

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: P243170

Luminaire Tested: S122DRP-H485D935-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243170  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-58)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-H485D935-X4F0-XX-UDD-A-W  
Description: DEFINE 2 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

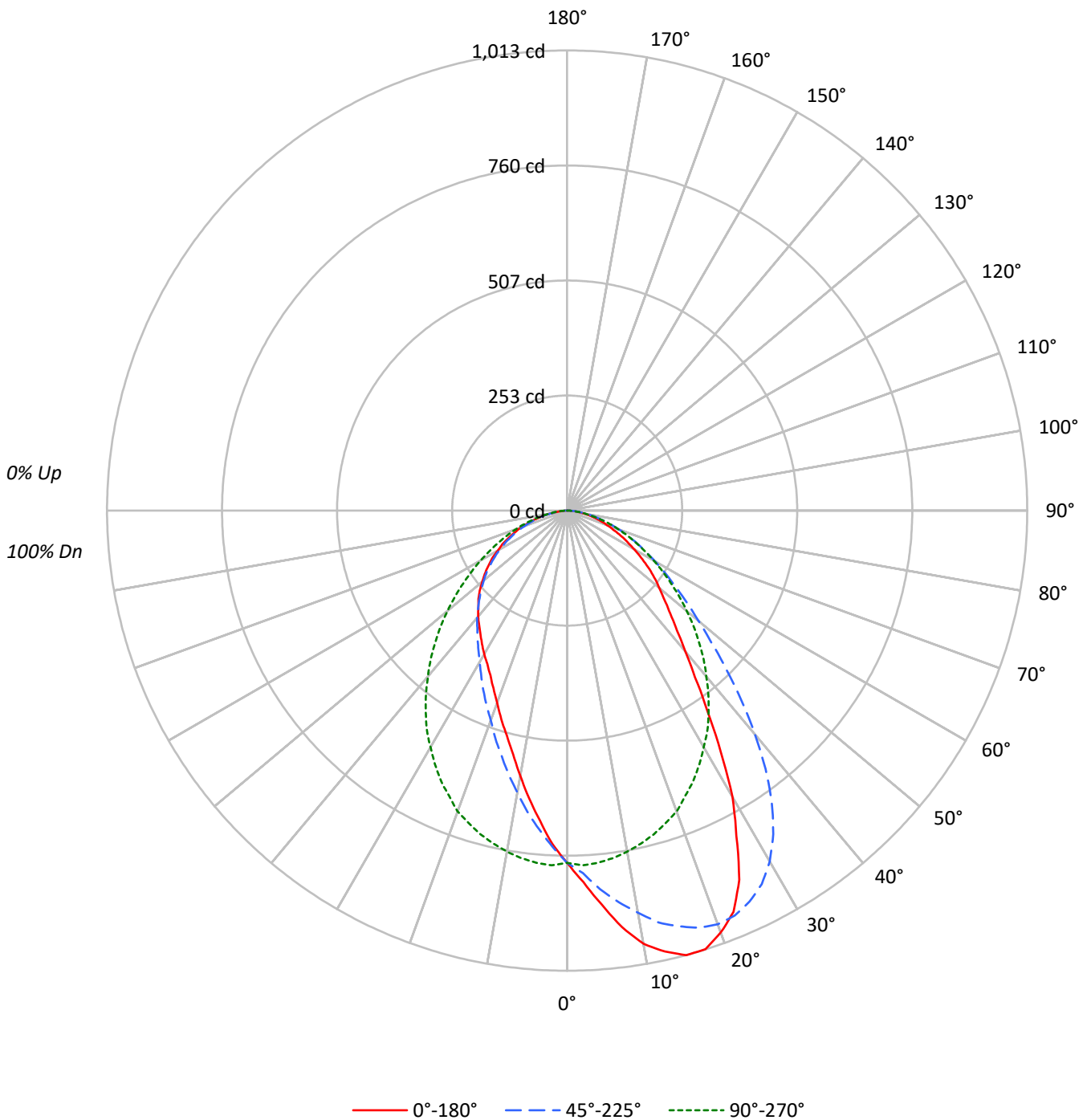
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1721.0 lumens  
Efficiency: N/A  
Efficacy: 100.1 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.24  
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

