

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: P242305

Luminaire Tested: **S122DR-S485D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242305
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DR-S485D930-X4F0-XX-UDD-A-W
Description: DEFINE 2 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1680.3 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

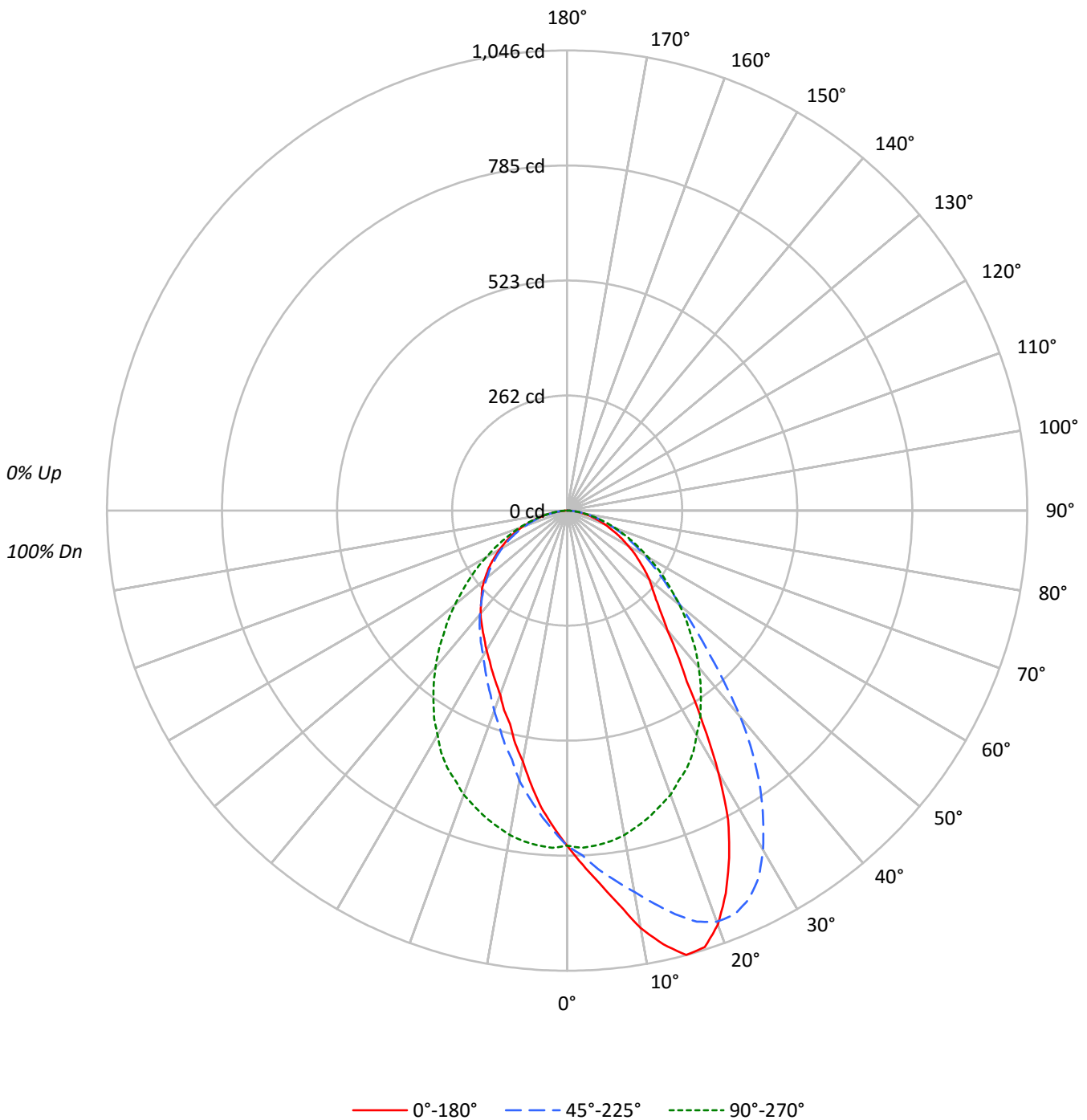
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P242305

