

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: P331558-930

Luminaire Tested: **S122DIW-S865D435U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331558-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D435U930-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4073.6 lumens
Efficiency: N/A
Efficacy: 88.2 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-Direct

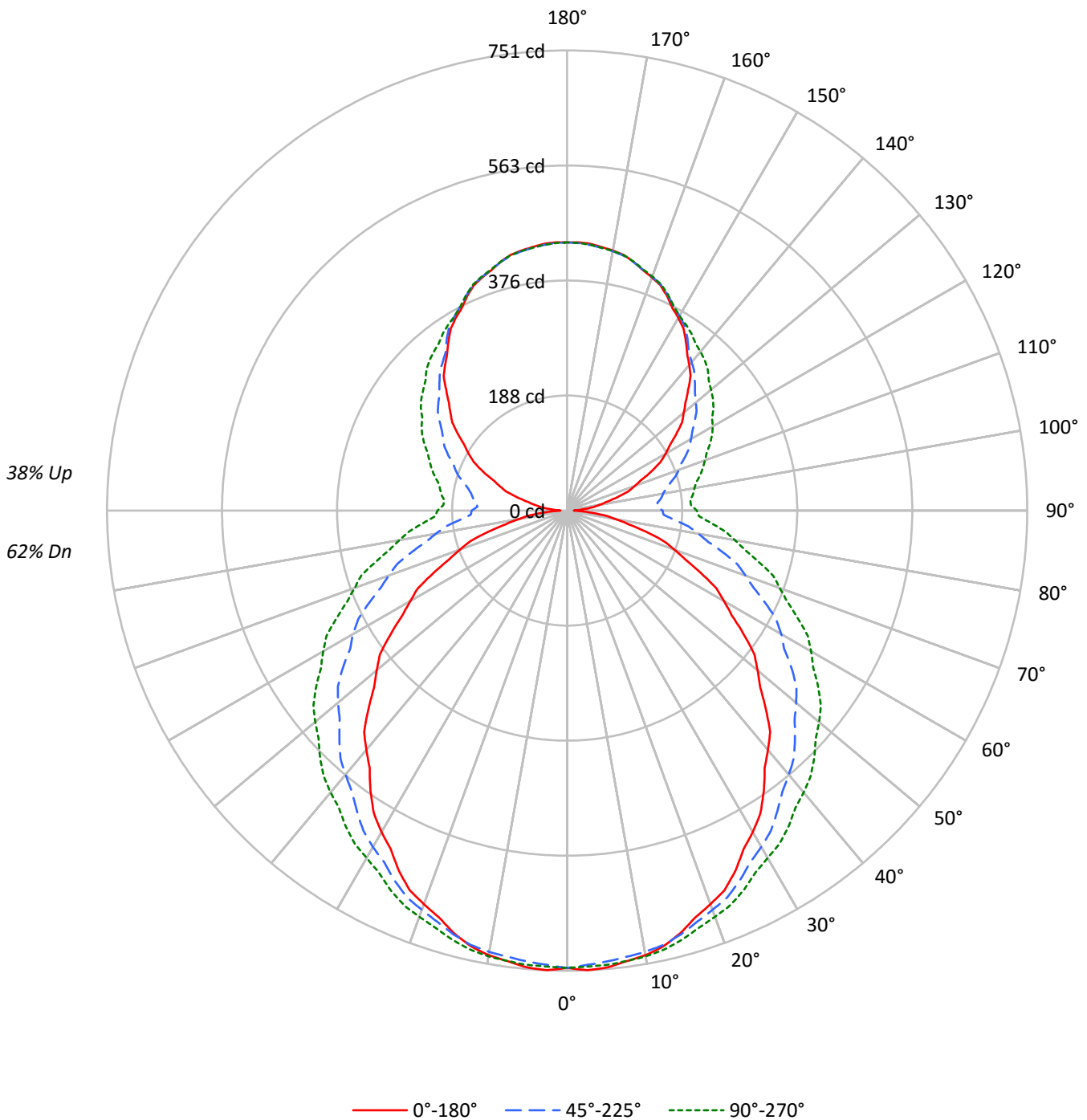
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331558-930