TEST NUMBER: P243170

CATALOG NUMBER: S122DRP-H485D935-X4F0-XX-UDD-A-W

### Luminous Intensity Polar Plot





TEST NUMBER: P243170

CATALOG NUMBER: S122DRP-H485D935-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	98	107	103	100	97	99	96	94	95	93	91	92	90	88				86	
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76				74	
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	73	69	66				63	
4	86	74	66	60	83	73	66	60	71	64	59	68	63	58	66	61	57				55	
5	79	67	59	52	77	66	58	52	64	57	52	62	56	51	60	55	51				49	
6	73	61	52	46	72	60	52	46	58	51	46	57	50	45	55	49	45				43	
7	68	56	47	41	67	55	47	41	53	46	41	52	46	41	51	45	40				39	
8	64	51	43	37	62	50	43	37	49	42	37	48	41	37	47	41	37				35	
9	60	47	39	34	58	46	39	34	45	38	34	44	38	34	43	38	33				32	
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	35	31				29	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	14773	14773	14773	14773	14773
5°	16641	16004	14880	13474	13107
10°	18732	17382	14746	12197	11470
15°	19982	18684	14547	11009	10110
20°	20039	19648	14284	9955	9124
25°	18846	19962	13808	9170	8409
30°	15999	19621	13232	8459	8030
35°	12508	18275	12615	7990	7729
40°	10050	15981	11856	7666	7579
45°	8644	13393	11071	7346	7437
50°	7844	11169	10191	7103	7230
55°	7226	9601	9285	6824	7034
60°	6495	8465	8366	6507	6712
65°	5846	7567	7518	6094	6391
70°	5213	6716	6683	5580	5981
75°	4688	5851	5748	4946	5240
80°	4091	4848	4629	4026	4091
85°	3519	4021	3453	2688	2251

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 65°  
 Vertical Angle: 45°  
 Luminance: 18520 cd/sqm



TEST NUMBER: P243170

CATALOG NUMBER: S122DRP-H485D935-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.9	4.3
10°-20°	212.4	12.3
20°-30°	308.9	17.9
30°-40°	331.3	19.3
40°-50°	296.9	17.3
50°-60°	236.7	13.8
60°-70°	160.1	9.3
70°-80°	81.7	4.7
80°-90°	19.1	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°	595.1	34.6
0°-40°	926.4	53.8
0°-60°	1460.1	84.8
0°-90°	1721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1721.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	776	776	776	776	776	
5°	870	837	778	705	686	86
15°	1013	948	738	558	513	284
25°	897	950	657	436	400	403
35°	538	786	542	344	332	341
45°	321	497	411	273	276	251
55°	218	289	280	206	212	194
65°	130	168	167	135	142	129
75°	64	80	78	67	71	68
85°	16	18	16	12	10	19
90°	0	0	0	0	0	



