

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: P243273

Luminaire Tested: S122RDRP-H485D935-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243273  
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-H485D935-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: -

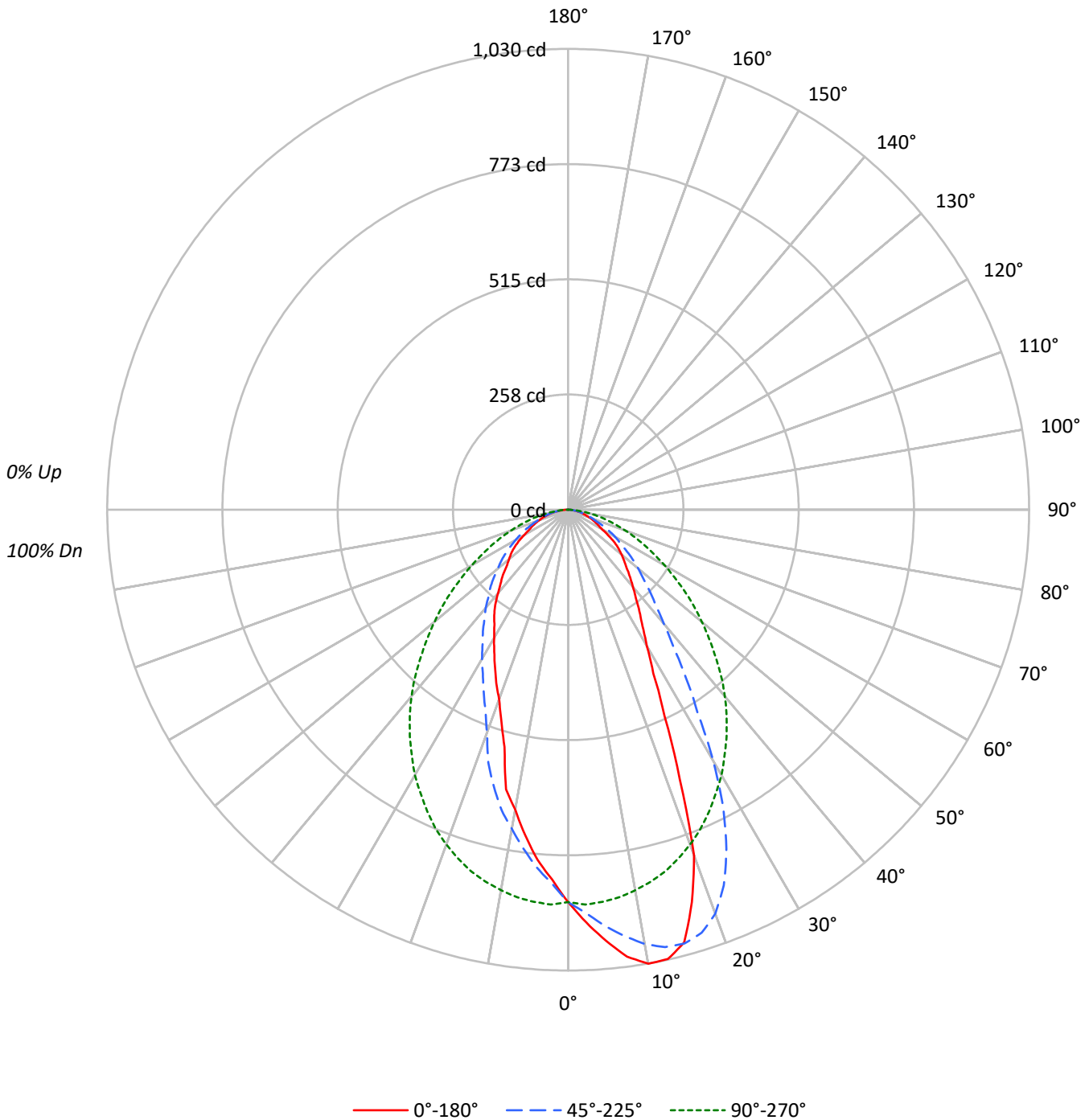
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1478.2 lumens  
Efficiency: N/A  
Efficacy: 85.9 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): 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: 24 FT

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### 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	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°	16707	16707	16707	16707	16707
5°	18493	17847	16820	15350	15015
10°	19930	19063	16703	14017	13168
15°	19753	19793	16509	12644	10822
20°	16662	19478	16145	10739	9134
25°	10712	17578	15647	9399	8131
30°	7740	14255	15068	8466	7285
35°	6448	10671	14342	7729	6702
40°	5595	8273	13546	7129	6067
45°	4994	6928	12534	6635	5552
50°	4611	6030	11542	6090	5103
55°	4138	5204	10540	5682	4862
60°	3303	4583	9490	5162	4373
65°	3029	3894	8523	4732	4034
70°	2779	3213	7530	4205	3837
75°	2532	2870	6587	3989	3636
80°	2205	2523	5474	3653	3400
85°	1748	2076	4393	3322	3147

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 75°  
 Vertical Angle: 45°  
 Luminance: 16591 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.0	5.6
10°-20°	227.2	15.4
20°-30°	286.4	19.4
30°-40°	274.9	18.6
40°-50°	236.8	16.0
50°-60°	181.0	12.2
60°-70°	115.2	7.8
70°-80°	58.4	3.9
80°-90°	15.4	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°	596.6	40.4
0°-40°	871.5	59.0
0°-60°	1289.3	87.2
0°-90°	1478.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1478.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	877	877	877	877	877	
5°	967	933	880	803	785	94
15°	1002	1004	837	641	549	272
25°	510	836	744	447	387	244
35°	277	459	617	332	288	175
45°	185	257	465	246	206	144
55°	125	157	317	171	146	110
65°	67	86	189	105	90	67
75°	34	39	90	54	49	36
85°	8	10	20	15	14	9
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°	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1
2.5°	923.6	924.8	925.3	923.9	920.7	921.0	918.2	913.3	907.3	901.8	905.0
5°	967.2	968.7	968.4	965.8	962.7	959.8	954.9	948.0	940.8	933.4	931.9
7.5°	1007.4	1010.6	1009.7	1004.8	1002.5	998.5	990.2	982.5	971.6	960.9	956.6
