

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: P243612

Luminaire Tested: **S124RDR-H575D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243612
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-70)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-H575D930-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1801.3 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

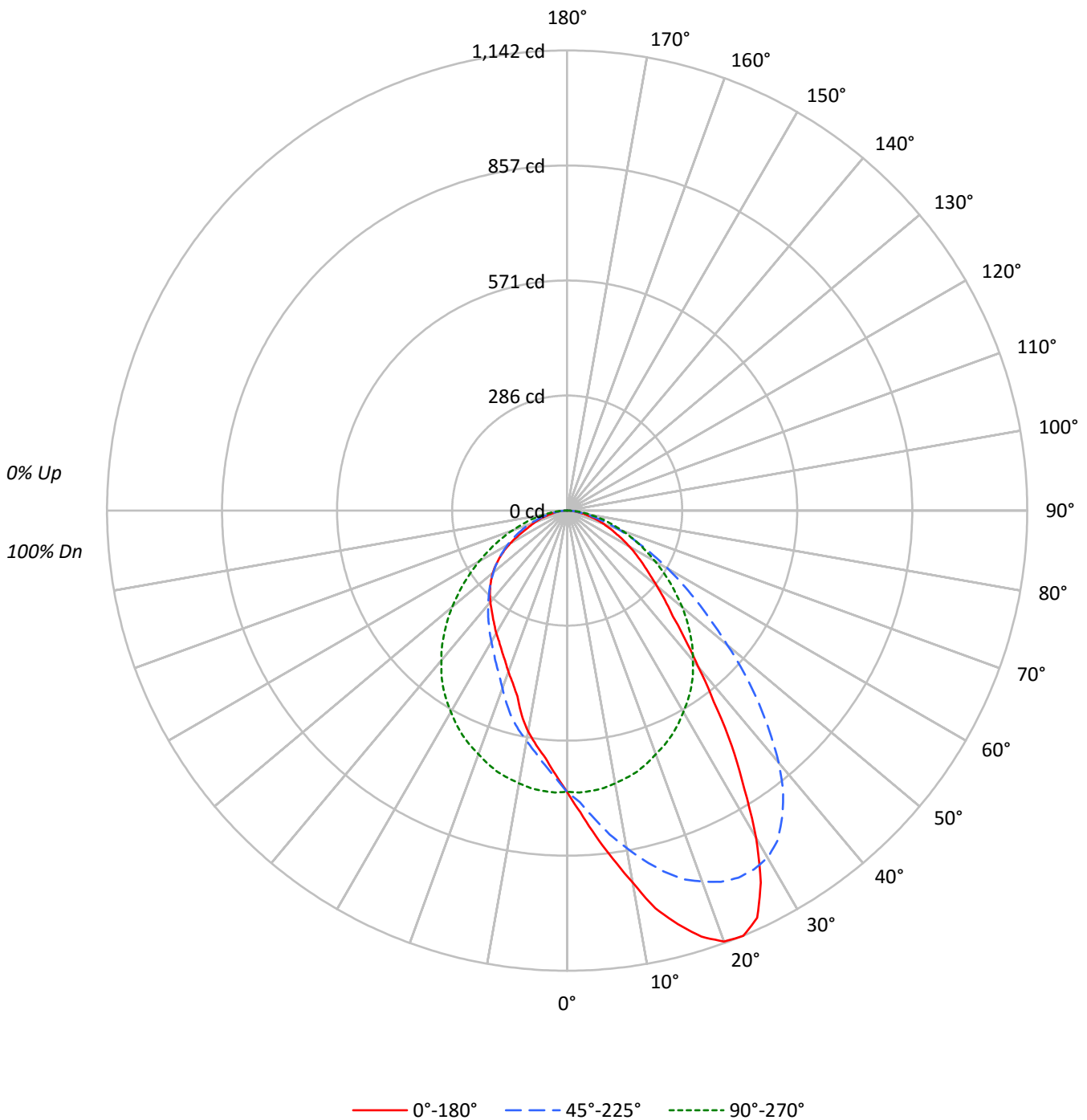
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243612

CATALOG NUMBER: S124RDR-H575D930-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P243612

