641.3	643.6	648.5	656.2	663.7	671.4	679.0	683.9
127.5°	682.7	685.1	687.5	689.8	692.2	696.3	702.3	708.2	714.1	720.1	725.2
130°	713.2	715.9	718.5	721.1	723.8	727.5	732.2	736.9	741.8	746.5	751.6
132.5°	744.4	746.7	748.9	751.1	753.3	756.4	760.6	764.7	768.7	772.8	777.6
135°	784.3	787.1	789.9	792.6	795.4	798.3	801.2	804.0	807.0	809.9	814.5
137.5°	825.3	827.2	829.2	831.0	833.0	835.1	837.5	839.8	842.2	844.6	848.7
140°	852.1	853.4	854.6	855.8	857.1	858.8	861.0	863.2	865.4	867.5	871.2
142.5°	874.6	875.6	876.8	877.9	879.0	880.7	882.9	885.2	887.4	889.6	892.8
145°	909.1	909.0	908.8	908.7	908.5	909.9	912.8	915.7	918.7	921.6	923.7
147.5°	939.9	939.1	938.5	937.8	937.2	938.3	941.3	944.1	947.1	950.0	951.0
150°	959.8	958.5	957.3	956.2	955.0	955.7	958.5	961.2	964.0	966.8	967.8
152.5°	976.6	975.3	973.9	972.6	971.2	971.8	974.4	977.1	979.7	982.4	983.4
155°	1001.1	999.5	997.9	996.4	994.8	995.1	997.2	999.2	1001.4	1003.4	1004.4
157.5°	1020.3	1019.0	1017.6	1016.3	1015.0	1015.0	1016.5	1018.0	1019.4	1020.8	1022.1
160°	1031.4	1030.5	1029.4	1028.3	1027.3	1027.3	1028.3	1029.4	1030.5	1031.4	1032.5
162.5°	1041.5	1040.4	1039.3	1038.3	1037.3	1037.2	1038.1	1039.0	1039.9	1040.8	1042.0
165°	1054.8	1053.8	1052.7	1051.7	1050.7	1050.4	1050.9	1051.4	1052.0	1052.5	1053.7
167.5°	1064.8	1063.7	1062.7	1061.7	1060.6	1060.4	1060.9	1061.4	1061.8	1062.3	1063.5
170°	1070.4	1069.3	1068.4	1067.3	1066.2	1065.9	1066.2	1066.6	1067.0	1067.3	1068.5
172.5°	1074.2	1073.1	1072.0	1071.1	1070.0	1069.7	1070.0	1070.3	1070.7	1071.1	1072.3
175°	1079.0	1077.7	1076.5	1075.4	1074.2	1073.7	1074.1	1074.4	1074.7	1075.1	1076.3
177.5°	1079.8	1078.8	1077.8	1076.8	1075.9	1075.5	1075.6	1075.7	1075.9	1076.0	1077.0
180°	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	420.1	420.1	420.1	420.1	420.1	420.1	420.1	420.1
2.5°	418.8	419.3	419.9	420.0	419.8	419.6	419.4	419.1
5°	417.5	418.3	419.1	419.5	419.3	419.2	419.1	418.9
7.5°	415.5	416.5	417.4	417.8	417.8	417.6	417.4	417.4
10°	413.8	414.8	416.0	416.5	416.3	416.1	416.0	415.9
12.5°	410.8	412.0	413.0	413.5	413.4	413.2	413.1	412.9
15°	405.5	406.8	408.0	408.5	408.4	408.2	408.1	408.0
17.5°	398.7	400.0	401.2	401.9	401.9	401.9	401.9	401.9
20°	393.3	394.8	396.2	397.0	397.0	397.0	397.0	397.0
22.5°	387.4	388.9	390.4	391.3	391.5	391.7	391.9	392.2
25°	378.3	379.9	381.6	382.6	383.0	383.4	383.8	384.3
27.5°	368.3	370.3	372.3	373.5	373.8	374.1	374.4	374.7
30°	361.2	363.3	365.5	366.7	367.1	367.5	367.9	368.4
32.5°	353.5	356.0	358.5	360.1	360.9	361.6	362.3	363.1
35°	342.7	345.7	348.6	350.6	351.6	352.5	353.4	354.4
37.5°	331.5	334.8	338.1	340.2	341.3	342.3	343.2	344.3
40°	323.7	327.2	330.7	333.0	334.3	335.5	336.7	337.9
42.5°	316.0	319.8	323.7	326.3	327.4	328.6	329.9	331.1
45°	304.4	308.5	312.7	315.4	316.8	318.2	319.5	320.9
47.5°	292.1	296.5	300.9	303.9	305.3	306.8	308.3	309.8
50°	283.8	288.4	293.0	296.0	297.6	299.1	300.5	302.0
52.5°	274.8	279.5	284.2	287.3	288.9	290.6	292.1	293.8
55°	261.2	266.1	270.9	274.3	276.1	277.8	279.6	281.3