10°	1030.4	1033.0	1031.5	1030.4	1027.8	1023.8	1016.3	1008.9	996.8	985.6	979.3
12.5°	1028.7	1031.0	1032.1	1033.3	1032.4	1031.0	1027.8	1021.5	1011.7	1001.4	993.4
15°	1001.7	998.0	995.4	1002.5	1005.1	1014.9	1017.2	1018.0	1011.4	1003.7	1001.7
17.5°	919.6	920.7	940.6	937.4	941.7	965.5	975.0	987.9	993.4	991.6	995.1
20°	822.0	808.5	818.3	832.6	846.1	880.9	903.8	924.2	947.7	960.9	973.6
22.5°	652.1	652.4	675.9	699.5	729.9	767.5	802.5	841.5	883.4	909.0	938.5
25°	509.7	523.5	533.9	544.2	588.4	624.5	682.8	730.2	787.9	836.4	886.0
27.5°	412.2	426.5	428.2	451.5	477.6	506.9	545.0	619.7	678.8	750.0	811.4
30°	351.9	354.8	360.8	366.8	386.0	413.3	454.3	501.1	566.9	648.1	730.5
32.5°	308.3	307.7	313.7	323.2	333.8	352.2	375.4	414.2	473.6	538.2	634.3
35°	277.3	276.4	280.7	284.1	290.5	305.4	326.3	351.9	394.6	458.9	533.6
37.5°	248.0	249.7	252.3	256.0	264.3	273.8	287.9	309.1	343.0	385.5	456.9
40°	225.0	227.0	229.9	232.5	238.8	246.5	256.0	273.0	295.6	332.7	387.5
42.5°	204.4	205.2	207.5	211.2	215.8	222.7	231.9	244.8	263.8	289.6	337.5
45°	185.4	185.4	188.0	191.4	194.3	200.9	208.1	220.4	235.1	257.2	291.3
47.5°	169.3	169.6	171.1	171.6	174.8	180.8	188.6	198.3	210.4	227.3	259.2
50°	155.6	156.7	157.3	158.1	159.3	162.5	167.9	175.4	188.6	203.5	224.7
52.5°	141.2	142.6	143.8	145.5	147.2	147.5	151.5	156.4	165.6	181.1	198.3
55°	124.6	125.7	128.0	129.4	131.7	133.7	136.9	140.4	146.4	156.7	174.5
57.5°	105.6	105.9	108.2	109.6	114.2	118.8	121.7	125.4	129.7	136.9	150.4
60°	86.7	87.5	87.8	89.0	93.0	97.9	103.6	109.4	113.9	120.3	129.7
62.5°	76.3	76.6	77.5	78.6	78.9	81.2	82.9	89.8	97.9	104.2	110.5
65°	67.2	67.4	67.4	68.3	69.5	70.6	71.5	74.1	77.5	86.4	94.1
67.5°	58.6	58.3	58.8	59.7	60.0	60.8	62.3	63.7	66.0	68.6	76.6
70°	49.9	49.9	49.7	50.5	51.4	51.7	52.5	54.0	55.4	57.7	60.3
72.5°	41.3	41.9	41.9	42.5	42.8	43.9	44.5	45.1	47.1	48.2	50.2
75°	34.4	34.2	35.0	34.7	35.3	35.6	36.5	37.3	37.9	39.0	40.8
77.5°	27.6	27.0	27.6	27.3	27.8	28.4	28.4	29.3	29.8	31.0	31.9
80°	20.1	20.1	20.4	21.0	21.0	21.2	21.8	21.5	22.7	23.0	23.8
82.5°	13.8	14.1	14.1	14.4	14.4	14.4	14.9	14.9	15.2	15.8	16.1
85°	8.0	7.7	8.0	8.0	8.0	8.3	8.6	8.3	8.9	9.5	9.5
87.5°	2.3	2.3	2.6	2.9	2.9	3.2	3.2	3.2	3.4	3.4	3.7
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1
2.5°	905.0	903.5	899.8	896.4	890.0	884.9	883.2	883.4	875.7	867.7	865.4
5°	929.9	924.8	917.3	909.6	900.1	890.6	884.6	879.7	867.7	855.6	848.7
7.5°	950.6	942.3	931.4	919.0	906.7	892.6	882.9	873.7	857.0	840.7	831.8