CATALOG NUMBER: S124RDR-H575D930-X4F0-XX-UDD-A-W

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	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					100			
1	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88					86				
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75					73				
3	92	83	75	69	90	81	74	68	78	72	67	76	70	66	73	69	65					63				
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57					55				
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50					48				
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44					42				
7	68	55	46	41	66	54	46	40	53	45	40	51	45	40	50	44	40					38				
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36					34				
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32					31				
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30					28				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6204	6204	6204
5°	7227	6230	5500
10°	8463	6204	5028
15°	9779	6172	4391
20°	10767	6085	4026
25°	10940	6029	3763
30°	9630	5922	3610
35°	7726	5822	3492
40°	5878	5636	3437
45°	4666	5428	3395
50°	4006	5159	3337
55°	3538	4827	3175
60°	3170	4478	2908
65°	2789	4139	2446
70°	2487	3758	2204
75°	2167	3417	1961
80°	1838	2933	1807
85°	1611	2519	1826



TEST NUMBER: P243612

CATALOG NUMBER: S124RDR-H575D930-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.7	3.8
10°-20°	205.4	11.4
20°-30°	320.5	17.8
30°-40°	357.4	19.8
40°-50°	321.3	17.8
50°-60°	253.9	14.1
60°-70°	168.6	9.4
70°-80°	84.5	4.7
80°-90°	22.0	1.2
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
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0°-30°	593.6	33.0
0°-40°	951.0	52.8
0°-60°	1526.1	84.7
0°-90°	1801.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1801.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	698	698	698	698	698	
5°	810	766	698	634	616	81
15°	1063	927	671	531	477	302
25°	1115	1005	615	418	384	499
35°	712	930	536	339	322	442
45°	371	670	432	272	270	294
55°	228	394	312	206	205	206
65°	133	202	197	135	116	133
75°	63	80	100	67	57	67
85°	16	17	25	18	18	18
90°	0	0	0	0	0	



TEST NUMBER: P243612

CATALOG NUMBER: S124RDR-H575D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9
2.5°	749.5	746.8	746.6	743.0	742.8	739.2	738.1	735.1	729.2	724.5	724.8
5°	809.9	807.7	807.4	803.9	802.8	798.5	791.7	783.5	774.0	766.1	761.0
7.5°	871.8	875.7	871.6	871.6	863.7	858.5	845.2	838.4	822.1	810.7	798.7
10°	937.6	941.1	939.5	936.3	925.9	915.3	901.5	888.2	868.3	850.4	838.4
12.5°	1011.0	1000.4	1007.2	997.1	988.7	971.9	958.5	931.9	916.1	890.1	866.7
15°	1062.6	1058.6	1058.3	1051.5	1042.2	1023.8	1009.4	981.6	954.7	927.3	900.9
17.5°	1108.8	1109.4	1105.6	1094.7	1082.7	1064.8	1045.2	1020.5	989.8	959.4	928.1
20°	1138.2	1138.5	1135.7	1130.0	1117.0	1100.7	1080.6	1048.2	1013.4	979.7	948.5
22.5°	1142.5	1143.3	1142.5	1139.0	1130.0	1116.7	1098.2	1070.8	1035.7	997.1	959.9
25°	1115.4	1118.1	1118.3	1123.2	1118.6	1113.5	1099.9	1076.8	1044.4	1005.3	964.8
27.5°	1040.9	1048.5	1055.6	1064.3	1072.1	1079.2	1080.3	1068.1	1040.3	1003.9	965.3
30°	938.2	947.1	961.3	970.5	995.0	1010.4	1031.4	1036.0	1022.7	994.7	957.5
32.5°	818.6	828.1	833.5	864.0	899.0	924.3	959.1	979.7	984.9	971.6	941.1
35°	712.0	713.7	717.8	752.3	787.1	825.4	868.6	904.5	928.9	930.3	915.3
37.5°	597.9	599.8	615.8	642.2	672.4	714.5	764.2	815.3	860.2	880.8	876.5
40°	506.6	506.0	523.2	546.0	575.3	619.1	670.5	726.2	774.0	817.2	827.5
42.5°	432.7	434.6	449.2	462.6	490.8	521.5	576.4	634.3	695.7	743.0	774.6
45°	371.2	376.1	386.2	398.7	419.9	448.2	493.0	550.6	613.4	670.2	708.0
47.5°	328.8	330.2	335.4	350.9	365.0	387.8	426.1	475.1	530.8	594.4	644.1
50°	289.7	293.0	294.9	304.1	318.0	339.7	369.3	405.8	460.9	519.4	581.6
52.5°	256.0	257.9	261.4	269.9	280.7	296.0	319.3	351.4	397.3	451.4	510.1
55°	228.3	228.6	232.1	238.1	246.5	258.2	280.5	303.6	344.3	393.5	446.8
57.5°	203.3	201.7	204.9	208.4	216.6	226.7	241.1	264.7	296.5	338.4	386.5
60°	178.3	179.6	179.4	183.4	187.8	197.9	210.1	225.6	251.7	290.0	330.7
62.5°	154.9	154.6	157.4	159.8	162.8	170.9	181.0	193.8	214.2	242.4	281.8
65°	132.6	133.2	135.3	137.2	140.5	145.7	153.3	163.6	179.9	201.7	234.8
67.5°	112.5	114.4	115.5	116.0	119.0	122.8	129.4	137.8	148.9	166.3	194.0
70°	95.7	96.2	96.8	98.7	100.0	102.2	107.1	111.7	121.8	134.5	154.6
72.5°	79.9	79.4	81.0	81.5	82.1	84.2	87.2	89.7	96.2	107.1	119.6
75°	63.1	63.3	63.6	64.4	66.6	66.9	68.2	70.9	75.6	79.9	88.3
77.5°	47.3	48.1	47.8	48.6	49.5	50.3	50.8	53.3	56.5	60.1	64.1
80°	35.9	35.9	35.9	36.4	35.9	37.8	37.8	38.6	39.4	41.0	44.0
82.5°	24.5	25.0	25.3	25.5	25.8	25.8	26.1	26.6	27.7	28.3	29.1
85°	15.8	15.2	15.5	15.5	15.5	15.5	16.0	16.6	16.6	16.8	17.7
87.5°	7.1	7.1	7.1	7.1	6.8	7.1	7.3	7.3	7.6	7.6	8.2
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: P243612