57.5°	246.9	252.1	257.4	260.9	262.7	264.5	266.3	268.1
60°	237.4	242.6	247.7	251.2	253.1	255.0	256.9	258.8
62.5°	227.3	232.8	238.2	241.9	243.7	245.5	247.3	249.1
65°	212.1	217.6	223.1	226.8	228.5	230.3	232.0	233.8
67.5°	196.6	202.1	207.7	211.5	213.3	215.2	217.0	218.8
70°	185.8	191.6	197.4	201.1	202.8	204.4	206.0	207.7
72.5°	175.4	181.1	186.8	190.6	192.5	194.4	196.4	198.4
75°	159.6	165.4	171.2	175.0	176.8	178.6	180.3	182.1
77.5°	144.2	150.0	155.8	159.6	161.5	163.4	165.3	167.2
80°	133.8	139.4	145.1	148.9	150.8	152.7	154.6	156.5
82.5°	124.0	129.7	135.3	139.1	140.9	142.7	144.5	146.3
85°	110.0	115.7	121.4	125.1	127.0	129.0	130.9	132.7
87.5°	101.7	107.4	113.1	116.8	118.6	120.4	122.2	124.0
90°	108.5	114.8	121.1	125.2	127.2	129.1	131.1	133.1
92.5°	105.6	111.3	117.1	120.9	122.7	124.5	126.4	128.2
95°	112.4	118.5	124.4	128.2	129.6	131.1	132.5	134.0
97.5°	116.8	122.5	128.2	132.0	133.8	135.6	137.4	139.3
100°	118.1	124.5	130.9	135.0	136.8	138.7	140.5	142.4
102.5°	116.5	123.2	130.0	134.3	136.2	138.2	140.1	142.2
105°	113.2	119.8	126.5	130.9	133.1	135.3	137.4	139.6
107.5°	119.1	121.7	124.3	126.7	128.9	131.1	133.3	135.4
110°	154.8	141.9	128.8	123.4	125.6	127.8	130.0	132.2



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CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	267.3	208.5	149.6	121.2	123.3	125.3	127.3	129.4
115°	365.0	288.9	212.8	169.3	158.3	147.3	136.3	125.4
117.5°	533.2	517.8	502.4	474.9	435.4	395.7	356.2	316.6
120°	611.4	617.3	623.1	615.1	593.2	571.4	549.4	527.6
122.5°	643.4	648.3	653.2	654.0	650.8	647.5	644.2	641.0
125°	688.8	693.6	698.5	701.7	703.5	705.2	706.9	708.7
127.5°	730.3	735.5	740.6	743.8	745.1	746.4	747.7	749.0
130°	756.8	761.9	767.1	770.1	771.0	771.9	772.8	773.7
132.5°	782.4	787.2	791.9	794.8	795.7	796.5	797.4	798.4
135°	819.0	823.6	828.2	830.9	831.6	832.3	833.1	833.8
137.5°	852.9	857.1	861.3	863.6	863.9	864.2	864.5	864.9
140°	875.0	878.6	882.4	884.3	884.2	884.1	884.1	884.0
142.5°	895.9	899.0	902.2	903.7	903.5	903.4	903.2	903.0
145°	925.7	927.6	929.7	930.6	930.4	930.3	930.1	929.8
147.5°	951.9	953.0	954.0	954.3	953.9	953.5	953.1	952.7
150°	968.9	969.9	970.9	971.0	970.2	969.3	968.4	967.6
152.5°	984.5	985.5	986.5	986.5	985.4	984.2	983.1	981.9
155°	1005.5	1006.5	1007.5	1007.4	1006.0	1004.6	1003.2	1001.8
157.5°	1023.2	1024.4	1025.6	1025.5	1024.1	1022.8	1021.4	1020.1
160°	1033.6	1034.5	1035.6	1035.5	1034.3	1033.1	1031.9	1030.7
162.5°	1043.2	1044.3	1045.5	1045.4	1043.8	1042.4	1040.9	1039.4
165°	1054.9	1056.1	1057.4	1057.4	1056.1	1054.9	1053.7	1052.5
167.5°	1064.7	1065.9	1067.1	1067.0	1065.4	1063.9	1062.3	1060.8
170°	1069.8	1070.9	1072.1	1072.0	1070.4	1068.9	1067.3	1065.8
172.5°	1073.4	1074.6	1075.9	1075.7	1074.2	1072.6	1071.1	1069.5
175°	1077.5	1078.7	1079.9	1079.7	1077.9	1076.2	1074.5	1072.8
177.5°	1078.0	1078.9	1079.9	1079.8	1078.5	1077.3	1076.0	1074.8
180°	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6

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