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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	51	46	55	50	45	43
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	14509	14509	14509
5°	16266	14602	12941
10°	18639	14483	11199
15°	20621	14218	9893
20°	20305	13932	9020
25°	18310	13554	8466
30°	15130	12948	8061
35°	11027	12315	7773
40°	8807	11567	7614
45°	7696	10700	7397
50°	7233	9862	7251
55°	6668	9013	7057
60°	6111	8107	6758
65°	5566	7297	6463
70°	5051	6505	6031
75°	4482	5623	5343
80°	3850	4651	4300
85°	3453	3453	2557



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.6	4.3
10°-20°	211.2	12.6
20°-30°	306.5	18.2
30°-40°	323.1	19.2
40°-50°	285.8	17.0
50°-60°	228.2	13.6
60°-70°	155.0	9.2
70°-80°	79.3	4.7
80°-90°	18.7	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	590.2	35.1
0°-40°	913.2	54.3
0°-60°	1427.3	84.9
0°-90°	1680.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1680.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	762	762	762	762	762	
5°	851	819	764	694	677	85
15°	1046	950	721	548	502	290
25°	871	975	645	429	403	395
35°	474	764	530	344	334	307
45°	286	452	397	272	275	224
55°	201	260	271	205	212	180
65°	124	154	162	135	143	123
75°	61	75	76	68	73	65
85°	16	17	16	13	12	18
90°	0	0	0	0	0	