CATALOG NUMBER: S122DIW-S865D435U930-4F0-1E-UDD-D1

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	93	89	85	92	87	83	80	76	73	70	66	64	61	57	55	53	48
2	89	81	73	68	83	75	69	64	66	61	57	57	53	50	49	46	43	39
3	81	70	62	55	75	66	58	53	57	52	47	50	45	41	43	39	36	32
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	31	27
5	68	55	46	40	63	52	44	38	45	39	34	39	34	30	34	30	26	23
6	62	49	40	34	58	46	38	32	41	34	29	35	30	26	30	26	23	20
7	57	44	36	30	53	42	34	28	37	30	26	32	27	23	28	24	20	18
8	53	40	32	26	50	38	30	25	33	27	23	29	24	20	25	21	18	16
9	50	37	29	23	46	35	27	22	31	25	20	27	22	18	23	19	16	14
10	46	34	26	21	43	32	25	20	28	22	18	25	20	16	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12053	12053	12053
5°	12111	11602	11558
10°	12036	11258	11133
15°	11869	10896	10685
20°	11659	10507	10254
25°	11452	10132	9863
30°	11160	9747	9469
35°	10866	9375	9193
40°	10556	9059	8916
45°	10260	8774	8678
50°	9944	8519	8446
55°	9611	8242	8208
60°	9207	7957	7957
65°	8784	7620	7658
70°	8310	7260	7336
75°	7704	6907	7041
80°	6744	6545	6739
85°	5835	6234	6508



TEST NUMBER: P331558-930

CATALOG NUMBER: S122DIW-S865D435U930-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.7	1.7
10°-20°	202.8	5.0
20°-30°	307.4	7.5
30°-40°	374.4	9.2
40°-50°	402.8	9.9
50°-60°	391.1	9.6
60°-70°	341.5	8.4
70°-80°	262.9	6.5
80°-90°	178.2	4.4
90°-100°	149.3	3.7
100°-110°	174.9	4.3
110°-120°	205.9	5.1
120°-130°	226.4	5.6
130°-140°	231.1	5.7
140°-150°	215.5	5.3
150°-160°	178.7	4.4
160°-170°	118.6	2.9
170°-180°	41.4	1.0
0°-30°	580.9	14.3
0°-40°	955.3	23.5
0°-60°	1749.2	42.9
0°-90°	2531.8	62.2
90°-120°	530.1	13.0
90°-150°	1203.0	29.5
90°-180°	1542.0	37.9
0°-180°	4073.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	746	746	746	746	746	
5°	749	745	739	745	744	71
15°	714	716	716	725	725	201
25°	649	657	666	679	683	298
35°	559	578	598	621	630	349
45°	459	488	526	558	570	354
55°	352	392	447	484	500	314
65°	240	294	357	400	415	239
75°	133	194	263	308	324	141
85°	39	106	175	219	236	42
90°	11	79	156	197	212	8
95°	28	83	148	188	201	29
105°	85	119	174	211	225	90
115°	152	168	214	245	257	150
125°	217	222	254	281	292	194
135°	279	284	295	316	325	216
145°	338	340	342	349	353	211
155°	386	387	388	390	389	178
165°	420	420	420	422	420	118
175°	437	436	435	437	436	41
180°	438	438	438	438	438	



