

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242559

Luminaire Tested: S123RDRP-S340D927-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242559
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-30)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S340D927-X4F0-XX-UDD-A-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

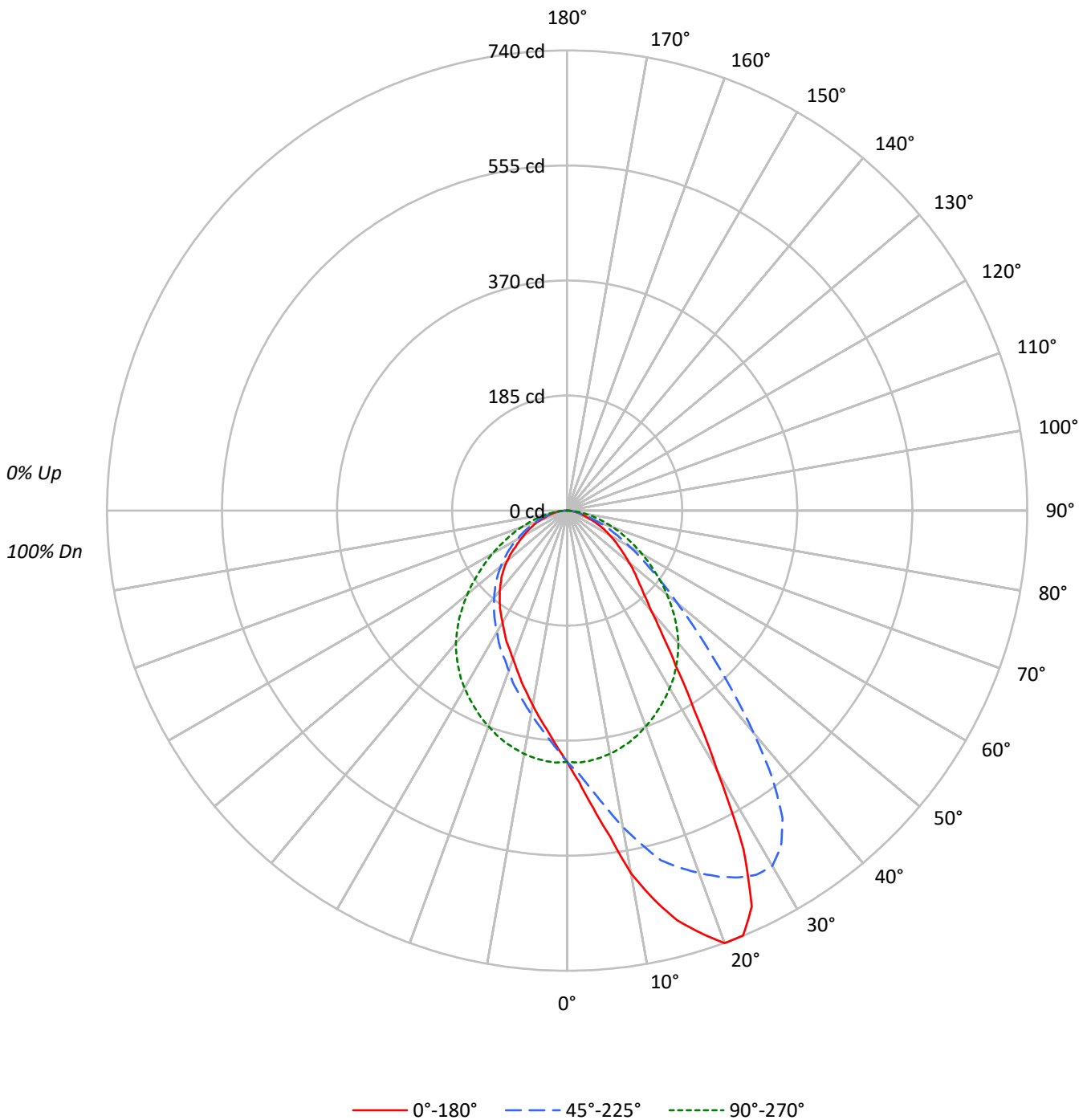
Lumens per Lamp: N/A
Luminaire Lumens: 1006.0 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.35
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

