

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: P332837-927

Luminaire Tested: **S124DIW-S1195D470U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332837-927
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-S1195D470U927-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5336.9 lumens
Efficiency: N/A
Efficacy: 101.8 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-Direct

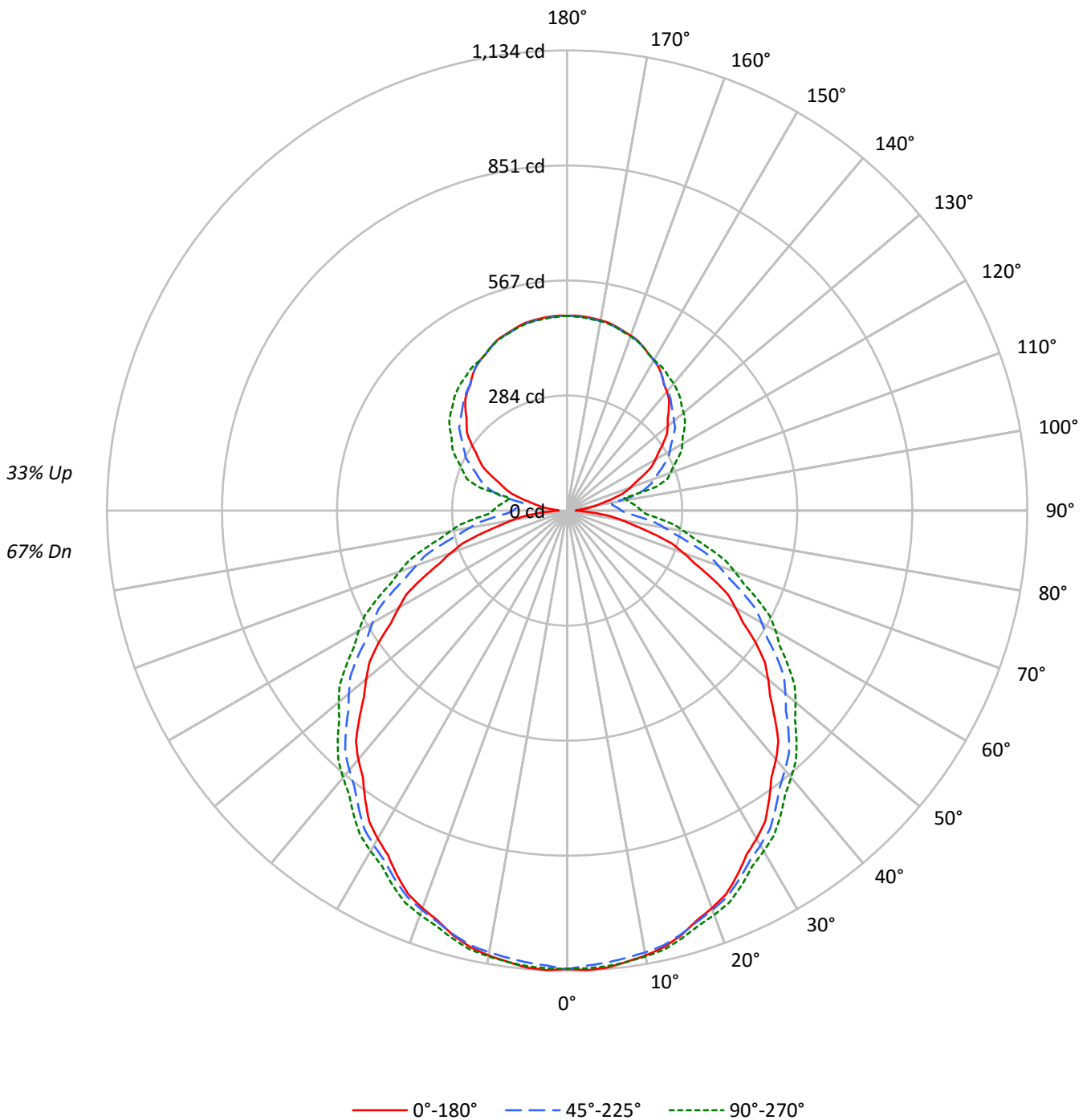
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332837-927

CATALOG NUMBER: S124DIW-S1195D470U927-4F0-1E-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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	71	71	71	67
1	100	95	91	87	94	90	86	82	79	76	73	70	67	65	61	59	58	53
2	91	82	75	70	85	78	71	66	69	64	60	61	57	53	53	50	48	44
3	82	72	64	57	77	68	61	55	60	54	50	53	48	45	46	43	40	36
4	75	63	55	48	70	60	52	46	53	47	42	47	42	38	41	37	34	31
5	69	56	48	41	65	53	45	39	47	41	36	42	37	33	37	33	29	26
6	64	51	42	36	59	48	40	34	43	36	31	38	33	28	33	29	26	23
7	59	46	37	31	55	43	35	30	39	32	27	34	29	25	30	26	23	20
8	55	41	33	28	51	39	32	26	35	29	24	32	26	22	28	24	20	18
9	51	38	30	25	48	36	29	24	32	26	22	29	24	20	26	21	18	16
10	47	35	27	22	45	33	26	21	30	24	20	27	22	18	24	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9120	9120	9120
5°	9147	8912	8938
10°	9092	8767	8760
15°	9010	8598	8551
20°	8888	8412	8347
25°	8749	8203	8124
30°	8599	7995	7894
35°	8429	7783	7692
40°	8293	7580	7482
45°	8093	7394	7302
50°	7922	7178	7111
55°	7746	6976	6888
60°	7471	6718	6685
65°	7170	6440	6434
70°	6805	6123	6141
75°	6298	5775	5878
80°	5734	5442	5618
85°	5012	5144	5468



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.0	2.0
10°-20°	306.5	5.7
20°-30°	463.4	8.7
30°-40°	560.7	10.5
40°-50°	592.8	11.1
50°-60°	557.9	10.5
60°-70°	462.9	8.7
70°-80°	325.1	6.1
80°-90°	185.2	3.5
90°-100°	125.6	2.4
100°-110°	185.5	3.5
110°-120°	254.5	4.8
120°-130°	284.8	5.3
130°-140°	285.2	5.3
140°-150°	257.0	4.8
150°-160°	205.1	3.8
160°-170°	132.3	2.5
170°-180°	45.6	0.9
0°-30°	876.9	16.4
0°-40°	1437.6	26.9
0°-60°	2588.3	48.5
0°-90°	3561.4	66.7
90°-120°	565.5	10.6
90°-150°	1392.5	26.1
90°-180°	1775.0	33.3
0°-180°	5336.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1130	1130	1130	1130	1130	
5°	1131	1127	1118	1128	1127	107
15°	1084	1085	1082	1092	1092	305
25°	992	999	1003	1016	1018	457
35°	868	883	896	912	917	543
45°	724	748	772	792	800	559
55°	567	594	631	656	664	505
65°	392	433	476	506	517	389