TEST NUMBER: P331558-930

CATALOG NUMBER: S122DIW-S865D435U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	750.8	750.2	749.7	749.1	748.5	747.5	746.2	744.9	743.5	742.2	743.1
5°	748.6	748.0	747.2	746.5	745.8	744.7	743.2	741.8	740.4	738.9	740.4
7.5°	741.9	741.4	740.9	740.5	740.0	739.2	738.1	737.0	735.9	734.8	736.5
10°	736.8	736.3	735.8	735.3	734.8	734.3	733.5	732.8	732.1	731.3	733.3
12.5°	728.1	728.2	728.3	728.4	728.5	728.2	727.7	727.2	726.7	726.1	728.1
15°	714.0	714.5	715.0	715.5	715.9	716.2	716.2	716.2	716.2	716.2	718.4
17.5°	695.9	696.8	697.9	698.9	699.9	700.7	701.6	702.3	703.1	703.8	706.1
20°	683.7	684.9	686.2	687.4	688.5	689.7	690.6	691.5	692.5	693.5	696.1
22.5°	670.7	672.1	673.5	674.9	676.3	677.7	679.1	680.4	681.8	683.1	685.7
25°	649.1	650.8	652.5	654.2	655.8	657.8	659.9	662.1	664.2	666.4	669.3
27.5°	623.1	625.9	628.6	631.4	634.1	636.7	639.3	641.9	644.4	646.9	650.6
30°	605.8	608.9	612.1	615.2	618.3	621.5	624.6	627.7	630.9	634.0	637.8
32.5°	586.8	590.3	593.8	597.4	600.9	604.5	608.1	611.9	615.6	619.2	623.7
35°	559.3	563.4	567.5	571.6	575.7	580.0	584.6	589.1	593.7	598.3	603.6
37.5°	529.5	534.2	538.9	543.6	548.3	553.6	559.5	565.5	571.4	577.3	583.2
40°	509.6	514.9	520.2	525.5	530.7	536.6	543.1	549.6	556.1	562.6	568.8
42.5°	490.5	495.8	501.1	506.4	511.7	518.0	525.5	533.0	540.4	547.9	554.6
45°	458.7	465.2	471.7	478.2	484.7	492.1	500.5	509.0	517.4	525.8	533.2
47.5°	427.3	434.4	441.5	448.6	455.6	464.1	473.9	483.8	493.7	503.5	511.3
50°	405.7	413.1	420.6	428.0	435.5	444.7	455.4	466.3	477.1	488.0	496.1
52.5°	384.9	392.7	400.6	408.5	416.3	425.9	437.3	448.7	460.1	471.5	479.8
55°	351.6	360.3	368.9	377.6	386.2	396.8	409.3	421.8	434.3	446.8	455.4
57.5°	318.7	328.5	338.3	348.0	357.8	369.0	381.7	394.5	407.2	420.0	429.3
60°	295.4	305.7	316.0	326.4	336.7	348.7	362.4	376.1	389.8	403.6	412.7
62.5°	274.6	285.3	296.0	306.7	317.5	329.7	343.4	357.1	370.8	384.5	394.2
65°	240.2	251.9	263.7	275.5	287.3	300.3	314.5	328.6	342.8	357.0	366.9
67.5°	208.6	220.9	233.2	245.5	257.8	271.3	285.8	300.3	314.8	329.3	339.2
70°	186.1	198.6	211.1	223.6	236.1	249.8	264.7	279.6	294.5	309.4	319.8
72.5°	165.3	178.2	191.1	204.0	216.9	230.8	246.0	261.1	276.1	291.2	301.4
75°	133.1	146.5	160.0	173.5	186.9	201.4	216.7	232.1	247.5	262.9	273.2
77.5°	101.9	116.0	130.1	144.1	158.2	173.1	188.7	204.4	220.0	235.6	245.9
80°	81.1	95.8	110.5	125.1	139.8	154.9	170.6	186.2	201.8	217.4	227.6
82.5°	63.8	78.3	92.8	107.2	121.7	136.9	152.7	168.5	184.3	200.2	210.3
85°	39.0	53.9	68.7	83.6	98.6	113.7	129.1	144.5	159.9	175.3	185.4
87.5°	21.3	35.8	50.3	64.8	79.4	94.5	110.2	126.0	141.8	157.5	167.3
90°	11.2	26.1	41.0	56.0	70.9	87.0	104.2	121.3	138.5	155.7	165.2
92.5°	16.6	30.2	43.9	57.6	71.3	85.9	101.0	116.3	131.5	146.8	156.2
95°	27.9	39.9	52.1	64.2	76.3	89.7	104.3	118.9	133.5	148.1	157.2
97.5°	42.6	53.4	64.2	75.0	85.8	98.2	112.3	126.5	140.7	154.8	163.7
100°	54.5	64.0	73.6	83.2	92.7	104.4	118.1	131.8	145.4	159.1	168.0
102.5°	66.0	74.7	83.3	92.0	100.6	111.7	125.1	138.4	151.8	165.2	174.0
105°	84.8	92.0	99.2	106.5	113.7	123.7	136.3	149.0	161.7	174.3	182.9
107.5°	104.8	110.8	116.8	122.7	128.6	137.5	149.5	161.5	173.5	185.5	193.6
110°	117.0	122.3	127.6	132.9	138.2	146.8	158.5	170.3	182.1	193.9	201.5