Input Watts (W): 11.6
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: 24 FT

TEST NUMBER: P242559

CATALOG NUMBER: S123RDRP-S340D927-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot



TEST NUMBER: P242559

CATALOG NUMBER: S123RDRP-S340D927-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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89				87	
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77				74	
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66				64	
4	86	75	67	61	84	74	66	61	71	65	60	69	64	59	67	62	58				56	
5	80	68	60	53	78	67	59	53	65	58	53	63	57	52	61	56	52				50	
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46				44	
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41				39	
8	64	52	44	38	63	51	43	38	50	43	38	48	42	38	47	42	37				36	
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34				32	
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31				29	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	4897	4897	4897	4897	4897
5°	5838	5475	4918	4440	4330
10°	7289	6361	4890	4091	3913
15°	8556	7305	4840	3805	3568
20°	9548	8000	4765	3536	3275
25°	9395	8707	4686	3349	3095
30°	6753	9238	4613	3156	2910
35°	4509	8936	4519	3025	2789
40°	3323	7367	4405	2892	2665
45°	2787	5621	4207	2768	2544
50°	2459	4333	3947	2619	2374
55°	2156	3457	3648	2464	2141
60°	1920	2822	3362	2264	1961
65°	1686	2312	3055	2088	1824
70°	1325	1857	2782	1917	1666
75°	1166	1368	2431	1733	1522
80°	1012	1173	2066	1522	1494
85°	821	890	1655	1544	1585

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 60°
 Vertical Angle: 45°
 Luminance: 7909 cd/sqm



TEST NUMBER: P242559

CATALOG NUMBER: S123RDRP-S340D927-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.7	3.9
10°-20°	124.2	12.3
20°-30°	195.6	19.4
30°-40°	203.4	20.2
40°-50°	174.0	17.3
50°-60°	132.6	13.2
60°-70°	85.0	8.4
70°-80°	40.7	4.0
80°-90°	10.7	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°	359.5	35.7
0°-40°	562.9	56.0
0°-60°	869.6	86.4
0°-90°	1006.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1006.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	404	404	404	404	404	
5°	480	450	404	365	356	49
15°	682	582	386	303	284	193
25°	702	651	350	250	231	305
35°	305	604	305	204	188	198
45°	163	328	245	162	148	128
55°	102	164	173	117	101	92
65°	59	81	106	73	64	58
75°	25	29	52	37	32	27
85°	6	6	12	11	11	7
90°	0	0	0	0	0	