10°	969.5	957.8	942.8	926.8	910.4	892.0	878.0	863.6	842.7	824.3	809.1
12.5°	987.6	969.0	953.8	930.5	912.4	887.5	868.2	851.6	826.9	803.9	787.0
15°	989.3	976.1	955.8	931.7	904.1	880.9	856.7	837.2	809.1	783.6	754.6
17.5°	989.1	978.7	957.5	932.8	899.8	869.4	843.3	817.7	785.6	755.7	730.7
20°	978.7	971.6	953.2	923.9	890.6	855.6	826.6	796.5	758.9	728.2	700.9
22.5°	954.3	956.1	941.7	915.6	879.7	840.7	807.1	772.4	733.9	698.6	664.2
25°	913.0	931.4	927.1	902.7	864.5	821.7	783.6	744.5	703.2	665.6	633.7
27.5°	861.6	896.1	903.5	884.6	848.1	800.2	756.9	714.4	672.2	631.7	599.0
30°	800.8	852.2	871.1	860.8	827.2	777.0	726.7	685.1	638.9	595.8	561.4
32.5°	724.1	796.2	829.5	832.6	805.1	751.1	695.4	650.7	603.3	562.6	525.5
35°	638.6	727.0	781.3	795.9	776.1	722.7	664.2	616.8	566.3	525.2	487.9
37.5°	552.5	656.4	727.6	756.0	742.8	691.1	629.1	581.2	531.3	489.4	454.3
40°	473.3	572.0	664.4	708.9	704.9	657.0	594.4	544.8	494.0	455.2	416.7
42.5°	402.4	497.7	599.3	659.0	662.1	620.2	556.2	506.3	457.5	419.0	378.9
45°	346.4	430.2	531.0	602.2	615.9	581.5	516.6	465.3	420.8	384.6	344.4
47.5°	301.7	366.8	460.4	543.9	568.3	538.2	476.2	427.4	385.5	354.5	316.6
50°	262.9	324.0	403.5	480.8	516.6	494.0	436.0	389.5	351.6	321.7	288.5
52.5°	228.5	275.8	344.7	418.8	467.0	446.3	396.9	354.2	318.6	290.7	262.9
55°	200.1	239.7	300.5	366.5	411.0	399.5	355.6	317.4	286.2	259.8	237.1
57.5°	170.8	204.1	253.1	312.0	355.6	353.9	317.7	281.0	256.3	231.3	215.0
60°	145.2	172.2	212.1	262.0	306.0	306.2	278.1	249.1	227.9	206.4	190.9
62.5°	122.6	144.1	178.8	219.0	254.0	262.9	242.0	216.7	199.5	182.8	169.6
65°	103.0	119.1	145.2	181.7	209.2	221.3	207.5	189.1	174.8	159.9	148.1
67.5°	85.0	96.7	116.0	144.7	172.2	181.1	175.4	161.3	151.0	138.6	129.7
70°	66.9	76.9	90.4	111.9	134.6	147.0	145.2	135.2	126.6	117.7	109.4
72.5°	53.1	58.8	69.2	84.7	102.8	116.5	117.1	111.9	104.8	97.3	91.8
75°	42.8	45.3	50.2	62.3	76.6	88.1	92.1	89.5	83.8	79.2	75.5
77.5°	33.0	35.3	38.5	44.2	55.4	64.3	69.2	69.5	66.0	62.0	59.1
80°	24.7	25.5	27.8	30.7	36.5	44.2	49.9	49.9	47.9	45.9	44.2
82.5°	16.9	17.8	18.9	20.4	23.2	27.8	33.0	33.9	32.7	32.1	29.8
85°	9.5	10.3	10.9	11.8	12.9	15.2	18.9	20.1	20.4	18.7	17.5
87.5°	3.7	3.7	4.0	4.3	4.6	5.5	6.9	8.6	8.6	7.7	7.5
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1	877.1
2.5°	862.5	858.5	853.3	848.7	842.4	836.1	834.9	837.2	837.8	834.9	835.8
5°	842.1	834.6	828.3	818.0	811.4	802.8	797.0	797.0	797.0	792.7	788.7
