

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: P243272

Luminaire Tested: S122RDRP-H290D935-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243272
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122RDRP-H290D935-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

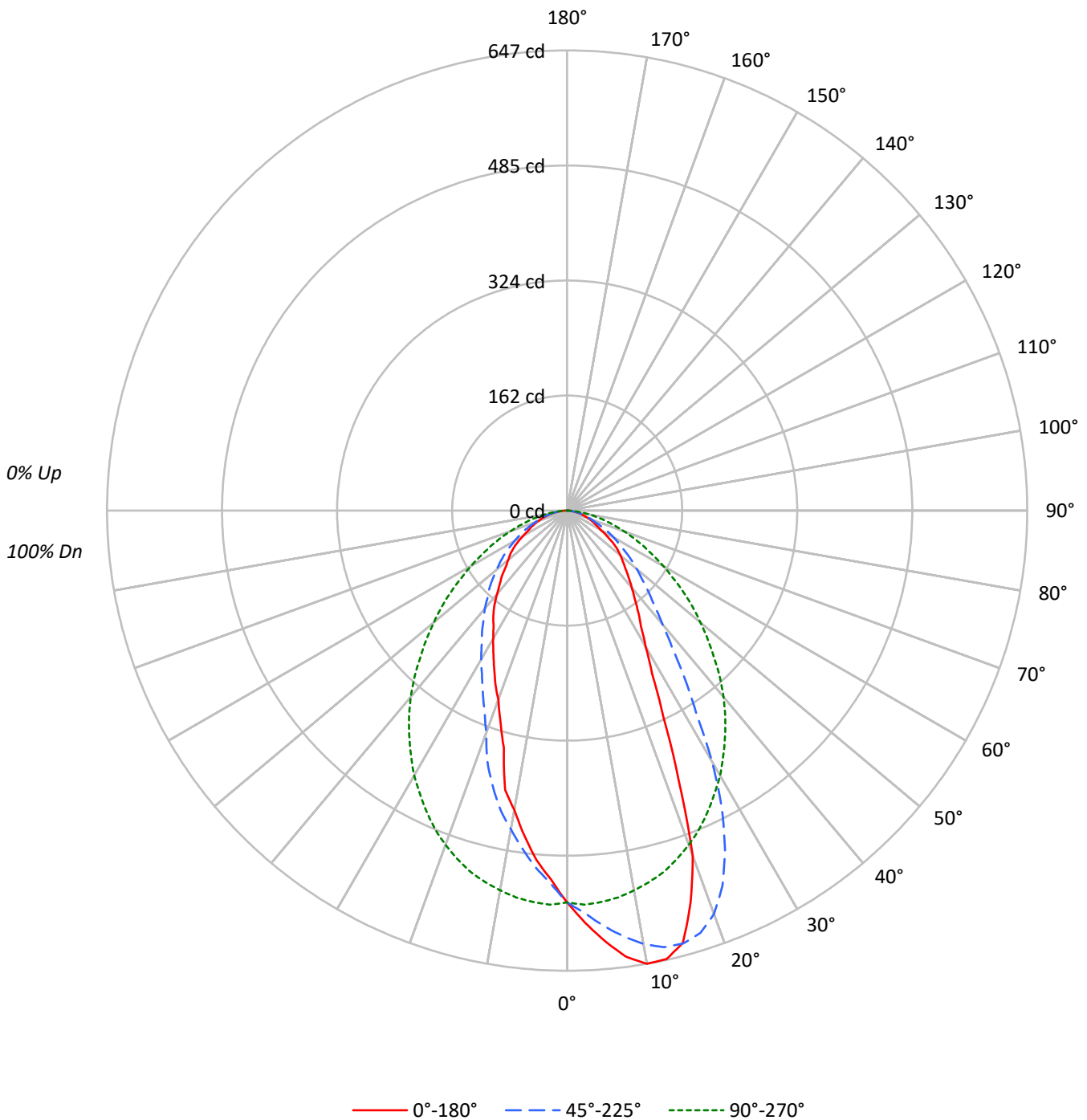
Lumens per Lamp: N/A
Luminaire Lumens: 928.2 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

Input Watts (W): 11.2
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: 24 FT

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CATALOG NUMBER: S122RDRP-H290D935-X4F0-XX-UDD-A-W

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	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	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78					76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68					66				
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60					58				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54					52				
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49					47				
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40					38				
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37					35				
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	10491	10491	10491	10491	10491
5°	11614	11207	10562	9639	9428
10°	12514	11970	10489	8802	8269
15°	12404	12429	10367	7939	6795
20°	10463	12231	10137	6744	5736
25°	6727	11038	9825	5902	5105
30°	4861	8952	9462	5316	4575
35°	4048	6702	9006	4853	4206
40°	3513	5194	8506	4476	3809
45°	3136	4350	7868	4165	3486
50°	2895	3787	7248	3823	3203
55°	2597	3268	6618	3567	3052
60°	2072	2876	5958	3242	2747
65°	1902	2443	5354	2975	2533
70°	1749	2016	4728	2640	2411
75°	1590	1803	4136	2510	2281
80°	1382	1580	3444	2293	2139
85°	1093	1289	2754	2098	1967

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 75°
 Vertical Angle: 45°
 Luminance: 10419 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.1	5.6
10°-20°	142.6	15.4
20°-30°	179.8	19.4
30°-40°	172.6	18.6
40°-50°	148.7	16.0
50°-60°	113.7	12.2
60°-70°	72.3	7.8
70°-80°	36.7	3.9
80°-90°	9.7	1.0
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°	374.6	40.4
0°-40°	547.2	59.0
0°-60°	809.6	87.2
0°-90°	928.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	928.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	551	551	551	551	551	
5°	607	586	552	504	493	59
15°	629	630	526	403	345	171
25°	320	525	468	281	243	153
35°	174	288	387	209	181	110