TEST NUMBER: P242305

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7
2.5°	805.6	805.9	806.5	801.8	801.2	801.2	797.1	793.6	789.5	783.9	784.5
5°	850.7	853.9	855.1	851.6	846.3	845.7	840.7	832.5	824.9	818.8	814.4
7.5°	902.8	904.0	901.6	897.5	894.0	887.3	879.1	871.2	859.5	848.9	841.3
10°	963.7	965.4	960.5	953.7	948.2	940.0	926.5	912.8	896.1	880.0	867.1
12.5°	1009.9	1014.9	1008.2	1008.8	998.2	986.2	969.5	964.3	939.1	915.1	901.0
15°	1045.7	1045.4	1045.9	1040.4	1033.4	1031.6	1014.6	996.2	963.1	949.9	927.1
17.5°	1040.4	1044.5	1046.8	1045.1	1043.9	1041.3	1033.9	1020.2	1002.0	979.8	952.6
20°	1001.7	1007.6	1008.5	1015.2	1019.0	1024.0	1026.0	1022.8	1012.6	994.7	971.9
22.5°	942.0	942.6	945.8	957.2	966.6	981.0	988.6	1002.9	1000.6	994.1	976.0
25°	871.2	868.3	878.5	883.8	902.8	922.7	937.0	952.9	966.9	975.4	969.8
27.5°	792.7	786.6	802.1	815.9	829.3	848.6	870.3	896.1	915.7	942.3	948.8
30°	687.9	690.6	705.2	720.1	743.5	774.0	799.2	828.1	859.5	890.2	911.6
32.5°	574.9	586.9	594.8	619.7	639.6	674.5	714.3	752.3	793.3	829.3	865.3
35°	474.2	485.9	498.8	515.5	544.5	578.2	614.2	663.0	716.3	764.0	803.3
37.5°	410.4	408.4	416.3	428.6	453.4	482.4	525.2	574.9	638.7	691.7	744.4
40°	354.2	353.0	358.3	369.4	387.3	407.2	443.5	485.9	544.2	612.7	678.6
42.5°	315.6	316.7	319.1	326.1	336.9	352.5	377.3	411.9	464.0	527.5	599.5
45°	285.7	287.8	291.0	294.8	301.8	315.3	330.5	356.3	398.4	452.3	521.9
47.5°	262.3	262.9	266.4	269.9	274.0	282.2	295.7	312.1	344.3	390.2	452.6
50°	244.1	242.1	244.4	247.1	251.5	256.7	264.9	280.1	300.1	335.5	385.5
52.5°	221.9	222.5	224.5	225.1	228.9	234.2	241.5	250.9	268.4	294.2	333.1
55°	200.8	202.3	203.5	205.2	208.7	212.5	218.4	225.4	239.5	260.2	290.7
57.5°	180.9	181.5	182.4	186.2	188.2	191.7	197.6	204.0	213.4	229.5	253.5
60°	160.4	160.4	162.8	164.2	167.2	170.7	175.1	181.2	189.4	202.0	220.4
62.5°	141.7	141.4	142.0	144.6	146.7	149.9	154.3	159.2	166.9	177.7	192.0
65°	123.5	122.9	124.7	125.3	127.6	130.9	134.4	139.9	146.1	154.3	167.7
67.5°	105.4	106.3	107.4	108.6	109.8	113.6	115.9	120.0	125.3	132.3	141.7
70°	90.7	90.7	90.7	91.6	93.4	95.1	97.5	100.7	105.7	111.5	119.7
72.5°	74.4	75.5	76.7	75.8	78.2	79.0	82.0	83.4	88.1	91.3	98.4
75°	60.9	60.9	60.9	62.4	63.2	64.1	65.9	67.6	70.0	74.6	78.5
77.5°	48.0	47.7	48.0	48.3	49.5	50.6	51.2	52.7	55.0	57.4	60.9
80°	35.1	35.7	36.0	36.6	36.6	37.2	37.5	39.5	41.0	42.4	44.5
82.5°	25.2	25.2	25.2	25.2	25.5	25.8	26.6	26.9	27.2	28.4	29.9
85°	15.8	15.5	15.5	16.1	15.8	15.8	16.4	17.0	17.0	17.3	18.1
87.5°	7.6	7.6	7.9	7.6	7.6	7.9	7.9	7.6	7.9	8.2	8.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7
2.5°	786.6	784.2	782.8	777.5	772.8	768.1	766.7	767.3	760.8	754.7	752.0
5°	812.0	806.2	800.6	792.7	783.4	773.1	767.8	763.7	753.5	742.4	735.9
7.5°	835.2	827.6	817.6	803.6	790.7	775.5	766.1	758.2	743.8	728.9	719.8
10°	856.0	844.5	830.8	812.6	795.9	776.3	762.6	748.8	731.3	712.5	700.8
12.5°	873.8	857.4	844.0	819.4	798.9	773.1	756.1	735.4	716.6	693.5	682.1
15°	904.3	875.9	850.1	823.8	799.5	765.2	747.1	721.0	696.7	669.2	656.0
17.5°	926.8	896.1	856.3	824.3	797.4	760.8	734.8	703.7	676.2	645.8	628.2
20°	945.5	908.9	865.3	825.5	791.6	748.2	719.3	687.3	653.7	618.3	598.9
22.5°	956.7	917.7	874.7	821.1	779.8	738.0	699.6	663.9	629.7	590.7	570.2
25°	957.2	922.1	876.5	819.1	770.5	722.8	678.9	644.9	603.6	567.9	538.3
27.5°	947.6	919.8	875.6	815.0	759.6	704.9	657.2	620.0	576.4	537.8	508.2
30°	926.2	911.6	868.8	808.0	746.2	686.2	632.3	588.7	545.4	506.1	475.7
32.5°	893.1	892.8	856.5	798.0	731.8	662.5	606.3	562.1	512.9	474.5	445.8
35°	847.8	861.8	838.1	782.2	713.1	640.2	579.9	529.6	479.8	442.9	415.7
37.5°	790.1	822.6	813.2	761.1	689.1	616.5	550.9	498.2	450.5	412.5	385.8
40°	730.1	774.6	781.0	736.2	663.3	588.1	517.6	465.2	418.9	384.9	358.0
42.5°	665.7	719.5	740.0	706.4	635.2	558.2	487.7	433.0	387.3	354.5	331.4