CATALOG NUMBER: S124RDR-H575D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9
2.5°	723.2	722.4	718.3	713.9	709.9	705.8	704.4	700.4	695.5	691.1	686.2
5°	755.5	749.0	740.0	730.8	721.3	712.6	705.8	698.2	689.5	679.2	671.0
7.5°	788.1	776.2	761.5	747.9	731.6	718.6	705.5	694.6	682.1	667.5	656.3
10°	819.9	800.1	782.2	760.7	740.0	722.1	705.5	687.3	670.7	655.0	639.5
12.5°	845.2	825.4	799.6	773.2	746.6	723.2	700.9	679.4	658.8	639.8	622.6
15°	874.0	845.5	813.7	784.6	748.2	719.4	693.8	670.7	647.1	624.0	605.2
17.5°	895.2	861.5	822.1	788.7	753.6	717.8	687.0	658.0	630.8	606.6	587.3
20°	911.5	871.6	832.2	789.8	747.9	711.2	676.7	643.3	615.8	589.5	569.1
22.5°	918.6	876.5	832.7	786.8	742.2	700.6	664.8	630.2	599.3	572.1	548.4
25°	921.6	875.4	830.0	777.8	732.7	690.3	650.4	614.7	583.0	552.2	528.9
27.5°	919.1	869.7	817.5	768.3	717.2	675.6	633.2	597.1	563.9	534.3	508.2
30°	912.6	856.6	804.7	749.5	700.4	656.6	615.3	577.0	543.5	513.4	487.6
32.5°	895.8	842.0	783.0	729.2	676.2	633.0	595.5	557.7	523.7	492.2	467.2
35°	874.8	822.1	760.4	704.2	651.7	608.0	570.2	536.5	503.1	469.6	444.1
37.5°	848.5	794.9	735.4	674.8	623.4	581.0	546.5	512.6	479.4	448.7	420.2
40°	812.9	764.0	704.2	643.3	591.6	550.9	516.9	485.7	456.3	426.1	395.4
42.5°	768.6	731.3	669.6	609.6	559.0	518.5	488.4	460.4	432.1	401.1	373.4
45°	721.3	689.5	633.5	572.9	524.8	485.4	456.6	431.8	405.2	377.8	348.7
47.5°	668.0	644.4	596.0	535.9	485.4	451.7	425.1	402.5	378.3	353.8	325.6
50°	608.0	593.6	552.2	497.6	449.5	415.3	393.3	373.1	352.5	328.0	303.8
52.5°	547.9	545.2	506.6	458.5	413.1	381.3	359.8	341.3	324.5	301.4	281.0
55°	484.8	493.0	460.9	416.6	376.1	345.4	326.4	311.5	296.8	277.2	257.6
57.5°	428.9	438.1	416.1	375.3	337.5	311.5	295.1	281.6	268.8	250.8	237.8
60°	366.9	383.7	372.1	334.8	301.4	278.0	262.8	251.9	241.3	225.8	214.4
62.5°	318.0	329.7	322.9	295.1	265.5	246.5	232.9	222.9	214.4	202.5	191.3
65°	265.5	280.2	276.7	258.5	232.4	215.0	204.6	196.8	188.1	178.6	169.3
67.5°	218.2	233.5	232.6	220.1	200.8	186.4	176.7	170.9	163.9	154.6	148.9
70°	175.6	189.7	190.2	184.0	170.4	156.8	149.7	144.6	139.1	132.4	128.3
72.5°	136.4	149.2	151.4	148.4	139.7	130.7	124.5	120.9	116.3	110.6	107.1
75°	101.9	111.2	116.3	115.0	111.4	105.4	101.9	99.5	94.8	90.8	87.8
77.5°	72.6	79.9	85.1	87.2	85.6	83.2	79.9	78.0	73.1	71.2	69.6
80°	48.6	55.2	59.8	61.1	62.0	61.4	58.4	57.3	54.9	54.1	52.5
82.5°	29.9	33.4	36.7	40.2	41.9	41.9	40.2	40.5	38.3	37.2	36.7
85°	18.2	19.0	19.6	22.3	24.5	25.3	24.5	24.7	23.9	23.1	22.3
87.5°	8.4	8.4	8.7	9.2	9.8	11.4	12.0	12.8	11.7	11.7	9.8
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: P243612