7.5°	820.9	810.8	798.8	789.0	775.5	764.3	758.9	756.3	751.1	746.8	741.9
10°	796.2	782.1	767.2	752.0	740.2	724.7	715.5	709.8	700.9	697.2	690.0
12.5°	767.2	753.1	735.0	710.4	706.9	688.0	675.1	664.4	653.5	644.6	641.5
15°	743.9	719.6	695.4	677.9	652.4	641.2	622.3	620.5	611.6	585.5	565.1
17.5°	706.3	684.5	657.8	638.3	617.9	593.0	572.9	553.1	534.1	515.8	515.2
20°	673.1	647.5	622.3	601.0	565.4	529.8	517.5	499.4	488.2	473.6	469.3
22.5°	636.6	609.9	578.3	547.3	505.7	483.3	469.8	455.5	444.3	437.7	431.1
25°	599.9	573.2	531.3	493.1	464.7	447.2	435.7	420.2	412.2	406.4	397.8
27.5°	564.0	530.1	485.9	455.5	432.5	412.7	402.4	389.8	380.9	373.4	368.0
30°	528.4	481.9	444.3	420.8	397.2	384.9	371.4	361.9	355.3	348.4	339.5
32.5°	489.4	440.6	416.2	387.2	373.4	355.6	345.9	336.1	327.5	322.6	319.4
35°	444.0	404.7	382.9	361.6	344.1	332.4	318.6	312.6	308.0	298.5	294.5
37.5°	405.6	377.1	354.2	335.2	319.2	306.5	300.2	289.9	283.3	280.1	275.8
40°	373.7	348.4	328.6	309.4	295.9	286.7	275.5	270.1	261.5	258.3	254.9
42.5°	346.1	322.9	302.2	287.6	275.8	263.2	257.5	248.3	244.5	236.8	233.9
45°	318.3	297.6	279.6	265.2	254.0	246.3	235.9	230.2	223.6	219.6	211.8
47.5°	290.5	272.1	257.2	245.1	235.4	225.9	217.3	212.4	204.1	199.8	195.7
50°	268.9	251.1	237.1	225.0	215.0	205.5	200.1	192.0	184.6	179.7	178.2
52.5°	243.4	227.9	215.0	205.8	195.7	188.9	181.4	172.5	168.8	163.9	162.7
55°	220.7	208.1	197.2	187.4	178.8	171.1	162.5	156.1	153.3	151.0	149.2
57.5°	199.5	187.4	177.4	168.5	161.0	153.0	145.8	142.1	139.5	136.9	135.2
60°	178.5	167.6	158.4	151.0	143.2	135.5	130.3	127.1	125.1	121.4	120.3
62.5°	159.9	149.8	140.4	133.5	126.3	120.3	116.0	111.6	108.5	105.6	99.6
65°	139.5	130.6	123.4	116.5	109.6	105.0	100.2	95.3	91.3	91.3	91.3
67.5°	121.4	113.7	106.2	100.2	94.1	88.7	83.8	83.5	82.1	81.5	80.7
70°	103.0	97.6	90.7	84.1	78.1	75.5	74.6	73.2	71.5	71.2	70.0
72.5°	86.4	80.1	73.8	68.0	66.9	65.7	64.0	62.6	61.4	60.6	60.0
75°	70.6	64.3	59.1	57.7	56.3	54.2	52.8	51.7	51.1	51.1	50.8
77.5°	54.0	50.2	47.9	45.6	44.5	43.3	42.5	41.9	41.0	41.3	40.8
80°	39.6	38.5	36.5	35.0	34.4	33.3	32.7	32.4	31.9	31.9	31.6
82.5°	28.4	26.4	25.5	24.7	24.1	23.5	23.8	23.5	23.2	23.0	23.2
85°	16.4	16.1	15.5	15.5	15.5	15.2	15.2	15.2	14.9	14.6	14.6
87.5°	7.2	7.5	7.5	6.9	7.7	7.7	7.5	7.5	7.2	7.7	7.2
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: P243273

CATALOG NUMBER: S122RDRP-H485D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	877.1	877.1	877.1	877.1