45°	592.2	661.0	692.9	672.4	603.3	524.9	452.3	397.2	355.7	324.6	306.2
47.5°	525.8	600.4	641.1	631.4	569.1	491.2	419.5	365.9	324.6	299.5	282.2
50°	454.3	531.6	583.4	585.8	531.6	454.6	382.6	332.8	295.7	272.5	259.1
52.5°	392.3	465.2	522.8	537.8	489.7	416.6	349.5	300.1	268.4	247.7	235.9
55°	339.9	402.2	464.9	487.7	448.2	377.9	315.0	271.4	240.6	226.0	215.5
57.5°	290.1	344.8	404.3	428.3	403.1	341.3	280.4	242.1	216.0	202.9	194.7
60°	252.3	293.3	344.8	375.0	353.9	300.3	248.8	212.8	192.3	180.9	173.3
62.5°	217.2	252.3	293.9	320.8	311.8	262.0	217.2	186.5	169.5	159.0	154.0
65°	185.0	213.7	247.4	272.8	265.2	226.9	189.1	161.9	147.8	139.3	135.0
67.5°	157.5	179.4	203.5	226.9	220.4	192.0	160.1	138.2	127.3	119.7	117.1
70°	131.7	147.5	168.3	186.2	181.2	159.0	135.0	116.8	107.7	101.6	98.9
72.5°	107.1	119.4	134.1	147.8	144.9	127.3	108.3	95.7	89.3	83.7	81.7
75°	84.6	94.6	104.2	113.9	113.0	98.7	86.9	76.4	70.8	66.5	65.6
77.5°	66.2	72.3	79.3	85.5	84.0	74.6	65.0	58.5	54.2	51.2	50.9
80°	47.7	50.9	55.6	59.7	57.7	54.2	46.8	42.4	39.5	36.6	35.4
82.5°	31.3	34.5	36.9	38.6	37.2	34.0	30.2	27.5	26.1	24.3	24.0
85°	18.1	19.9	21.1	21.7	21.1	19.0	17.0	15.8	14.3	13.5	13.2
87.5°	8.8	8.8	8.8	9.4	8.5	8.5	7.3	6.4	6.1	5.9	5.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7	761.7
2.5°	749.1	747.4	741.2	738.0	732.7	727.7	724.5	726.0	727.2	726.6	725.7
5°	730.1	724.5	716.0	708.7	703.4	693.8	689.7	687.6	685.9	683.8	681.8
7.5°	709.0	701.1	689.1	679.7	670.4	658.1	651.9	648.4	644.6	640.2	636.1
10°	686.2	673.9	661.0	646.4	634.7	623.8	614.2	607.7	601.9	596.3	592.2
12.5°	662.2	647.5	630.8	609.5	596.3	579.6	580.2	567.6	557.7	554.7	549.8
15°	636.4	616.5	596.3	572.6	562.3	548.3	539.5	530.7	522.8	517.3	515.8
17.5°	608.3	581.7	562.1	544.5	527.8	513.5	505.8	498.8	492.1	483.9	483.6
20°	575.2	553.0	531.0	516.1	498.8	484.2	474.2	467.2	461.6	457.3	453.4
22.5°	543.9	519.0	499.4	482.7	465.7	454.6	447.3	440.6	436.2	431.2	427.7
25°	509.9	490.9	469.0	450.5	436.5	428.9	422.4	416.6	413.6	410.4	406.3
27.5°	481.0	459.9	438.2	423.9	411.0	404.3	399.3	394.9	392.3	390.2	387.6
30°	449.9	428.6	412.5	398.4	388.2	381.4	378.5	376.2	372.9	371.8	370.6
32.5°	420.1	401.3	388.2	376.5	366.8	363.0	360.4	358.3	356.0	354.8	352.2
35°	392.3	376.2	362.7	356.0	348.1	344.3	342.2	339.3	336.9	335.8	335.5
37.5°	365.6	351.0	341.9	332.8	329.0	327.0	324.1	322.0	321.1	320.8	320.5
40°	339.9	328.4	320.5	313.5	312.1	308.5	306.2	304.4	304.4	304.7	304.4
42.5°	316.4	306.5	299.8	293.9	292.2	290.4	288.1	288.3	288.9	290.1	288.9
45°	292.7	285.4	280.4	277.5	274.3	272.2	272.0	272.8	273.1	273.4	274.3
47.5°	270.5	265.8	261.1	257.6	256.1	255.9	255.3	256.7	258.2	258.5	259.9
50°	251.2	245.6	241.8	239.8	238.6	238.0	238.6	240.3	241.5	243.0	243.8
52.5°	229.5	226.0	223.7	222.2	221.9	222.5	222.5	224.5	226.6	226.9	227.2
55°	209.9	207.0	206.4	203.7	204.9	204.6	206.1	207.3	209.0	210.8	211.1
57.5°	190.0	187.4	185.6	185.9	186.2	187.4	188.5	190.6	192.6	194.7	194.7
60°	170.1	168.9	168.0	168.0	168.6	170.4	171.8	173.9	175.1	176.2	177.1
62.5°	151.9	150.8	149.9	150.5	152.2	153.1	154.9	155.7	156.9	158.1	158.4
65°	132.6	132.0	132.9	133.5	133.8	135.2	137.3	138.2	139.3	139.9	142.0
67.5°	115.0	115.0	114.8	115.6	117.4	117.7	119.7	122.1	122.1	123.2	124.7
70°	97.2	97.8	98.4	98.9	100.4	101.0	102.5	103.3	104.5	105.4	106.3
72.5°	80.8	80.8	81.4	81.1	82.3	83.7	84.9	85.8	86.9	88.1	89.0
75°	64.7	64.7	65.3	65.6	67.0	68.5	68.2	68.8	70.0	71.1	71.7
77.5°	50.1	49.5	50.1	50.4	50.9	52.1	52.4	53.3	54.7	54.4	55.0
80°	36.0	35.1	36.0	36.3	36.3	37.8	37.8	38.3	39.2	38.3	39.2
82.5°	23.1	22.8	23.4	23.4	24.0	23.7	24.3	24.3	25.2	24.9	25.2
85°	12.9	12.6	12.9	12.6	12.9	13.2	13.2	12.9	12.9	13.5	12.6
87.5°	5.0	4.7	4.4	4.4	4.1	3.8	3.5	3.5	3.5	2.9	2.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242305

