

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: P331509-927

Luminaire Tested: **S122DIW-S485D970U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331509-927
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-S485D970U927-4F0-1E-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: 4625.7 lumens
Efficiency: N/A
Efficacy: 102.3 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

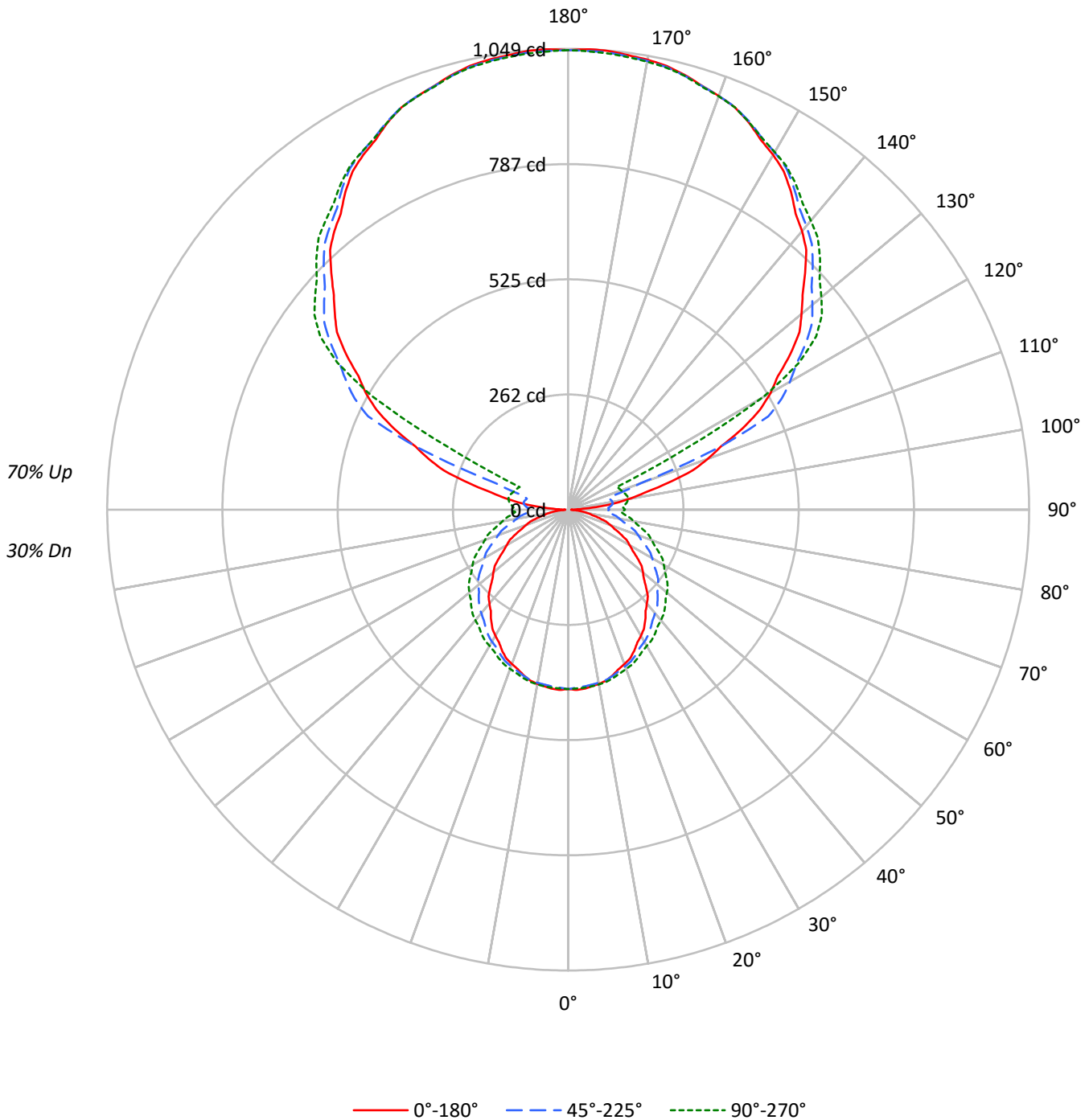
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331509-927

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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°	6591	6591	6591
5°	6623	6345	6320
10°	6581	6158	6088
15°	6491	5959	5843
20°	6376	5745	5607
25°	6263	5540	5394
30°	6103	5330	5178
35°	5943	5127	5028
40°	5773	4954	4876
45°	5612	4799	4746
50°	5439	4657	4618
55°	5257	4507	4488
60°	5033	4351	4351
65°	4802	4169	4189
70°	4546	3970	4013
75°	4214	3778	3850
80°	3692	3579	3685
85°	3187	3410	3559



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.7	0.8
10°-20°	110.9	2.4
20°-30°	168.1	3.6
30°-40°	204.7	4.4
40°-50°	220.3	4.8
50°-60°	213.9	4.6
60°-70°	186.8	4.0
70°-80°	143.8	3.1
80°-90°	99.1	2.1
90°-100°	101.4	2.2
100°-110°	176.5	3.8
110°-120°	374.1	8.1
120°-130°	582.5	12.6
130°-140°	608.0	13.1
140°-150°	559.4	12.1
150°-160°	448.7	9.7
160°-170°	289.2	6.3
170°-180°	99.5	2.2
0°-30°	317.7	6.9
0°-40°	522.4	11.3
0°-60°	956.6	20.7
0°-90°	1386.2	30.0
90°-120°	652.0	14.1
90°-150°	2402.0	51.9
90°-180°	3239.0	70.0
0°-180°	4625.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	408	408	408	408	408	
5°	409	408	404	407	407	39
15°	390	392	392	397	396	110
25°	355	359	364	371	373	163
35°	306	316	327	340	344	191
45°	251	267	288	305	312	194
55°	192	214	244	265	273	172
65°	131	161	195	219	227	130
75°	73	106	144	168	177	77
85°	21	58	96	120	129	23
90°	7	49	93	120	129	6
95°	54	59	98	123	130	64
105°	233	261	97	125	136	249
115°	438	458	503	186	122	431
125°	617	628	660	680	689	550
135°	762	774	787	806	810	589
145°	883	883	896	904	904	552
155°	973	967	975	979	973	448
165°	1025	1021	1023	1027	1023	289
175°	1048	1043	1045	1049	1042	100
180°	1046	1046	1046	1046	1046	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2
2.5°	410.6	410.3	410.0	409.6	409.3	408.8	408.1	407.3	406.6	405.8	406.4
5°	409.4	409.0	408.6	408.2	407.8	407.3	406.5	405.7	404.9	404.1	404.9