CATALOG NUMBER: S124RDR-H575D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9	697.9
2.5°	683.2	679.7	677.0	672.6	669.1	663.4	661.5	661.5	662.6	661.2	662.6
5°	665.3	658.8	651.7	645.5	638.7	633.8	628.9	627.8	627.3	624.0	624.3
7.5°	647.4	638.7	629.7	621.5	613.1	605.5	600.3	598.2	596.3	594.1	591.6
10°	628.1	618.0	607.4	598.2	590.0	579.7	574.5	572.9	567.5	566.4	562.6
12.5°	607.7	597.4	586.8	574.8	566.9	556.9	549.3	545.7	540.6	536.8	531.0
15°	591.6	578.6	564.5	552.8	542.5	531.3	521.0	514.2	507.4	496.8	491.6
17.5°	571.8	556.9	544.6	532.1	517.2	500.9	488.6	478.6	471.3	462.6	457.4
20°	550.3	536.5	521.3	503.6	487.8	469.4	458.2	449.8	444.1	438.9	436.2
22.5°	531.3	515.3	494.4	477.5	455.5	440.8	431.8	426.4	421.0	415.5	412.8
25°	510.7	491.9	466.4	445.7	429.1	417.7	409.0	403.9	398.1	394.9	390.8
27.5°	490.3	466.1	440.5	421.8	408.7	395.4	388.1	384.0	379.7	375.0	371.8
30°	465.5	438.1	416.9	399.8	386.7	375.6	370.2	364.2	360.4	357.7	355.7
32.5°	439.7	413.4	394.1	379.4	366.6	358.2	351.4	347.6	344.3	341.3	339.2
35°	415.5	390.0	373.7	359.6	349.0	339.4	334.3	330.7	328.0	325.6	324.5
37.5°	391.6	369.9	352.2	341.1	329.9	322.3	317.4	314.2	312.5	310.1	310.4
40°	368.0	348.4	334.3	321.5	311.2	304.7	300.9	299.5	297.0	296.2	297.0
42.5°	346.8	328.8	315.3	303.3	294.3	288.1	285.1	283.2	282.4	282.1	282.4
45°	326.1	309.3	296.2	286.4	277.2	271.5	269.1	267.7	266.9	268.2	268.5
47.5°	305.5	290.3	278.6	267.2	259.5	255.5	253.0	251.9	252.7	253.3	255.2
50°	285.1	271.0	258.7	248.7	242.7	238.9	238.1	236.2	237.5	238.3	239.7
52.5°	264.4	251.7	240.8	231.3	225.0	222.6	220.7	219.9	221.8	221.8	223.1
55°	243.5	232.4	222.3	213.6	208.7	205.7	204.4	203.3	204.4	204.6	204.4
57.5°	223.9	213.3	202.7	195.4	191.3	188.1	186.7	186.2	185.9	187.0	186.7
60°	203.3	193.2	184.8	177.2	173.1	171.2	168.2	168.8	168.8	168.8	166.1
62.5°	182.6	172.6	165.2	160.1	155.2	151.9	151.4	150.6	148.9	148.7	145.1
65°	161.4	153.8	147.6	142.4	137.5	134.8	134.0	131.5	129.6	126.1	123.7
67.5°	141.9	136.4	129.1	124.7	120.7	117.4	114.4	112.5	108.7	105.2	103.0
70°	122.3	116.6	111.7	107.1	103.0	100.0	96.5	92.9	90.5	88.3	86.7
72.5°	102.7	97.8	93.8	89.4	85.1	82.1	79.4	76.6	75.6	74.5	73.7
75°	84.5	79.9	76.1	72.6	70.1	66.6	65.2	64.1	63.1	61.7	60.1
77.5°	66.9	63.3	60.3	57.3	55.2	53.3	52.2	48.9	46.2	45.7	45.1
80°	49.7	47.0	45.1	42.9	40.5	37.8	37.0	35.9	35.3	35.3	35.6
82.5°	34.8	33.2	31.0	29.1	28.3	27.2	27.2	26.9	26.6	26.9	26.9
85°	21.2	19.0	18.5	18.2	18.5	18.5	18.5	18.5	18.2	18.5	17.9
87.5°	9.2	10.1	10.3	9.5	9.8	9.2	9.5	9.5	9.5	9.8	9.5
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: P243612