CATALOG NUMBER: S122DR-S485D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	761.7	761.7	761.7	761.7
2.5°	722.8	722.2	722.2	719.5
5°	677.7	676.8	675.3	676.8
7.5°	634.9	631.1	630.6	627.6
10°	587.2	584.9	584.6	579.0
12.5°	550.9	544.5	546.0	543.3
15°	507.9	507.9	506.7	501.7
17.5°	477.2	476.9	474.2	476.0
20°	450.2	448.5	445.0	445.0
22.5°	424.8	425.1	421.2	422.7
25°	406.0	403.7	401.9	402.8
27.5°	386.7	385.8	385.5	382.9
30°	370.3	367.4	368.0	366.5
32.5°	351.6	351.0	350.1	348.9
35°	334.9	335.2	333.7	334.3
37.5°	320.0	321.1	320.3	320.3
40°	305.3	305.3	305.3	306.2
42.5°	291.3	290.7	290.1	289.8
45°	274.9	275.8	276.0	274.6
47.5°	260.5	260.8	260.5	262.3
50°	245.3	244.7	245.3	244.7
52.5°	229.2	229.5	228.9	228.9
55°	212.2	212.8	212.5	212.5
57.5°	195.0	195.3	195.8	194.4
60°	176.8	178.3	178.0	177.4
62.5°	160.1	160.4	160.4	160.4
65°	142.9	143.4	142.6	143.4
67.5°	124.1	124.4	125.0	125.3
70°	106.8	106.6	107.4	108.3
72.5°	88.7	89.6	89.0	89.6
75°	71.1	72.0	71.7	72.6
77.5°	54.4	54.7	54.7	55.0
80°	39.2	38.6	38.1	39.2
82.5°	24.3	24.9	24.3	24.0
85°	12.6	12.3	11.7	11.7
87.5°	2.9	2.6	2.6	2.3
90°	0.0	0.0	0.0	0.0

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