7.5°	405.8	405.4	405.2	405.0	404.7	404.3	403.6	403.1	402.4	401.8	402.7
10°	402.9	402.7	402.3	402.1	401.9	401.6	401.2	400.8	400.4	400.0	401.0
12.5°	398.2	398.2	398.3	398.3	398.4	398.2	398.0	397.7	397.4	397.1	398.2
15°	390.5	390.7	391.0	391.3	391.5	391.7	391.7	391.7	391.7	391.7	392.8
17.5°	380.6	381.1	381.7	382.2	382.8	383.3	383.7	384.0	384.5	384.9	386.1
20°	373.9	374.5	375.3	375.9	376.5	377.2	377.6	378.2	378.7	379.2	380.6
22.5°	366.8	367.6	368.4	369.1	369.9	370.6	371.4	372.1	372.8	373.6	375.0
25°	355.0	355.9	356.8	357.7	358.6	359.7	360.9	362.1	363.3	364.4	366.0
27.5°	340.8	342.3	343.8	345.3	346.7	348.2	349.6	351.0	352.4	353.8	355.8
30°	331.3	333.0	334.7	336.4	338.2	339.8	341.6	343.3	345.0	346.7	348.8
32.5°	320.9	322.8	324.7	326.7	328.6	330.6	332.6	334.6	336.6	338.7	341.0
35°	305.9	308.1	310.4	312.6	314.8	317.2	319.6	322.2	324.6	327.2	330.0
37.5°	289.5	292.2	294.7	297.3	299.8	302.8	306.0	309.2	312.4	315.7	318.9
40°	278.7	281.5	284.5	287.3	290.3	293.4	297.0	300.6	304.1	307.7	311.1
42.5°	268.2	271.2	274.0	276.9	279.8	283.3	287.4	291.4	295.6	299.6	303.3
45°	250.9	254.4	257.9	261.5	265.1	269.1	273.7	278.3	283.0	287.6	291.6
47.5°	233.7	237.6	241.5	245.3	249.1	253.8	259.2	264.6	270.0	275.4	279.6
50°	221.9	225.9	230.0	234.1	238.1	243.1	249.1	255.0	260.9	266.8	271.3
52.5°	210.5	214.8	219.0	223.4	227.7	232.9	239.2	245.3	251.6	257.9	262.4
55°	192.3	197.0	201.8	206.4	211.2	217.0	223.9	230.7	237.5	244.3	249.1
57.5°	174.3	179.7	185.0	190.3	195.7	201.8	208.7	215.7	222.7	229.7	234.8
60°	161.5	167.2	172.9	178.5	184.1	190.7	198.2	205.7	213.2	220.7	225.7
62.5°	150.1	156.0	161.9	167.8	173.6	180.3	187.7	195.3	202.8	210.2	215.6
65°	131.3	137.8	144.3	150.7	157.1	164.2	172.0	179.7	187.5	195.3	200.7
67.5°	114.1	120.8	127.5	134.3	141.0	148.3	156.3	164.2	172.1	180.1	185.5
70°	101.8	108.6	115.4	122.2	129.1	136.6	144.7	152.9	161.1	169.2	174.8
72.5°	90.4	97.4	104.5	111.5	118.6	126.3	134.5	142.8	151.0	159.2	164.9
75°	72.8	80.2	87.5	94.8	102.2	110.1	118.5	126.9	135.4	143.8	149.4
77.5°	55.8	63.5	71.1	78.8	86.6	94.7	103.2	111.8	120.3	128.9	134.5
80°	44.4	52.4	60.4	68.4	76.4	84.8	93.3	101.8	110.4	118.9	124.5
82.5°	34.9	42.9	50.7	58.6	66.5	74.9	83.5	92.1	100.8	109.5	114.9
85°	21.3	29.5	37.6	45.8	53.9	62.2	70.6	79.0	87.5	95.9	101.4
87.5°	11.7	20.0	28.1	36.4	44.6	53.0	61.7	70.3	79.1	87.8	93.3