TEST NUMBER: P243170

CATALOG NUMBER: S122DRP-H485D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6
2.5°	818.7	821.2	818.9	818.1	816.4	815.8	811.2	807.5	805.2	798.8	799.4
5°	870.3	876.1	872.9	872.6	866.3	862.3	858.3	852.5	843.9	837.0	831.6
7.5°	924.9	922.0	921.1	918.0	913.4	907.6	898.7	890.4	879.5	869.5	862.0
10°	968.5	967.6	969.1	961.0	958.2	949.3	941.5	928.6	914.5	898.7	889.0
12.5°	994.3	996.9	998.9	995.8	988.9	986.3	973.4	955.3	950.4	928.9	917.1
15°	1013.3	1014.4	1014.7	1011.3	1007.8	1001.2	993.5	982.0	966.2	947.5	938.6
17.5°	1012.1	1011.8	1013.6	1011.5	1009.5	1007.5	1001.5	992.6	980.3	962.7	947.8
20°	988.6	993.7	997.8	998.6	998.3	999.5	996.6	990.9	982.0	969.3	952.4
22.5°	956.4	954.4	963.0	962.5	966.2	974.8	978.5	976.2	972.8	964.8	951.3
25°	896.7	898.7	904.8	911.1	925.7	930.9	942.1	950.7	951.8	949.8	941.5
27.5°	807.2	821.5	824.7	833.0	853.4	870.3	893.0	906.5	925.7	927.4	923.7
30°	727.4	726.8	731.7	746.6	765.3	790.8	820.1	854.8	876.9	892.1	897.6
32.5°	629.2	631.5	644.1	662.5	681.4	707.0	740.9	783.3	812.9	844.5	862.3
35°	537.9	545.1	557.2	569.8	590.5	625.5	663.1	698.4	743.7	785.9	814.6
37.5°	462.7	472.5	481.7	493.7	513.8	540.8	574.7	621.5	666.5	717.3	759.5
40°	404.2	407.9	414.2	426.0	439.5	466.4	500.6	535.6	584.4	642.7	698.1
42.5°	358.2	357.4	364.3	371.7	384.1	404.2	434.0	469.0	517.5	569.2	625.2
45°	320.9	321.2	324.1	331.8	341.6	353.1	376.0	409.0	445.8	497.2	556.6
47.5°	290.5	291.4	295.7	301.1	306.9	317.5	332.7	354.2	388.7	431.7	487.4
50°	264.7	266.1	269.0	273.0	277.3	284.7	296.2	313.2	340.4	376.9	427.4
52.5°	241.7	242.3	243.1	246.9	250.3	257.2	265.8	279.0	300.5	331.0	370.3
55°	217.6	217.0	219.0	222.2	225.3	230.2	239.1	249.7	264.9	289.1	321.5
57.5°	192.9	193.8	195.2	196.9	202.7	207.8	214.4	224.2	236.2	255.2	282.2
60°	170.5	170.5	172.2	174.5	178.3	181.7	188.0	196.9	207.5	222.2	244.8
62.5°	148.7	149.8	151.6	152.7	156.2	160.5	165.3	172.2	182.0	193.8	210.7
65°	129.7	129.2	130.9	133.2	135.8	138.6	144.1	149.8	157.3	167.9	182.0
67.5°	110.2	111.9	112.5	113.7	115.7	119.4	122.0	128.0	134.0	143.5	155.3
70°	93.6	94.7	95.6	97.0	98.7	100.5	103.0	107.9	114.0	120.6	128.9
72.5°	78.7	79.5	78.7	80.1	80.9	82.7	86.1	88.4	93.0	98.7	106.2
75°	63.7	64.3	64.0	65.4	65.7	67.5	69.2	71.2	76.4	79.5	84.7
77.5°	49.9	50.5	50.8	51.4	52.0	52.8	53.7	55.7	58.6	61.4	65.4
80°	37.3	37.3	38.2	38.5	38.8	39.3	40.8	41.3	43.3	44.2	47.4
82.5°	25.8	26.1	26.4	26.4	26.7	27.3	27.6	28.7	29.3	30.7	32.1
85°	16.1	16.4	16.4	16.4	17.2	16.9	16.9	17.5	18.4	18.4	18.9
87.5°	8.0	8.3	8.3	8.3	8.6	8.6	8.6	8.6	8.6	9.2	8.9
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: P243170