TEST NUMBER: P331558-930

CATALOG NUMBER: S122DIW-S865D435U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	131.2	135.7	140.2	144.8	149.3	157.1	168.3	179.4	190.5	201.7	209.2
115°	152.1	155.2	158.3	161.5	164.6	171.5	182.1	192.8	203.5	214.2	221.3
117.5°	171.9	174.2	176.6	179.0	181.4	187.4	196.9	206.4	216.0	225.5	232.4
120°	185.7	187.4	189.0	190.5	192.2	197.5	206.4	215.4	224.4	233.3	240.0
122.5°	198.4	199.6	200.8	201.9	203.1	208.0	216.5	225.2	233.7	242.3	248.7
125°	217.1	217.8	218.6	219.4	220.1	224.2	231.6	239.0	246.5	254.0	260.2
127.5°	236.4	237.1	237.8	238.5	239.2	242.5	248.4	254.3	260.2	266.1	271.8
130°	248.5	249.4	250.2	251.0	251.8	254.7	259.6	264.5	269.4	274.3	279.8
132.5°	262.1	262.8	263.4	264.0	264.6	266.9	270.8	274.8	278.8	282.7	287.9
135°	279.2	280.1	281.0	281.9	282.8	284.5	287.1	289.7	292.3	294.8	299.8
137.5°	298.3	299.1	299.7	300.4	301.1	302.1	303.4	304.7	305.9	307.2	311.5
140°	309.9	310.4	310.9	311.4	311.9	312.6	313.5	314.4	315.3	316.2	320.0
142.5°	321.7	322.2	322.7	323.2	323.7	324.2	324.5	324.9	325.2	325.6	328.8
145°	337.6	338.2	338.8	339.3	339.9	340.5	341.0	341.4	341.9	342.4	344.0
147.5°	352.8	353.4	354.2	354.8	355.6	356.0	356.4	356.7	357.0	357.3	357.7
150°	363.1	363.6	364.1	364.6	365.1	365.5	365.8	366.2	366.5	366.8	367.0
152.5°	372.3	372.8	373.2	373.7	374.2	374.7	375.0	375.4	375.9	376.3	376.6
155°	386.0	386.2	386.5	386.8	387.0	387.3	387.5	387.8	388.0	388.2	388.7
157.5°	397.8	397.9	398.1	398.3	398.4	398.5	398.7	398.8	399.0	399.2	399.7
160°	404.9	405.0	405.2	405.4	405.5	405.6	405.7	405.8	405.9	405.9	406.4
162.5°	411.3	411.4	411.4	411.4	411.5	411.6	411.6	411.7	411.8	411.9	412.4
165°	420.0	419.9	419.8	419.7	419.6	419.6	419.6	419.6	419.6	419.6	420.2
167.5°	427.2	427.0	426.7	426.5	426.2	426.1	426.1	426.1	426.1	426.1	426.6
170°	431.0	430.8	430.6	430.3	430.1	429.9	429.8	429.7	429.7	429.6	430.2
172.5°	433.7	433.5	433.3	433.0	432.8	432.6	432.5	432.4	432.4	432.3	432.8
175°	437.0	436.8	436.5	436.3	436.0	435.8	435.6	435.5	435.3	435.1	435.7
177.5°	438.3	438.1	437.9	437.7	437.5	437.3	437.2	437.1	436.9	436.8	437.2
180°	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7



TEST NUMBER: P331558-930

CATALOG NUMBER: S122DIW-S865D435U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	744.0	745.0	746.0	746.3	745.9	745.5	745.1	744.8
5°	741.8	743.2	744.7	745.3	745.0	744.8	744.5	744.3
7.5°	738.3	740.0	741.8	742.5	742.2	742.0	741.8	741.5
10°	735.2	737.1	739.1	739.9	739.6	739.4	739.2	738.9
12.5°	730.0	731.9	733.9	734.7	734.4	734.2	733.9	733.7
15°	720.5	722.7	724.9	725.8	725.5	725.3	725.0	724.9
17.5°	708.4	710.6	712.9	714.0	714.0	714.0	714.0	714.0
20°	698.8	701.4	704.0	705.4	705.4	705.4	705.4	705.4
22.5°	688.4	691.0	693.7	695.2	695.5	695.9	696.3	696.8
25°	672.2	675.1	678.0	679.8	680.4	681.2	681.9	682.7
27.5°	654.3	657.9	661.5	663.7	664.2	664.7	665.3	665.8
30°	641.6	645.5	649.4	651.7	652.3	653.1	653.8	654.5
32.5°	628.1	632.5	636.9	639.8	641.1	642.4	643.7	645.0
35°	608.9	614.2	619.5	622.9	624.6	626.3	627.9	629.7
37.5°	589.0	594.8	600.7	604.5	606.3	608.1	609.9	611.7
40°	575.0	581.3	587.6	591.7	593.9	596.1	598.3	600.5
42.5°	561.5	568.3	575.2	579.7	581.8	584.0	586.1	588.3
45°	540.7	548.1	555.6	560.5	563.0	565.3	567.8	570.1
47.5°	519.1	526.8	534.7	539.9	542.5	545.2	547.8	550.5
50°	504.3	512.4	520.7	526.0	528.6	531.3	533.9	536.6
52.5°	488.2	496.6	504.9	510.5	513.4	516.2	519.0	521.9
55°	464.1	472.8	481.4	487.3	490.4	493.6	496.7	499.8
57.5°	438.6	447.9	457.3	463.6	466.7	469.9	473.0	476.2
60°	421.8	431.0	440.1	446.3	449.7	453.1	456.4	459.8
62.5°	403.9	413.6	423.3	429.8	432.9	436.1	439.3	442.5
65°	376.7	386.6	396.5	402.9	406.0	409.2	412.3	415.4
67.5°	349.2	359.1	369.2	375.8	379.0	382.3	385.6	388.8
70°	330.1	340.4	350.7	357.3	360.3	363.1	366.1	368.9
72.5°	311.5	321.6	331.8	338.6	342.1	345.5	349.0	352.5
75°	283.6	293.9	304.3	311.0	314.1	317.2	320.3	323.5
77.5°	256.2	266.5	276.8	283.6	287.0	290.3	293.8	297.1
80°	237.7	247.8	257.9	264.6	267.9	271.3	274.7	278.0
82.5°	220.4	230.4	240.5	247.2	250.4	253.5	256.7	259.8
85°	195.4	205.5	215.6	222.4	225.8	229.1	232.4	235.9
87.5°	177.1	186.9	196.7	203.0	206.1	209.2	212.3	215.4
90°	174.6	184.1	193.6	199.7	202.7	205.7	208.6	211.7
92.5°	165.7	175.1	184.6	190.8	193.6	196.6	199.5	202.4
95°	166.3	175.5	184.6	190.5	193.2	196.0	198.7	201.4
97.5°	172.7	181.6	190.5	196.3	199.1	201.9	204.7	207.6
100°	176.9	185.8	194.8	200.5	203.0	205.6	208.1	210.8
102.5°	182.8	191.5	200.3	205.9	208.6	211.1	213.6	216.2
105°	191.4	200.1	208.6	214.3	216.9	219.5	222.2	224.8
107.5°	201.7	209.9	218.0	223.2	225.5	227.8	230.0	232.3
110°	209.2	217.0	224.6	229.7	232.0	234.5	236.8	239.3