TEST NUMBER: P242559

CATALOG NUMBER: S123RDRP-S340D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0
2.5°	436.9	437.6	435.3	435.0	432.4	431.7	431.7	428.0	425.8	422.9	421.1
5°	479.8	482.5	481.1	478.0	472.8	471.6	468.3	463.1	457.3	450.0	446.5
7.5°	528.9	534.6	533.5	528.7	523.2	519.7	510.5	503.1	491.9	481.7	473.7
10°	592.2	588.2	585.1	580.4	575.4	567.3	557.6	544.3	528.9	516.8	503.3
12.5°	639.6	639.7	635.6	630.7	623.1	615.5	603.1	586.1	567.6	548.8	532.8
15°	681.8	682.8	680.2	675.2	665.2	651.5	633.5	626.8	601.2	582.1	563.1
17.5°	711.8	712.0	711.5	704.8	693.9	684.5	667.7	652.0	627.8	602.0	576.6
20°	740.2	738.5	738.8	731.0	723.4	712.2	695.9	670.2	651.1	620.2	593.7
22.5°	739.5	739.5	741.1	739.7	734.7	726.7	714.8	694.0	668.4	637.1	606.5
25°	702.5	701.1	709.3	711.5	720.3	721.9	718.1	706.1	683.1	651.0	614.1
27.5°	614.3	609.3	626.2	643.0	665.3	679.5	694.0	697.3	686.4	660.1	621.6
30°	482.5	498.8	506.4	533.7	564.2	600.5	632.3	662.6	670.0	660.0	629.7
32.5°	380.1	393.8	399.9	422.3	450.2	494.3	546.0	592.0	628.0	640.1	624.9
35°	304.7	304.9	319.4	329.8	356.1	399.9	446.2	503.6	560.7	603.9	608.4
37.5°	251.5	252.2	261.5	271.9	293.0	317.5	360.6	409.0	477.7	542.2	575.7
40°	210.0	211.5	218.1	228.3	242.5	259.9	291.8	336.7	391.7	465.6	525.9
42.5°	183.3	186.1	188.7	195.9	203.4	219.5	243.7	275.8	324.6	393.5	465.4
45°	162.6	164.0	166.5	170.2	178.1	189.5	206.8	230.2	271.7	327.9	397.6
47.5°	146.7	145.8	148.7	151.8	157.2	165.5	177.6	197.9	229.0	276.0	336.4
50°	130.4	130.2	132.1	134.4	139.4	145.1	154.6	169.0	192.5	229.8	284.0
52.5°	115.2	116.0	117.3	120.2	123.5	127.8	136.1	145.4	164.8	195.8	238.7
55°	102.0	102.6	104.5	106.0	108.6	113.3	118.6	127.3	141.1	163.6	200.8
57.5°	90.6	90.5	92.4	92.5	95.8	99.8	104.1	110.9	121.4	139.2	165.2
60°	79.2	78.7	80.2	81.5	83.0	86.1	89.6	96.2	104.1	116.4	137.8
62.5°	68.8	68.7	69.7	70.9	72.1	74.9	77.7	82.3	88.2	98.1	114.0
65°	58.8	59.3	59.8	60.4	61.1	62.8	65.5	69.0	73.3	80.6	92.9
67.5°	48.4	49.1	49.3	50.5	51.9	52.7	54.3	57.6	60.9	67.4	74.7
70°	37.4	37.2	37.4	37.9	39.8	41.7	43.9	46.2	48.1	52.4	58.3
72.5°	30.8	30.4	31.0	31.0	31.6	31.8	33.0	35.1	37.7	40.3	44.1
75°	24.9	24.9	24.9	24.9	25.6	25.9	26.5	27.0	27.8	29.2	32.3
77.5°	19.4	19.4	19.7	19.9	20.1	20.2	20.6	21.1	21.4	22.1	23.7
80°	14.5	14.7	14.5	14.7	14.7	15.0	15.2	15.7	15.9	16.8	17.3
82.5°	10.0	9.9	10.0	10.2	10.2	10.5	10.5	10.9	10.9	11.2	11.8
85°	5.9	5.5	5.9	5.7	6.1	5.7	5.9	6.2	6.2	6.4	7.1
87.5°	1.7	2.1	1.7	1.9	1.9	2.1	2.1	2.1	2.4	2.2	2.4
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: P242559