45°	116	162	292	155	129	91
55°	78	98	199	107	92	69
65°	42	54	119	66	56	42
75°	22	24	56	34	31	23
85°	5	6	13	10	9	6
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8
2.5°	580.0	580.7	581.1	580.2	578.2	578.3	576.5	573.5	569.7	566.3	568.3
5°	607.4	608.3	608.1	606.5	604.5	602.7	599.6	595.3	590.8	586.1	585.2
7.5°	632.6	634.6	634.0	631.0	629.5	627.0	621.8	616.9	610.1	603.4	600.7
10°	647.0	648.6	647.7	647.0	645.4	642.9	638.2	633.5	625.9	618.9	614.9
12.5°	645.9	647.4	648.1	648.8	648.3	647.4	645.4	641.4	635.3	628.8	623.8
15°	629.0	626.7	625.0	629.5	631.2	637.3	638.7	639.3	635.1	630.3	629.0
17.5°	577.4	578.2	590.6	588.6	591.3	606.3	612.2	620.3	623.8	622.7	624.8
20°	516.2	507.7	513.8	522.8	531.3	553.1	567.5	580.3	595.1	603.4	611.3
22.5°	409.5	409.7	424.4	439.2	458.3	481.9	503.9	528.4	554.7	570.8	589.3
25°	320.1	328.7	335.2	341.7	369.5	392.2	428.8	458.5	494.7	525.2	556.4
27.5°	258.8	267.8	268.9	283.5	299.9	318.3	342.3	389.1	426.2	470.9	509.5
30°	221.0	222.8	226.5	230.3	242.4	259.5	285.3	314.7	355.9	407.0	458.7
32.5°	193.6	193.2	197.0	202.9	209.6	221.1	235.7	260.1	297.4	337.9	398.3
35°	174.1	173.6	176.3	178.4	182.4	191.8	204.9	221.0	247.8	288.2	335.0
37.5°	155.7	156.8	158.4	160.8	166.0	171.9	180.8	194.1	215.4	242.0	286.9
40°	141.3	142.6	144.4	146.0	149.9	154.8	160.8	171.4	185.6	208.9	243.3
42.5°	128.3	128.9	130.3	132.6	135.5	139.9	145.6	153.7	165.6	181.8	211.9
45°	116.4	116.4	118.0	120.2	122.0	126.2	130.7	138.4	147.6	161.5	182.9
47.5°	106.3	106.5	107.4	107.8	109.8	113.5	118.4	124.5	132.1	142.7	162.7
50°	97.7	98.4	98.8	99.3	100.0	102.0	105.4	110.1	118.4	127.8	141.1
52.5°	88.7	89.6	90.3	91.4	92.5	92.6	95.2	98.2	104.0	113.7	124.5
55°	78.2	78.9	80.4	81.3	82.7	84.0	86.0	88.1	91.9	98.4	109.6
57.5°	66.3	66.5	67.9	68.8	71.7	74.6	76.4	78.8	81.5	86.0	94.4
60°	54.4	55.0	55.1	55.9	58.4	61.5	65.1	68.7	71.6	75.5	81.5
62.5°	47.9	48.1	48.7	49.4	49.6	51.0	52.1	56.4	61.5	65.4	69.4
65°	42.2	42.4	42.4	42.9	43.6	44.3	44.9	46.5	48.7	54.2	59.1
67.5°	36.8	36.6	36.9	37.5	37.7	38.2	39.1	40.0	41.5	43.1	48.1
70°	31.4	31.4	31.2	31.7	32.3	32.4	33.0	33.9	34.8	36.2	37.8
72.5°	26.0	26.3	26.3	26.7	26.9	27.6	27.9	28.3	29.6	30.3	31.5
75°	21.6	21.4	22.0	21.8	22.2	22.3	22.9	23.4	23.8	24.5	25.6
77.5°	17.3	16.9	17.3	17.1	17.5	17.8	17.8	18.4	18.7	19.5	20.0
80°	12.6	12.6	12.8	13.2	13.2	13.3	13.7	13.5	14.2	14.4	15.0
82.5°	8.7	8.8	8.8	9.0	9.0	9.0	9.4	9.4	9.6	9.9	10.1
85°	5.0	4.9	5.0	5.0	5.0	5.2	5.4	5.2	5.6	5.9	5.9
87.5°	1.4	1.4	1.6	1.8	1.8	2.0	2.0	2.0	2.2	2.2	2.3