CATALOG NUMBER: S124RDR-H575D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	697.9	697.9	697.9	697.9
2.5°	661.0	661.0	658.2	656.1
5°	623.7	620.2	619.6	616.4
7.5°	588.9	588.4	587.0	587.0
10°	561.2	559.3	557.4	557.1
12.5°	522.1	524.8	521.5	520.7
15°	487.8	485.7	482.9	477.2
17.5°	456.0	452.0	450.9	448.4
20°	431.0	428.0	427.0	425.6
22.5°	407.4	406.8	403.6	402.8
25°	390.0	387.3	385.1	383.7
27.5°	371.0	369.1	368.0	365.8
30°	353.6	353.0	351.7	351.7
32.5°	337.8	336.2	336.2	335.9
35°	323.4	324.0	322.3	321.8
37.5°	309.8	309.0	309.3	308.7
40°	296.5	296.0	296.0	296.2
42.5°	282.9	283.2	283.7	283.7
45°	269.3	269.6	270.1	270.1
47.5°	256.6	256.0	256.6	256.0
50°	240.2	241.9	241.6	241.3
52.5°	223.7	223.1	224.2	223.9
55°	205.7	204.9	206.0	204.9
57.5°	185.6	185.9	185.9	185.3
60°	165.5	164.7	163.6	163.6
62.5°	142.1	139.7	138.1	139.1
65°	119.6	117.7	117.1	116.3
67.5°	101.6	99.5	98.7	98.4
70°	86.2	85.1	84.8	84.8
72.5°	73.1	73.1	72.3	71.7
75°	59.5	58.4	57.1	57.1
77.5°	44.6	44.3	44.0	44.0
80°	34.8	34.8	35.1	35.3
82.5°	26.1	26.4	26.6	26.6
85°	17.7	17.7	17.9	17.9
87.5°	9.5	9.5	9.5	9.2
90°	0.0	0.0	0.0	0.0

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