75°	218	265	318	352	364	231
85°	67	120	177	214	228	71
90°	21	76	133	170	183	14
95°	36	67	118	153	166	38
105°	120	148	196	228	228	126
115°	209	223	262	289	299	207
125°	289	291	320	344	353	258
135°	354	355	364	385	394	273
145°	407	407	407	415	420	254
155°	445	445	444	445	444	205
165°	469	468	468	470	467	133
175°	480	478	478	481	477	46
180°	480	480	480	480	480	



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CATALOG NUMBER: S124DIW-S1195D470U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1133.7	1133.0	1132.3	1131.6	1131.0	1129.7	1127.9	1126.2	1124.3	1122.5	1124.1
5°	1130.8	1130.0	1129.2	1128.4	1127.5	1126.1	1124.1	1122.1	1120.2	1118.2	1120.5
7.5°	1121.3	1120.8	1120.2	1119.7	1119.3	1118.2	1116.6	1114.9	1113.3	1111.7	1114.2
10°	1113.2	1112.9	1112.6	1112.3	1112.1	1111.2	1109.8	1108.4	1107.0	1105.6	1108.1
12.5°	1102.0	1102.0	1101.9	1101.8	1101.8	1101.3	1100.3	1099.4	1098.4	1097.5	1099.8
15°	1084.1	1084.3	1084.7	1084.9	1085.2	1084.9	1084.1	1083.2	1082.4	1081.6	1084.1
17.5°	1059.5	1060.4	1061.2	1062.1	1062.9	1063.3	1063.1	1062.9	1062.7	1062.6	1065.2
20°	1042.4	1043.1	1044.0	1044.9	1045.7	1046.2	1046.6	1046.9	1047.1	1047.4	1050.2
22.5°	1023.1	1024.1	1025.2	1026.3	1027.4	1028.2	1028.6	1029.2	1029.7	1030.2	1033.0
25°	991.7	993.4	995.1	996.8	998.5	999.7	1000.6	1001.4	1002.3	1003.1	1006.2
27.5°	956.8	959.3	961.8	964.2	966.7	968.6	969.9	971.2	972.5	973.8	976.6
30°	933.5	935.8	938.0	940.3	942.5	944.7	946.6	948.6	950.5	952.5	955.6
32.5°	908.2	910.9	913.6	916.3	919.0	921.5	923.7	925.9	928.0	930.3	933.8
35°	867.8	871.2	874.5	877.9	881.2	884.3	887.2	889.9	892.8	895.6	899.5
37.5°	827.0	830.9	834.8	838.7	842.6	846.2	849.7	853.2	856.7	860.2	864.2
40°	800.7	804.4	808.0	811.7	815.3	819.1	823.1	827.0	830.9	834.9	839.1
42.5°	770.4	774.4	778.6	782.7	786.8	791.2	795.7	800.3	804.9	809.6	814.3
45°	723.6	728.9	734.3	739.6	744.9	750.3	755.6	761.0	766.3	771.7	776.4
47.5°	678.7	684.3	689.8	695.3	700.8	706.7	712.9	719.1	725.2	731.4	736.3
50°	646.4	652.6	658.8	665.0	671.1	677.3	683.5	689.7	695.9	702.0	707.7
52.5°	614.0	620.2	626.4	632.6	638.7	645.4	652.4	659.6	666.6	673.8	679.4
55°	566.7	572.6	578.5	584.4	590.3	597.5	605.9	614.3	622.8	631.2	636.8
57.5°	513.8	521.2	528.5	535.8	543.0	550.9	559.3	567.7	576.1	584.4	591.1
60°	479.4	486.7	494.0	501.4	508.7	517.0	526.2	535.5	544.8	554.1	560.5
62.5°	446.0	454.0	462.0	470.0	477.9	486.6	495.9	505.2	514.4	523.7	530.1
65°	392.1	401.2	410.1	419.1	428.1	437.4	446.9	456.5	466.0	475.6	482.7