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8
2.5°	568.3	567.4	565.0	562.8	558.9	555.6	554.6	554.7	549.9	544.8	543.4
5°	583.9	580.7	576.0	571.1	565.2	559.2	555.5	552.4	544.8	537.3	532.9
7.5°	596.9	591.7	584.8	577.1	569.3	560.5	554.4	548.6	538.2	527.9	522.3
10°	608.8	601.4	592.0	582.0	571.7	560.1	551.3	542.3	529.1	517.6	508.1
12.5°	620.2	608.4	598.9	584.3	572.9	557.3	545.2	534.7	519.2	504.8	494.2
15°	621.2	613.0	600.2	585.0	567.7	553.1	538.0	525.7	508.1	492.0	473.8
17.5°	621.1	614.6	601.2	585.7	565.0	545.9	529.5	513.5	493.3	474.5	458.9
20°	614.6	610.1	598.5	580.2	559.2	537.3	519.1	500.1	476.5	457.2	440.1
22.5°	599.3	600.3	591.3	574.9	552.4	527.9	506.8	485.0	460.8	438.7	417.0
25°	573.3	584.8	582.1	566.8	542.8	516.0	492.0	467.5	441.6	417.9	397.9
27.5°	541.0	562.7	567.4	555.5	532.6	502.5	475.3	448.6	422.1	396.7	376.1
30°	502.8	535.1	547.0	540.5	519.4	487.9	456.3	430.2	401.2	374.2	352.5
32.5°	454.7	500.0	520.9	522.8	505.5	471.7	436.7	408.6	378.8	353.2	330.0
35°	401.0	456.5	490.6	499.8	487.3	453.8	417.0	387.3	355.6	329.8	306.4
37.5°	346.9	412.2	456.9	474.7	466.4	434.0	395.1	365.0	333.6	307.3	285.3
40°	297.2	359.2	417.2	445.2	442.6	412.5	373.3	342.1	310.2	285.8	261.7
42.5°	252.7	312.5	376.3	413.8	415.8	389.5	349.3	317.9	287.3	263.1	237.9
45°	217.5	270.2	333.4	378.1	386.8	365.1	324.4	292.1	264.2	241.5	216.3
47.5°	189.4	230.3	289.1	341.5	356.8	337.9	299.0	268.4	242.0	222.6	198.8
50°	165.1	203.5	253.4	301.9	324.4	310.2	273.8	244.6	220.8	202.0	181.1
52.5°	143.5	173.2	216.5	263.0	293.2	280.3	249.3	222.4	200.1	182.6	165.1
55°	125.6	150.5	188.7	230.2	258.1	250.9	223.3	199.3	179.7	163.1	148.9
57.5°	107.2	128.1	159.0	195.9	223.3	222.2	199.5	176.4	160.9	145.3	135.0
60°	91.2	108.1	133.2	164.5	192.1	192.3	174.6	156.4	143.1	129.6	119.9
62.5°	77.0	90.5	112.3	137.5	159.5	165.1	151.9	136.1	125.3	114.8	106.5
65°	64.7	74.8	91.2	114.1	131.4	139.0	130.3	118.8	109.8	100.4	93.0
67.5°	53.3	60.7	72.8	90.8	108.1	113.7	110.1	101.3	94.8	87.0	81.5
70°	42.0	48.3	56.8	70.3	84.5	92.3	91.2	84.9	79.5	73.9	68.7
72.5°	33.3	36.9	43.4	53.2	64.5	73.2	73.5	70.3	65.8	61.1	57.7
75°	26.9	28.5	31.5	39.1	48.1	55.3	57.9	56.2	52.6	49.7	47.4
77.5°	20.7	22.2	24.2	27.8	34.8	40.4	43.4	43.6	41.5	38.9	37.1
80°	15.5	16.0	17.5	19.3	22.9	27.8	31.4	31.4	30.1	28.8	27.8
82.5°	10.6	11.2	11.9	12.8	14.6	17.5	20.7	21.3	20.5	20.2	18.7
85°	5.9	6.5	6.8	7.4	8.1	9.6	11.9	12.6	12.8	11.7	11.0
87.5°	2.3	2.3	2.5	2.7	2.9	3.4	4.3	5.4	5.4	4.9	4.7