CATALOG NUMBER: S122DRP-H485D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6
2.5°	799.1	798.8	797.7	792.5	788.5	783.3	782.5	781.6	774.4	766.7	764.4
5°	827.3	822.1	814.9	806.3	797.7	788.2	782.8	778.2	767.3	755.2	748.3
7.5°	854.8	844.8	833.6	820.1	805.7	790.5	780.8	771.6	756.6	740.9	731.4
10°	878.4	864.9	849.4	831.6	811.8	791.1	776.7	762.4	743.4	724.2	711.6
12.5°	897.9	880.7	860.3	836.2	818.1	789.7	769.6	750.6	729.7	704.7	690.9
15°	912.8	895.9	868.3	843.9	820.1	782.2	757.8	737.7	709.6	685.2	663.4
17.5°	930.9	906.8	879.5	844.5	818.1	774.7	747.2	721.1	690.6	661.9	637.8
20°	938.9	913.7	884.4	845.3	811.8	766.7	730.0	704.7	668.0	634.9	607.7
22.5°	940.1	916.0	884.1	842.8	800.9	754.9	712.7	679.7	643.0	608.0	577.2
25°	935.2	912.2	879.2	838.2	788.8	742.3	695.2	657.0	614.6	578.4	547.1
27.5°	922.0	903.3	872.0	828.1	776.5	722.8	671.4	629.8	587.9	546.8	517.0
30°	900.7	888.4	861.4	814.9	760.7	701.5	650.2	601.6	556.3	517.8	485.7
32.5°	873.5	867.4	845.1	799.1	744.6	678.3	624.6	574.7	525.3	488.8	455.8
35°	838.7	841.9	823.0	781.3	724.2	654.7	594.8	542.5	494.3	455.5	425.1
37.5°	793.7	809.2	797.1	758.1	698.1	630.9	563.5	510.9	460.4	423.1	396.4
40°	743.2	770.4	764.7	732.0	670.0	603.1	533.3	476.8	427.4	392.1	366.6
42.5°	683.7	723.4	729.7	700.1	642.1	568.3	499.5	444.9	397.3	362.5	338.1
45°	617.1	666.2	687.5	664.2	609.7	534.8	464.7	411.0	364.0	334.4	314.0
47.5°	550.3	609.4	638.1	626.9	571.8	498.9	430.3	377.8	333.3	307.4	288.2
50°	484.2	547.7	589.6	582.1	534.5	464.7	395.5	343.9	303.1	279.3	262.9
52.5°	426.3	486.3	531.9	535.6	492.9	425.7	358.8	310.9	276.1	254.6	240.8
55°	369.1	424.8	474.8	484.0	449.2	384.6	324.9	279.6	248.0	230.2	219.0
57.5°	318.0	368.6	418.2	434.3	406.2	347.9	288.5	248.6	221.3	207.5	197.8
60°	274.7	320.3	363.1	379.5	360.2	307.1	255.2	219.6	196.9	184.6	176.8
62.5°	236.8	272.1	310.0	328.1	315.2	269.0	223.6	192.0	173.7	163.0	157.0
65°	202.7	229.9	259.8	280.7	266.4	231.9	194.0	166.8	151.3	141.5	137.2
67.5°	171.1	193.8	217.6	234.2	227.1	195.8	163.9	142.7	129.7	122.3	118.3
70°	142.4	159.3	178.5	191.5	186.3	162.2	136.9	120.0	109.1	103.9	100.5
72.5°	116.8	127.7	142.4	153.0	147.5	130.6	112.5	99.0	91.0	85.0	82.4
75°	92.7	102.2	112.5	119.7	115.4	102.8	88.4	78.1	72.6	68.9	67.2
77.5°	70.3	77.8	85.0	88.4	86.4	77.2	67.5	59.4	54.8	52.5	50.5
80°	50.5	54.8	59.7	62.9	61.7	55.4	48.5	42.2	40.2	37.3	36.7
82.5°	33.9	37.3	38.5	39.9	39.0	36.2	31.3	27.6	25.8	24.4	24.1
85°	20.1	21.0	22.4	22.4	21.5	19.5	16.9	15.8	14.1	13.8	12.9
87.5°	8.9	8.9	8.9	8.9	8.9	8.3	7.2	6.6	6.0	5.7	5.5
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: P243170