67.5°	340.2	349.8	359.4	368.9	378.5	388.4	398.6	408.8	419.1	429.4	436.5
70°	304.8	314.4	324.0	333.5	343.1	353.2	363.8	374.5	385.2	395.9	403.5
72.5°	270.5	280.2	290.0	299.8	309.6	320.1	331.5	342.9	354.2	365.6	373.0
75°	217.6	228.0	238.4	248.7	259.2	270.3	282.1	293.9	305.7	317.5	325.3
77.5°	168.3	179.3	190.3	201.3	212.3	224.0	236.4	248.7	261.1	273.5	281.5
80°	137.9	149.1	160.3	171.6	182.8	194.6	207.0	219.4	231.8	244.2	252.5
82.5°	107.5	119.2	130.9	142.6	154.3	166.4	178.7	191.1	203.4	215.8	224.4
85°	67.0	78.8	90.6	102.4	114.2	126.5	139.1	151.8	164.5	177.1	185.5
87.5°	37.6	49.3	60.9	72.6	84.2	96.3	108.7	121.1	133.6	146.0	154.3
90°	21.3	33.4	45.6	57.7	69.8	82.2	95.0	107.7	120.4	133.2	141.7
92.5°	23.8	33.9	44.1	54.3	64.4	75.9	88.6	101.3	114.1	126.7	135.1
95°	36.2	42.8	49.4	55.8	62.4	71.5	83.1	94.7	106.3	118.0	126.0
97.5°	56.9	66.5	76.2	85.9	95.5	101.6	104.2	106.7	109.2	111.7	119.1
100°	72.8	81.5	90.3	99.0	107.7	112.1	112.1	112.0	112.0	111.9	118.2
102.5°	91.7	99.2	106.7	114.2	121.6	130.0	139.3	148.6	157.9	167.2	159.9
105°	119.5	125.6	131.7	137.8	143.9	152.3	163.1	173.9	184.7	195.5	203.3
107.5°	147.3	152.1	156.9	161.8	166.7	174.3	184.7	195.0	205.4	215.8	223.1
110°	165.2	169.4	173.6	177.8	181.9	189.2	199.5	209.8	220.1	230.4	237.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.6	186.5	190.4	194.3	198.3	205.0	214.6	224.3	233.9	243.4	249.7
115°	209.4	212.1	214.9	217.7	220.5	226.2	235.2	244.1	253.0	262.0	268.3
117.5°	234.6	236.5	238.3	240.1	241.9	247.2	255.7	264.3	272.8	281.4	287.2
120°	250.8	252.0	253.1	254.3	255.5	260.1	268.2	276.2	284.3	292.4	298.2
122.5°	266.9	267.3	267.6	268.0	268.3	272.4	280.3	288.0	295.9	303.7	309.4
125°	288.7	288.8	288.8	288.8	288.8	292.3	299.1	306.0	312.9	319.7	325.3
127.5°	310.3	310.1	309.8	309.7	309.4	312.2	318.0	323.8	329.5	335.3	340.3
130°	323.3	323.1	322.9	322.7	322.5	324.8	329.5	334.2	339.0	343.7	348.9
132.5°	336.3	336.1	336.0	335.8	335.7	337.5	341.5	345.4	349.3	353.2	358.1
135°	354.3	354.3	354.2	354.1	354.0	355.1	357.4	359.7	362.0	364.3	368.9
137.5°	371.5	371.3	371.1	370.8	370.5	371.1	372.4	373.7	375.0	376.3	380.6
140°	382.7	382.6	382.5	382.4	382.2	382.4	382.9	383.3	383.7	384.1	388.1
142.5°	391.7	392.0	392.2	392.4	392.7	392.8	392.7	392.6	392.5	392.4	395.9
145°	406.9	406.9	406.9	406.9	406.8	406.8	406.8	406.8	406.8	406.8	408.5
147.5°	419.2	419.4	419.5	419.7	419.9	419.9	419.9	419.8	419.7	419.6	419.9
150°	428.2	428.2	428.2	428.3	428.3	428.3	428.2	428.1	428.0	427.9	427.9