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°	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8
2.5°	541.6	539.1	535.8	532.9	529.0	525.0	524.3	525.7	526.1	524.3	524.8
5°	528.8	524.1	520.1	513.6	509.5	504.1	500.5	500.5	500.5	497.8	495.3
7.5°	515.4	509.1	501.6	495.4	487.0	479.9	476.5	474.9	471.7	469.0	465.9
10°	500.0	491.1	481.7	472.2	464.8	455.1	449.3	445.7	440.1	437.8	433.3
12.5°	481.7	472.9	461.6	446.1	443.9	432.0	423.9	417.2	410.4	404.8	402.8
15°	467.1	451.8	436.7	425.7	409.7	402.6	390.7	389.7	384.1	367.7	354.9
17.5°	443.5	429.8	413.1	400.8	388.0	372.3	359.7	347.3	335.4	323.9	323.5
20°	422.6	406.6	390.7	377.4	355.0	332.7	324.9	313.6	306.6	297.4	294.7
22.5°	399.7	383.0	363.2	343.7	317.6	303.5	295.0	286.0	279.0	274.8	270.7
25°	376.7	359.9	333.6	309.6	291.8	280.8	273.6	263.9	258.8	255.2	249.8
27.5°	354.1	332.9	305.1	286.0	271.6	259.2	252.7	244.7	239.2	234.5	231.1
30°	331.8	302.6	279.0	264.2	249.4	241.7	233.2	227.3	223.1	218.8	213.2
32.5°	307.3	276.6	261.3	243.1	234.5	223.3	217.2	211.0	205.6	202.6	200.6
35°	278.8	254.1	240.4	227.1	216.1	208.7	200.1	196.3	193.4	187.4	184.9
37.5°	254.7	236.8	222.4	210.5	200.4	192.5	188.5	182.0	177.9	175.9	173.2
40°	234.7	218.8	206.4	194.3	185.8	180.0	173.0	169.6	164.2	162.2	160.0
42.5°	217.4	202.8	189.8	180.6	173.2	165.3	161.7	155.9	153.6	148.7	146.9
45°	199.9	186.9	175.5	166.5	159.5	154.6	148.1	144.5	140.4	137.9	133.0
47.5°	182.4	170.9	161.5	153.9	147.8	141.8	136.4	133.4	128.1	125.4	122.9
50°	168.9	157.7	148.9	141.3	135.0	129.0	125.6	120.6	115.9	112.8	111.9
52.5°	152.8	143.1	135.0	129.2	122.9	118.6	113.9	108.3	106.0	102.9	102.2
55°	138.6	130.7	123.8	117.7	112.3	107.4	102.0	98.0	96.2	94.8	93.7
57.5°	125.3	117.7	111.4	105.8	101.1	96.1	91.6	89.2	87.6	86.0	84.9
60°	112.1	105.3	99.5	94.8	89.9	85.1	81.8	79.8	78.6	76.2	75.5
62.5°	100.4	94.1	88.1	83.8	79.3	75.5	72.8	70.1	68.1	66.3	62.5
65°	87.6	82.0	77.5	73.2	68.8	66.0	62.9	59.8	57.3	57.3	57.3
67.5°	76.2	71.4	66.7	62.9	59.1	55.7	52.6	52.4	51.5	51.2	50.6
70°	64.7	61.3	57.0	52.8	49.0	47.4	46.9	46.0	44.9	44.7	44.0
72.5°	54.2	50.3	46.3	42.7	42.0	41.3	40.2	39.3	38.6	38.0	37.7
75°	44.3	40.4	37.1	36.2	35.3	34.1	33.2	32.4	32.1	32.1	31.9
77.5°	33.9	31.5	30.1	28.7	27.9	27.2	26.7	26.3	25.8	26.0	25.6
80°	24.9	24.2	22.9	22.0	21.6	20.9	20.5	20.4	20.0	20.0	19.8
82.5°	17.8	16.6	16.0	15.5	15.1	14.8	15.0	14.8	14.6	14.4	14.6
85°	10.3	10.1	9.7	9.7	9.7	9.6	9.6	9.6	9.4	9.2	9.2
87.5°	4.5	4.7	4.7	4.3	4.9	4.9	4.7	4.7	4.5	4.9	4.5
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: P243272