90°	6.7	16.2	25.6	35.1	44.6	54.2	63.9	73.8	83.5	93.2	99.3
92.5°	20.8	27.6	34.6	41.5	48.5	56.3	65.1	73.8	82.6	91.4	97.0
95°	53.9	54.6	55.2	55.8	56.5	61.3	70.3	79.5	88.5	97.6	103.4
97.5°	101.8	91.7	81.5	71.4	61.2	61.2	71.5	81.8	92.1	102.4	108.0
100°	138.2	119.9	101.8	83.6	65.4	61.4	71.6	81.8	92.1	102.3	108.5
102.5°	177.6	177.2	176.7	176.3	175.9	167.3	150.5	133.7	117.0	100.2	106.7
105°	233.1	241.9	250.8	259.7	268.5	253.4	214.3	175.2	136.2	97.0	103.5
107.5°	297.0	304.1	311.2	318.4	325.5	304.8	256.3	207.7	159.2	110.7	113.2
110°	337.7	343.9	350.0	356.2	362.3	344.4	302.1	260.0	217.9	175.6	163.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	376.4	381.8	387.1	392.4	397.8	397.5	391.7	385.8	379.9	374.0	316.9
115°	437.6	442.0	446.2	450.5	454.9	462.1	472.1	482.3	492.4	502.6	428.6
117.5°	491.7	495.8	499.9	504.1	508.3	514.5	522.8	531.2	539.6	548.0	533.0
120°	531.6	534.7	537.7	540.8	543.8	549.5	557.8	566.1	574.3	582.7	588.4
122.5°	565.5	568.4	571.3	574.2	577.0	582.6	590.8	599.0	607.3	615.5	620.4
125°	616.6	618.8	621.0	623.1	625.3	630.1	637.5	644.9	652.4	659.7	664.5
127.5°	663.4	665.7	668.0	670.3	672.6	676.6	682.4	688.1	693.9	699.7	704.6
130°	693.0	695.6	698.2	700.7	703.3	706.9	711.5	716.1	720.7	725.3	730.3
132.5°	723.3	725.5	727.6	729.8	732.0	735.0	739.0	743.0	746.9	750.9	755.6
135°	762.1	764.8	767.5	770.2	772.9	775.6	778.5	781.3	784.1	787.0	791.4
137.5°	801.9	803.7	805.6	807.5	809.4	811.4	813.7	816.0	818.3	820.6	824.7
140°	827.9	829.2	830.4	831.6	832.8	834.5	836.5	838.7	840.8	842.9	846.5
142.5°	849.8	850.8	851.9	853.0	854.1	855.7	857.9	860.1	862.2	864.4	867.4
145°	883.4	883.2	883.0	882.9	882.7	884.1	886.9	889.8	892.6	895.5	897.5
147.5°	913.2	912.5	911.9	911.2	910.6	911.7	914.6	917.3	920.2	923.1	924.0
150°	932.6	931.4	930.2	929.1	927.9	928.6	931.3	934.0	936.7	939.4	940.4
152.5°	949.0	947.6	946.3	945.0	943.6	944.3	946.8	949.4	952.0	954.5	955.5
155°	972.7	971.1	969.6	968.1	966.6	966.9	968.9	970.9	973.0	974.9	976.0
157.5°	991.3	990.1	988.7	987.5	986.2	986.3	987.7	989.1	990.5	991.9	993.1
160°	1002.2	1001.2	1000.2	999.2	998.1	998.1	999.2	1000.2	1001.2	1002.2	1003.2
162.5°	1011.9	1010.9	1009.9	1008.8	1007.9	1007.8	1008.7	1009.6	1010.4	1011.3	1012.4
165°	1024.9	1023.9	1022.9	1021.9	1020.9	1020.6	1021.1	1021.6	1022.2	1022.6	1023.8