152.5°	434.6	434.8	435.0	435.2	435.4	435.4	435.3	435.1	435.0	434.8	435.0
155°	444.8	444.9	445.0	445.0	445.1	445.0	444.8	444.6	444.3	444.1	444.4
157.5°	453.7	453.6	453.5	453.5	453.4	453.3	453.0	452.7	452.5	452.3	452.7
160°	458.8	458.6	458.4	458.1	457.9	457.7	457.6	457.6	457.5	457.4	457.9
162.5°	463.4	463.1	462.8	462.5	462.2	462.0	461.9	461.8	461.8	461.7	462.2
165°	469.2	468.8	468.4	468.0	467.6	467.5	467.5	467.5	467.5	467.5	468.1
167.5°	473.8	473.4	473.0	472.6	472.1	471.9	471.9	471.8	471.8	471.7	472.5
170°	476.4	475.9	475.5	475.0	474.5	474.3	474.4	474.4	474.5	474.6	475.2
172.5°	478.2	477.7	477.2	476.7	476.3	476.0	476.1	476.2	476.3	476.3	477.0
175°	480.0	479.5	479.0	478.6	478.1	477.9	478.0	478.1	478.2	478.2	479.0
177.5°	480.9	480.5	480.0	479.5	479.1	479.0	479.0	479.2	479.3	479.4	479.9
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1125.7	1127.3	1128.9	1129.5	1129.3	1129.0	1128.9	1128.6
5°	1122.8	1125.0	1127.2	1128.2	1127.9	1127.7	1127.4	1127.1
7.5°	1116.7	1119.3	1121.8	1122.9	1122.6	1122.4	1122.0	1121.8
10°	1110.6	1113.2	1115.7	1116.8	1116.6	1116.3	1115.9	1115.7
12.5°	1102.1	1104.4	1106.7	1107.9	1107.8	1107.7	1107.6	1107.6
15°	1086.6	1089.2	1091.6	1092.8	1092.5	1092.3	1091.9	1091.6
17.5°	1067.8	1070.3	1072.9	1074.1	1073.9	1073.6	1073.4	1073.2
20°	1053.0	1055.8	1058.7	1060.0	1060.0	1060.0	1060.0	1060.0
22.5°	1035.8	1038.6	1041.4	1043.1	1043.5	1043.9	1044.4	1044.9
25°	1009.3	1012.4	1015.5	1017.2	1017.5	1017.7	1018.0	1018.3
27.5°	979.5	982.4	985.2	986.8	987.2	987.5	987.9	988.2
30°	958.7	961.8	964.9	966.7	967.3	967.8	968.4	969.0
32.5°	937.3	940.9	944.4	946.5	947.1	947.6	948.2	948.7
35°	903.5	907.4	911.3	913.7	914.6	915.4	916.2	917.1
37.5°	868.2	872.1	876.2	878.6	879.5	880.4	881.3	882.2
40°	843.3	847.6	851.8	854.4	855.6	856.7	857.8	858.9
42.5°	818.9	823.6	828.2	831.0	831.9	832.8	833.7	834.6
45°	781.2	786.0	790.8	793.8	795.3	796.6	798.0	799.5
47.5°	741.3	746.2	751.2	754.5	756.2	757.9	759.5	761.3
50°	713.3	718.9	724.5	728.2	729.9	731.6	733.2	734.9
52.5°	685.0	690.6	696.2	699.9	701.6	703.2	704.9	706.6
55°	642.5	648.1	653.7	657.4	659.0	660.8	662.4	664.1
57.5°	597.8	604.5	611.2	615.3	616.9	618.5	620.0	621.6
60°	567.0	573.5	579.9	584.2	586.5	588.7	591.0	593.3
62.5°	536.6	543.1	549.5	553.9	556.2	558.4	560.6	562.9
65°	489.6	496.7	503.7	508.3	510.6	512.9	515.2	517.4
67.5°	443.6	450.8	457.9	462.6	464.8	466.9	469.1	471.3
70°	411.1	418.7	426.3	431.1	433.0	435.0	437.0	438.9
72.5°	380.3	387.7	395.1	399.8	402.0	404.2	406.4	408.6