CATALOG NUMBER: S122RDRP-H290D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	550.8	550.8	550.8	550.8
2.5°	522.5	522.3	521.2	519.4
5°	494.2	493.5	491.7	493.1
7.5°	463.9	461.9	460.1	461.0
10°	431.5	430.7	429.7	427.5
12.5°	395.6	398.5	395.4	402.3
15°	342.4	355.2	339.2	344.6
17.5°	315.9	316.1	314.0	311.4
20°	291.1	284.8	287.1	283.0
22.5°	267.1	265.7	264.9	263.5
25°	245.6	242.9	242.0	242.9
27.5°	229.8	228.5	225.1	224.6
30°	210.0	209.4	208.3	208.0
32.5°	197.5	195.2	194.6	192.5
35°	183.7	182.4	181.5	180.9
37.5°	169.8	169.1	167.4	168.3
40°	158.4	154.8	153.4	153.2
42.5°	146.0	144.0	141.1	140.2
45°	131.6	130.7	129.8	129.4
47.5°	118.9	118.4	117.3	116.8
50°	109.9	108.5	108.3	108.1
52.5°	101.3	100.7	100.2	100.9
55°	93.2	92.5	91.9	91.9
57.5°	84.3	83.1	82.0	82.2
60°	74.1	73.4	72.5	72.1
62.5°	62.2	62.2	62.0	62.0
65°	56.6	56.2	56.1	56.2
67.5°	50.5	50.1	49.6	49.7
70°	43.4	43.3	43.4	43.3
72.5°	37.1	36.9	37.1	37.5
75°	31.4	31.2	31.0	31.0
77.5°	25.4	25.2	24.9	25.2
80°	19.8	19.6	19.5	19.5
82.5°	14.1	14.2	14.1	14.1
85°	9.2	9.4	9.2	9.0
87.5°	4.7	4.9	4.5	4.3
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P243272
 CATALOG NUMBER: S122RDRP-H290D935-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	13.00	14.46	13.37	14.77	15.09	19.34	20.79	19.70	21.11	21.42
	3H	14.18	15.48	14.56	15.81	16.17	20.59	21.89	20.97	22.22	22.58
	4H	14.64	15.86	15.04	16.21	16.59	21.02	22.24	21.42	22.59	22.97
	6H	14.97	16.09	15.38	16.46	16.85	21.32	22.44	21.73	22.81	23.20
	8H	15.06	16.13	15.49	16.52	16.93	21.40	22.47	21.83	22.86	23.26
	12H	15.12	16.14	15.55	16.52	16.95	21.45	22.47	21.88	22.86	23.29
4H	2H	13.73	14.95	14.13	15.30	15.68	19.32	20.54	19.72	20.89	21.27
	3H	15.06	16.07	15.47	16.47	16.87	20.71	21.72	21.12	22.12	22.52
	4H	15.61	16.52	16.04	16.93	17.37	21.24	22.14	21.67	22.56	23.00
	6H	16.04	16.83	16.50	17.27	17.73	21.65	22.44	22.11	22.88	23.35
	8H	16.17	16.91	16.64	17.35	17.82	21.78	22.52	22.25	22.96	23.43
	12H	16.25	16.91	16.73	17.39	17.86	21.88	22.53	22.36	23.01	23.48
8H	4H	15.95	16.69	16.42	17.13	17.60	21.23	21.97	21.70	22.41	22.88
	6H	16.48	17.08	16.98	17.58	18.06	21.70	22.30	22.20	22.80	23.27
	8H	16.66	17.21	17.18	17.72	18.21	21.87	22.41	22.38	22.92	23.41
	12H	16.80	17.28	17.31	17.77	18.33	22.01	22.49	22.52	22.98	23.55
12H	4H	16.00	16.65	16.48	17.13	17.60	21.21	21.87	21.70	22.35	22.82
	6H	16.54	17.08	17.06	17.60	18.09	21.67	22.22	22.19	22.73	23.22
	8H	16.77	17.25	17.29	17.75	18.31	21.88	22.36	22.39	22.85	23.42