167.5°	1034.6	1033.6	1032.6	1031.6	1030.5	1030.3	1030.8	1031.3	1031.7	1032.2	1033.3
170°	1040.1	1039.0	1038.1	1037.0	1036.0	1035.7	1036.0	1036.3	1036.7	1037.0	1038.2
172.5°	1043.7	1042.7	1041.6	1040.7	1039.7	1039.3	1039.7	1040.0	1040.3	1040.7	1041.9
175°	1048.4	1047.2	1046.0	1044.9	1043.7	1043.2	1043.6	1043.9	1044.3	1044.6	1045.8
177.5°	1049.2	1048.2	1047.3	1046.3	1045.4	1045.0	1045.1	1045.2	1045.4	1045.5	1046.5
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	408.2	408.2	408.2	408.2	408.2	408.2	408.2	408.2
2.5°	406.9	407.4	408.0	408.1	407.9	407.7	407.5	407.3
5°	405.7	406.5	407.3	407.6	407.4	407.3	407.2	407.0
7.5°	403.7	404.6	405.6	406.0	405.9	405.8	405.6	405.5
10°	402.0	403.1	404.2	404.6	404.5	404.3	404.3	404.1
12.5°	399.2	400.3	401.3	401.8	401.6	401.5	401.4	401.2
15°	394.0	395.2	396.4	396.9	396.8	396.6	396.5	396.4
17.5°	387.4	388.6	389.8	390.5	390.5	390.5	390.5	390.5
20°	382.1	383.6	385.0	385.7	385.7	385.7	385.7	385.7
22.5°	376.4	377.9	379.4	380.2	380.4	380.6	380.8	381.0
25°	367.6	369.2	370.7	371.8	372.2	372.6	373.0	373.4
27.5°	357.8	359.8	361.8	362.9	363.2	363.5	363.8	364.1
30°	350.9	353.0	355.1	356.3	356.7	357.1	357.5	357.9
32.5°	343.5	345.9	348.3	349.9	350.6	351.3	352.0	352.8
35°	333.0	335.9	338.7	340.6	341.6	342.5	343.4	344.4
37.5°	322.1	325.3	328.5	330.6	331.6	332.6	333.5	334.5
40°	314.5	317.9	321.3	323.6	324.8	326.0	327.2	328.4
42.5°	307.0	310.8	314.5	317.0	318.1	319.3	320.5	321.7
45°	295.7	299.8	303.8	306.5	307.8	309.2	310.5	311.8
47.5°	283.8	288.1	292.4	295.2	296.7	298.1	299.6	301.0
50°	275.8	280.2	284.7	287.6	289.1	290.6	292.0	293.4
52.5°	267.0	271.6	276.2	279.2	280.7	282.3	283.8	285.4
55°	253.8	258.6	263.2	266.5	268.2	269.9	271.6	273.3
57.5°	239.9	244.9	250.1	253.5	255.2	257.0	258.7	260.5
60°	230.7	235.7	240.7	244.1	245.9	247.8	249.6	251.4
62.5°	220.9	226.2	231.5	235.0	236.8	238.5	240.3	242.0
65°	206.0	211.4	216.8	220.4	222.0	223.8	225.5	227.2
67.5°	191.0	196.4	201.8	205.5	207.2	209.1	210.9	212.6
70°	180.5	186.2	191.8	195.4	197.0	198.6	200.2	201.8
72.5°	170.4	175.9	181.5	185.2	187.0	188.9	190.8	192.7
75°	155.1	160.7	166.4	170.1	171.7	173.5	175.2	176.9
77.5°	140.1	145.8	151.4	155.1	156.9	158.8	160.7	162.5
80°	130.0	135.5	141.0	144.7	146.6	148.4	150.2	152.0
82.5°	120.5	126.0	131.5	135.1	136.9	138.6	140.4	142.1
85°	106.9	112.4	118.0	121.6	123.4	125.3	127.1	129.0