CATALOG NUMBER: S123RDRP-S340D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0
2.5°	420.4	419.9	417.5	414.7	411.1	408.7	406.8	405.7	402.6	398.8	396.2
5°	442.9	437.7	432.2	425.4	419.2	412.8	408.8	404.2	398.5	392.1	387.6
7.5°	465.2	456.2	446.4	436.2	425.8	416.6	408.2	401.2	392.6	383.8	377.7
10°	491.7	476.8	461.4	445.7	431.3	417.8	407.5	397.3	386.4	375.8	367.9
12.5°	515.7	495.0	476.6	456.4	437.0	420.3	404.2	391.7	378.1	366.6	357.3
15°	535.3	515.2	493.8	464.4	440.0	419.6	401.4	385.7	369.8	355.9	347.1
17.5°	555.7	525.2	497.0	474.2	442.4	417.7	396.4	378.1	360.8	346.6	335.5
20°	567.4	538.2	506.9	475.6	444.5	415.9	390.2	369.4	351.3	334.7	324.6
22.5°	574.5	540.5	507.1	472.8	439.3	409.4	383.9	360.6	340.5	325.0	312.0
25°	579.7	540.3	504.0	470.8	437.0	404.9	374.6	350.4	329.1	312.3	299.2
27.5°	583.9	538.2	496.5	460.4	426.3	393.6	366.3	340.4	319.1	301.6	287.3
30°	584.9	535.6	487.7	447.8	413.0	383.6	354.2	329.6	306.8	288.0	274.8
32.5°	586.3	529.2	475.8	432.7	396.9	367.9	341.9	318.7	295.2	276.7	263.2
35°	581.4	527.7	463.7	414.9	379.3	351.1	327.0	305.4	282.4	264.4	250.8
37.5°	566.7	519.2	451.6	395.0	358.2	332.2	312.2	292.5	271.2	251.5	238.8
40°	542.0	505.3	437.0	377.2	338.3	311.5	293.8	278.4	258.0	239.9	226.0
42.5°	505.2	486.5	423.2	358.5	315.8	290.2	276.0	261.8	244.5	226.0	213.2
45°	458.5	461.4	403.3	338.5	295.4	269.5	255.4	245.4	229.5	214.3	201.0
47.5°	401.8	426.3	382.0	317.4	273.3	248.9	236.6	227.4	216.4	200.6	188.3
50°	346.4	385.7	355.4	296.1	252.7	228.5	216.4	209.3	199.9	188.2	176.6
52.5°	295.4	338.3	323.2	272.4	230.4	208.7	197.0	191.5	184.5	173.6	163.4
55°	249.2	291.9	287.8	248.5	208.1	188.2	179.2	172.6	167.6	159.3	151.0
57.5°	209.1	250.4	251.3	222.1	188.7	168.4	160.7	155.5	152.0	145.4	137.3
60°	171.6	208.7	216.0	195.3	167.6	150.3	142.7	138.7	136.1	131.1	125.2
62.5°	140.4	170.7	179.2	165.7	147.4	131.4	125.9	122.1	120.5	116.4	111.4
65°	112.2	138.5	146.5	138.2	127.6	114.7	109.8	106.5	105.0	102.6	98.8
67.5°	88.5	109.0	117.6	110.7	106.7	97.5	94.3	92.4	91.0	89.2	86.0
70°	67.8	82.0	91.0	89.4	86.3	82.0	79.7	78.5	77.1	75.8	73.0
72.5°	51.2	59.8	68.1	69.5	67.1	67.1	65.2	64.9	64.2	62.4	61.2
75°	36.1	42.9	48.8	51.0	52.1	52.9	52.1	51.9	51.7	50.3	49.5
77.5°	25.1	29.4	33.4	37.4	38.7	40.0	40.1	40.8	40.3	39.4	39.1
80°	18.2	19.0	21.6	24.9	27.5	28.5	29.2	29.6	29.4	29.2	28.5
82.5°	11.9	12.6	13.5	15.6	17.6	19.5	19.9	19.7	20.2	20.4	19.9
85°	7.1	7.3	7.6	8.0	9.2	11.1	11.6	11.9	12.3	12.3	11.2
87.5°	2.8	2.6	2.9	2.9	3.5	3.6	4.7	5.5	5.7	5.0	5.0
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: P242559