75°	333.3	341.1	349.0	354.2	356.7	359.3	361.8	364.3
77.5°	289.5	297.5	305.4	310.8	313.5	316.2	318.9	321.5
80°	261.0	269.4	277.9	283.2	285.4	287.7	289.9	292.2
82.5°	233.1	241.8	250.4	256.0	258.5	260.9	263.4	265.9
85°	193.9	202.4	210.8	216.4	219.3	222.0	224.9	227.7
87.5°	162.6	170.8	179.0	184.4	186.9	189.4	191.9	194.4
90°	150.4	159.0	167.6	173.2	175.5	178.0	180.4	182.8
92.5°	143.5	152.0	160.4	165.7	168.0	170.3	172.6	174.8
95°	134.1	142.1	150.2	155.6	158.2	160.8	163.4	166.0
97.5°	126.5	134.0	141.3	146.3	148.8	151.3	153.8	156.3
100°	124.4	130.6	136.9	141.0	143.1	145.1	147.2	149.2
102.5°	152.7	145.4	138.2	135.6	137.8	140.0	142.2	144.4
105°	211.0	218.7	226.5	230.0	229.4	228.8	228.1	227.5
107.5°	230.4	237.6	244.9	249.7	252.0	254.3	256.7	259.0
110°	243.7	250.3	256.9	261.5	264.0	266.5	268.9	271.4



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CATALOG NUMBER: S124DIW-S1195D470U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.9	262.1	268.3	272.7	275.2	277.8	280.4	282.9
115°	274.6	281.0	287.3	291.4	293.4	295.4	297.4	299.4
117.5°	292.9	298.8	304.6	308.6	310.9	313.1	315.3	317.5
120°	304.0	309.7	315.5	319.4	321.5	323.6	325.7	327.8
122.5°	315.1	320.8	326.5	330.3	332.2	334.1	336.0	337.8
125°	330.9	336.5	342.1	345.8	347.5	349.3	351.0	352.8
127.5°	345.3	350.3	355.4	358.8	360.6	362.5	364.3	366.1
130°	354.0	359.2	364.3	367.7	369.4	371.1	372.8	374.5
132.5°	363.0	367.9	372.9	376.1	377.7	379.4	381.0	382.6
135°	373.6	378.3	382.9	386.2	388.0	389.8	391.7	393.6
137.5°	384.8	389.1	393.4	396.2	397.6	398.9	400.3	401.6
140°	392.0	395.9	399.7	402.4	403.9	405.4	406.9	408.4
142.5°	399.3	402.6	406.0	408.3	409.5	410.7	411.9	413.0
145°	410.3	412.1	413.8	415.3	416.6	418.0	419.2	420.5
147.5°	420.2	420.5	420.8	421.4	422.4	423.3	424.4	425.3
150°	427.9	427.9	427.9	428.0	428.1	428.2	428.3	428.3
152.5°	435.1	435.2	435.4	435.4	435.4	435.3	435.2	435.2
155°	444.7	445.0	445.4	445.4	445.2	445.0	444.7	444.5
157.5°	453.0	453.4	453.8	453.8	453.4	453.0	452.7	452.3
160°	458.4	458.8	459.3	459.3	458.8	458.4	457.9	457.4
162.5°	462.6	463.1	463.6	463.6	463.0	462.5	461.9	461.4
165°	468.7	469.4	470.0	469.9	469.2	468.5	467.8	467.1
167.5°	473.2	473.9	474.6	474.5	473.7	472.9	472.1	471.3
170°	475.9	476.5	477.2	477.1	476.3	475.5	474.7	473.9
172.5°	477.6	478.2	478.9	478.8	477.9	477.1	476.2	475.3
175°	479.7	480.4	481.1	480.9	480.0	479.0	478.1	477.1
177.5°	480.5	480.9	481.5	481.3	480.6	479.8	479.0	478.3
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0

(END OF REPORT)