TEST NUMBER: P331558-930

CATALOG NUMBER: S122DIW-S865D435U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	216.7	224.2	231.6	236.7	239.1	241.6	244.0	246.5
115°	228.4	235.5	242.6	247.4	249.8	252.3	254.6	257.0
117.5°	239.4	246.3	253.2	257.7	259.9	262.2	264.4	266.6
120°	246.8	253.5	260.2	264.8	267.2	269.6	272.0	274.4
122.5°	255.0	261.3	267.7	271.9	273.9	276.1	278.1	280.2
125°	266.4	272.7	279.0	283.2	285.2	287.3	289.3	291.5
127.5°	277.4	283.2	288.8	292.5	294.4	296.3	298.2	299.9
130°	285.4	291.1	296.7	300.3	301.8	303.5	305.1	306.6
132.5°	293.1	298.3	303.5	307.0	308.6	310.3	311.9	313.6
135°	304.8	309.7	314.7	318.0	319.7	321.4	323.1	324.7
137.5°	315.9	320.2	324.7	327.4	328.7	330.0	331.3	332.6
140°	323.8	327.7	331.5	334.0	335.1	336.2	337.4	338.4
142.5°	331.9	335.1	338.2	340.2	341.1	342.1	343.0	343.9
145°	345.4	347.0	348.5	349.7	350.6	351.5	352.3	353.2
147.5°	358.1	358.5	358.8	359.1	359.4	359.7	360.0	360.2
150°	367.3	367.5	367.8	367.8	367.5	367.3	367.0	366.8
152.5°	376.8	377.2	377.5	377.5	377.2	376.8	376.6	376.3
155°	389.1	389.5	389.9	390.0	389.7	389.5	389.2	389.0
157.5°	400.2	400.8	401.4	401.5	401.0	400.6	400.3	399.9
160°	406.9	407.4	407.9	408.0	407.6	407.3	407.0	406.7
162.5°	412.9	413.5	414.1	414.2	413.8	413.4	412.9	412.6
165°	420.8	421.3	421.9	422.0	421.6	421.2	420.8	420.4
167.5°	427.2	427.8	428.4	428.4	428.0	427.5	427.1	426.7
170°	430.7	431.3	431.9	431.9	431.5	431.0	430.5	430.0
172.5°	433.4	434.0	434.6	434.6	434.1	433.6	433.1	432.6
175°	436.3	436.8	437.4	437.5	437.0	436.5	436.0	435.5
177.5°	437.7	438.0	438.4	438.4	438.0	437.7	437.2	436.8
180°	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7

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