CATALOG NUMBER: S123RDRP-S340D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0	404.0
2.5°	395.4	393.1	391.6	388.1	385.8	383.4	381.0	382.6	382.4	382.2	382.2
5°	383.8	379.8	376.2	371.5	368.5	364.9	362.1	361.8	362.5	360.1	358.7
7.5°	372.9	367.7	362.5	357.7	352.3	348.1	345.5	344.5	342.6	341.0	339.7
10°	361.3	354.9	349.9	343.5	337.6	332.4	329.1	326.9	325.7	324.4	322.2
12.5°	349.4	343.1	336.4	328.9	323.4	317.2	314.9	312.3	309.7	308.4	305.1
15°	337.8	329.6	322.9	315.3	309.1	303.2	299.7	294.7	294.0	292.3	289.2
17.5°	326.5	317.5	307.7	302.5	296.3	290.0	284.5	282.9	277.8	276.0	273.1
20°	312.7	304.6	297.5	290.0	279.8	274.1	270.0	267.7	263.7	261.3	259.6
22.5°	300.8	292.5	284.0	275.0	267.0	260.5	257.7	253.9	252.2	248.5	246.6
25°	289.5	280.5	270.7	261.3	255.3	250.4	245.6	242.5	239.4	237.8	234.3
27.5°	275.8	266.9	257.3	250.1	243.2	238.3	233.7	231.1	227.1	224.5	222.6
30°	265.0	253.9	245.9	239.5	230.0	225.5	222.2	218.8	216.0	213.2	211.3
32.5°	252.3	242.5	235.0	226.7	220.0	215.0	210.5	207.5	205.3	202.7	200.8
35°	239.0	230.5	222.8	214.8	209.4	204.4	199.4	196.8	194.6	192.1	190.4
37.5°	226.9	218.9	211.7	204.1	197.5	193.2	189.0	187.3	184.2	182.5	180.7
40°	215.8	208.1	200.1	192.8	185.9	182.8	179.2	176.2	173.5	172.3	170.4
42.5°	203.7	195.9	189.5	181.6	176.2	171.7	168.4	165.2	163.3	161.4	160.5
45°	191.8	184.9	178.3	170.5	165.2	161.5	157.7	154.8	152.9	151.7	149.8
47.5°	180.4	173.3	166.7	159.8	154.6	150.5	146.5	144.6	142.0	140.6	139.2
50°	167.8	161.5	154.4	148.2	143.0	138.9	135.8	133.2	130.9	129.0	128.2
52.5°	156.2	149.4	143.5	137.8	132.3	127.5	124.7	121.9	120.4	118.1	117.1
55°	143.2	136.8	131.6	125.9	120.5	116.6	113.1	110.7	109.0	106.5	105.2
57.5°	131.3	125.7	119.3	114.3	108.6	105.5	102.6	99.1	97.0	95.1	93.7
60°	119.2	112.6	107.2	102.6	97.7	93.4	90.8	88.2	86.0	84.1	82.8
62.5°	106.5	101.0	96.0	90.8	86.5	82.8	79.7	77.7	75.8	74.7	73.5
65°	93.6	89.1	83.9	79.7	75.6	72.8	70.4	68.5	67.1	66.2	65.2
67.5°	81.6	77.3	72.6	68.3	65.5	63.3	61.6	59.8	59.1	58.1	57.4
70°	70.0	65.5	61.6	58.5	55.7	54.1	53.1	51.9	51.2	49.8	49.1
72.5°	57.4	54.5	51.9	49.5	47.4	46.0	44.6	43.1	41.9	40.3	39.6
75°	47.2	44.3	42.0	40.3	38.9	37.0	35.1	33.6	33.0	32.5	32.3
77.5°	36.8	34.9	33.2	31.8	29.9	28.2	27.7	27.3	27.2	26.8	26.8
80°	27.5	25.8	24.6	22.8	21.8	21.8	21.8	21.4	21.6	21.6	21.6
82.5°	18.7	17.1	16.6	16.3	16.3	16.4	16.4	16.6	16.4	16.8	16.6
85°	10.5	10.7	11.1	10.9	11.1	11.1	11.4	11.2	11.4	11.1	11.4
87.5°	4.8	5.4	5.5	5.7	5.9	5.7	5.9	5.9	6.1	6.1	6.1
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: P242559