2.5°	832.1	831.8	830.1	827.2
5°	787.0	785.9	783.0	785.3
7.5°	738.8	735.6	732.8	734.2
10°	687.1	686.0	684.2	680.8
12.5°	630.0	634.6	629.7	640.6
15°	545.3	565.7	540.2	548.8
17.5°	503.1	503.4	500.0	496.0
20°	463.5	453.5	457.2	450.6
22.5°	425.4	423.1	421.9	419.6
25°	391.2	386.9	385.5	386.9
27.5°	365.9	363.9	358.5	357.6
30°	334.4	333.5	331.8	331.2
32.5°	314.6	310.8	310.0	306.5
35°	292.5	290.5	289.0	288.2
37.5°	270.4	269.2	266.6	268.1
40°	252.3	246.5	244.3	244.0
42.5°	232.5	229.3	224.7	223.3
45°	209.5	208.1	206.7	206.1
47.5°	189.4	188.6	186.8	186.0
50°	175.1	172.8	172.5	172.2
52.5°	161.3	160.4	159.6	160.7
55°	148.4	147.2	146.4	146.4
57.5°	134.3	132.3	130.6	130.9
60°	118.0	116.8	115.4	114.8
62.5°	99.0	99.0	98.7	98.7
65°	90.1	89.5	89.3	89.5
67.5°	80.4	79.8	78.9	79.2
70°	69.2	68.9	69.2	68.9
72.5°	59.1	58.8	59.1	59.7
75°	49.9	49.7	49.4	49.4
77.5°	40.5	40.2	39.6	40.2
80°	31.6	31.3	31.0	31.0
82.5°	22.4	22.7	22.4	22.4
85°	14.6	14.9	14.6	14.4
87.5°	7.5	7.7	7.2	6.9
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P243273  
 CATALOG NUMBER: S122RDRP-H485D935-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	14.62	16.08	14.99	16.39	16.71	20.96	22.41	21.32	22.72	23.04
	3H	15.80	17.10	16.17	17.43	17.79	22.21	23.51	22.58	23.84	24.20
	4H	16.25	17.47	16.65	17.82	18.20	22.64	23.86	23.04	24.21	24.59
	6H	16.58	17.71	17.00	18.08	18.47	22.93	24.06	23.35	24.43	24.82
	8H	16.68	17.75	17.11	18.14	18.55	23.02	24.09	23.45	24.48	24.88
	12H	16.74	17.76	17.17	18.14	18.57	23.07	24.09	23.50	24.47	24.90
4H	2H	15.35	16.57	15.75	16.92	17.30	20.94	22.16	21.34	22.51	22.89
	3H	16.68	17.69	17.09	18.09	18.49	22.32	23.33	22.73	23.73	24.14
	4H	17.23	18.13	17.66	18.55	18.99	22.85	23.76	23.29	24.18	24.62
	6H	17.66	18.45	18.12	18.89	19.35	23.27	24.06	23.73	24.50	24.96
	8H	17.79	18.53	18.26	18.97	19.44	23.40	24.14	23.86	24.58	25.05
	12H	17.87	18.53	18.35	19.01	19.48	23.49	24.15	23.98	24.63	25.10
8H	4H	17.57	18.31	18.04	18.75	19.22	22.85	23.59	23.31	24.03	24.50
	6H	18.10	18.70	18.60	19.20	19.67	23.31	23.92	23.81	24.41	24.89
	8H	18.28	18.83	18.80	19.34	19.83	23.48	24.03	24.00	24.54	25.03
	12H	18.42	18.90	18.93	19.39	19.96	23.63	24.11	24.14	24.60	25.17
12H	4H	17.61	18.27	18.10	18.75	19.22	22.83	23.48	23.31	23.96	24.44
	6H	18.16	18.70	18.68	19.21	19.70	23.29	23.84	23.81	24.35	24.84
	8H	18.39	18.87	18.91	19.37	19.93	23.50	23.98	24.01	24.47	25.04