87.5°	98.8	104.3	109.9	113.5	115.3	117.0	118.7	120.5
90°	105.4	111.5	117.6	121.7	123.6	125.5	127.4	129.3
92.5°	102.6	108.1	113.8	117.5	119.2	121.0	122.8	124.5
95°	109.2	115.1	120.9	124.5	126.0	127.4	128.7	130.2
97.5°	113.5	119.1	124.6	128.3	130.0	131.7	133.5	135.3
100°	114.7	121.0	127.1	131.2	132.9	134.8	136.5	138.3
102.5°	113.2	119.7	126.3	130.5	132.4	134.3	136.2	138.2
105°	110.0	116.4	122.9	127.1	129.3	131.4	133.5	135.6
107.5°	115.7	118.3	120.8	123.1	125.2	127.4	129.5	131.6
110°	150.4	137.8	125.2	119.9	122.1	124.2	126.3	128.4



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CATALOG NUMBER: S122DIW-S485D970U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	259.7	202.6	145.4	117.8	119.8	121.8	123.7	125.7
115°	354.7	280.7	206.8	164.5	153.8	143.1	132.5	121.8
117.5°	518.1	503.1	488.1	461.4	423.0	384.5	346.1	307.6
120°	594.1	599.8	605.5	597.7	576.4	555.2	533.9	512.6
122.5°	625.1	629.9	634.7	635.5	632.3	629.2	626.0	622.8
125°	669.2	673.9	678.7	681.8	683.6	685.2	686.9	688.6
127.5°	709.6	714.6	719.6	722.7	724.0	725.2	726.5	727.8
130°	735.3	740.3	745.4	748.3	749.2	750.0	750.9	751.8
132.5°	760.2	764.9	769.4	772.2	773.1	774.0	774.8	775.8
135°	795.8	800.3	804.7	807.3	808.0	808.7	809.5	810.2
137.5°	828.7	832.8	836.9	839.1	839.4	839.7	840.0	840.3
140°	850.2	853.7	857.4	859.2	859.1	859.0	859.0	859.0
142.5°	870.5	873.5	876.6	878.1	877.9	877.7	877.6	877.4
145°	899.4	901.3	903.3	904.2	904.0	903.9	903.7	903.5
147.5°	925.0	926.0	926.9	927.2	926.9	926.5	926.1	925.7
150°	941.4	942.4	943.4	943.5	942.7	941.8	941.0	940.2
152.5°	956.6	957.5	958.5	958.5	957.4	956.3	955.2	954.1
155°	977.0	977.9	979.0	978.8	977.5	976.1	974.8	973.4
157.5°	994.2	995.4	996.5	996.4	995.1	993.8	992.4	991.2
160°	1004.2	1005.2	1006.2	1006.2	1005.0	1003.8	1002.7	1001.5
162.5°	1013.6	1014.7	1015.9	1015.7	1014.2	1012.8	1011.4	1010.0
165°	1025.0	1026.2	1027.4	1027.4	1026.2	1025.0	1023.8	1022.6
167.5°	1034.5	1035.7	1036.9	1036.7	1035.2	1033.7	1032.2	1030.7
170°	1039.4	1040.5	1041.7	1041.6	1040.1	1038.6	1037.0	1035.5
172.5°	1043.0	1044.2	1045.4	1045.2	1043.7	1042.2	1040.7	1039.2
175°	1046.9	1048.1	1049.3	1049.1	1047.3	1045.7	1044.0	1042.4
177.5°	1047.4	1048.3	1049.2	1049.2	1047.9	1046.7	1045.5	1044.3
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1

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