CATALOG NUMBER: S123RDRP-S340D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	404.0	404.0	404.0	404.0
2.5°	380.1	380.0	380.1	379.4
5°	358.2	358.0	357.5	355.9
7.5°	338.3	337.9	336.6	336.9
10°	321.0	321.2	319.1	317.9
12.5°	304.2	303.2	301.6	300.2
15°	289.9	288.1	284.0	284.3
17.5°	272.0	270.7	270.5	268.1
20°	256.8	256.0	256.3	253.9
22.5°	244.9	244.0	242.1	241.8
25°	233.3	231.9	230.5	231.4
27.5°	221.5	220.5	218.9	218.9
30°	210.5	209.4	208.7	207.9
32.5°	199.2	199.2	197.9	197.9
35°	189.7	188.7	188.3	188.5
37.5°	180.6	179.2	178.5	177.8
40°	170.5	169.1	168.8	168.4
42.5°	159.3	158.9	158.8	158.1
45°	149.3	149.1	148.0	148.4
47.5°	138.5	137.7	137.1	137.7
50°	127.5	127.1	125.6	125.9
52.5°	116.4	114.8	114.5	114.1
55°	103.9	102.4	101.7	101.3
57.5°	91.7	91.1	90.5	91.0
60°	81.1	81.1	81.1	80.9
62.5°	73.0	72.5	72.3	72.6
65°	64.7	64.5	63.8	63.6
67.5°	57.1	56.4	56.4	56.0
70°	48.3	47.9	46.9	47.0
72.5°	38.7	38.4	38.4	38.0
75°	32.2	32.0	31.8	32.5
77.5°	26.8	26.8	27.0	26.6
80°	21.6	21.6	21.4	21.4
82.5°	16.3	16.4	16.6	16.3
85°	11.4	11.2	11.6	11.4
87.5°	6.4	6.1	6.1	6.2
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242559
 CATALOG NUMBER: S123RDRP-S340D927-X4F0-XX-UDD-A-W

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	13.16	14.65	13.52	14.96	15.28	16.55	18.05	16.92	18.36	18.68
	3H	14.25	15.59	14.63	15.92	16.28	17.96	19.30	18.34	19.63	19.99
	4H	14.59	15.84	14.99	16.19	16.57	18.46	19.72	18.86	20.07	20.45
	6H	14.83	15.99	15.25	16.36	16.75	18.81	19.97	19.23	20.34	20.73
	8H	14.90	16.00	15.33	16.39	16.79	18.92	20.02	19.34	20.41	20.81
	12H	14.94	15.99	15.37	16.37	16.80	18.98	20.03	19.41	20.41	20.84
4H	2H	14.14	15.39	14.54	15.74	16.12	16.79	18.05	17.19	18.39	18.77
	3H	15.31	16.34	15.72	16.74	17.15	18.49	19.52	18.90	19.92	20.32
	4H	15.69	16.63	16.13	17.04	17.48	19.10	20.03	19.53	20.45	20.89
	6H	16.00	16.81	16.46	17.26	17.72	19.57	20.38	20.02	20.82	21.28
	8H	16.09	16.85	16.56	17.30	17.76	19.71	20.47	20.17	20.91	21.38
	12H	16.15	16.83	16.63	17.31	17.78	19.81	20.48	20.29	20.96	21.43
8H	4H	16.06	16.82	16.52	17.26	17.73	19.15	19.91	19.62	20.35	20.82
	6H	16.43	17.06	16.93	17.55	18.03	19.69	20.31	20.18	20.80	21.28
	8H	16.57	17.12	17.08	17.64	18.12	19.88	20.44	20.40	20.95	21.44
	12H	16.67	17.16	17.18	17.65	18.22	20.04	20.53	20.55	21.02	21.59
12H	4H	16.09	16.76	16.57	17.24	17.72	19.14	19.81	19.62	20.29	20.76
	6H	16.48	17.04	16.99	17.55	18.04	19.67	20.24	20.19	20.75	21.23
	8H	16.65	17.15	17.16	17.64	18.21	19.91	20.40	20.42	20.89	21.46