CATALOG NUMBER: S122DRP-H485D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6	775.6
2.5°	762.4	759.5	755.5	750.9	746.9	740.6	738.6	738.6	740.0	738.3	736.8
5°	742.6	736.8	731.1	722.2	714.7	704.7	701.8	699.0	698.7	695.8	692.1
7.5°	721.3	712.7	701.0	688.3	680.3	669.4	663.4	661.6	656.2	651.0	645.0
10°	696.7	683.5	669.4	657.3	644.7	630.6	623.5	618.6	613.1	606.8	602.5
12.5°	666.8	651.9	639.0	624.9	614.3	594.5	592.2	585.9	575.0	565.5	562.0
15°	648.4	622.3	607.7	594.8	578.7	558.3	550.8	543.9	533.6	527.6	522.7
17.5°	616.0	592.5	574.1	556.9	541.4	525.6	514.4	508.6	500.3	495.2	490.3
20°	586.4	560.9	541.7	521.6	505.5	491.1	481.7	474.5	470.2	465.0	460.1
22.5°	556.6	529.9	511.5	491.1	472.2	463.6	452.4	446.4	440.6	436.6	431.4
25°	521.8	500.6	477.6	461.9	445.2	436.3	425.7	419.9	415.4	410.8	408.2
27.5°	490.8	469.3	448.1	432.3	418.2	409.6	403.0	397.6	391.8	388.4	386.4
30°	458.7	438.9	420.2	405.0	394.1	384.6	380.6	375.5	371.1	369.7	366.6
32.5°	430.0	407.9	393.0	379.2	370.0	363.4	360.5	355.1	354.2	352.8	351.1
35°	401.3	382.3	368.0	356.2	348.5	343.6	339.9	338.4	337.0	335.6	334.1
37.5°	372.9	357.9	344.5	335.0	328.7	324.9	324.1	321.2	320.9	318.9	318.9
40°	347.3	332.1	322.6	315.2	310.0	308.3	306.0	305.4	304.6	304.0	305.1
42.5°	321.8	311.4	303.4	295.7	291.6	290.2	289.6	288.8	288.2	289.9	290.5
45°	298.0	289.1	282.2	276.7	274.4	272.7	272.7	273.6	273.3	274.1	274.1
47.5°	275.8	267.8	262.1	260.1	257.2	256.6	256.9	256.6	258.1	259.2	260.3
50°	254.9	247.7	243.1	241.1	240.5	239.7	240.8	241.4	242.3	243.4	244.0
52.5°	231.6	228.2	225.3	223.3	223.0	223.3	223.0	225.0	225.9	227.6	227.3
55°	211.8	209.3	207.2	204.9	204.7	205.5	206.1	207.8	209.0	210.4	210.1
57.5°	193.2	191.2	188.9	188.3	188.0	188.3	190.9	190.6	192.3	193.5	194.0
60°	172.8	171.4	169.4	169.4	170.2	170.8	171.7	173.1	174.8	174.5	176.5
62.5°	154.1	152.4	151.8	152.7	152.4	153.9	154.7	154.7	157.0	157.9	158.4
65°	135.5	134.9	134.0	134.0	134.9	135.2	136.6	137.5	138.4	140.1	141.5
67.5°	118.0	116.5	116.5	116.0	117.1	118.0	118.8	120.0	120.6	122.6	123.4
70°	99.6	99.0	98.7	99.3	99.3	100.2	101.6	103.0	104.2	104.5	106.2
72.5°	81.8	81.8	81.8	82.7	83.2	84.1	84.4	85.5	87.3	87.5	88.4
75°	65.7	66.0	65.7	66.0	66.3	67.2	67.7	68.9	70.0	70.3	70.9
77.5°	50.8	50.2	49.7	50.5	51.1	52.8	52.5	53.1	54.3	53.7	54.3
80°	35.6	36.5	35.3	37.0	37.0	36.7	37.3	38.2	37.9	38.5	37.9
82.5°	24.1	23.3	23.3	24.1	24.4	23.5	24.1	24.4	24.7	24.1	23.8
85°	13.2	12.9	13.5	12.6	12.9	12.3	12.3	11.8	12.3	11.8	11.2
87.5°	4.9	4.6	4.9	4.0	3.7	3.4	3.2	3.2	2.6	2.6	2.6
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: P243170

CATALOG NUMBER: S122DRP-H485D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	775.6	775.6	775.6	775.6
2.5°	738.9	735.7	734.3	735.4
5°	688.0	688.9	683.7	685.5
7.5°	644.1	640.4	641.5	639.5
10°	597.6	595.6	592.5	593.0
12.5°	566.3	552.8	552.0	549.4
15°	522.4	515.0	513.2	512.7
17.5°	487.4	481.1	483.4	481.7
20°	455.8	456.1	452.4	450.1
22.5°	428.0	427.4	426.0	423.7
25°	404.4	404.4	401.0	400.1
27.5°	382.9	383.5	380.6	380.6
30°	366.8	364.8	364.5	365.1
32.5°	350.8	348.5	348.8	348.5
35°	333.5	334.1	333.3	332.4
37.5°	318.9	318.9	318.9	318.0
40°	304.6	305.1	304.3	304.8
42.5°	290.2	290.5	290.5	289.3
45°	275.8	275.6	275.0	276.1
47.5°	260.9	260.9	260.6	261.2
50°	244.6	245.1	244.3	244.0
52.5°	227.9	228.2	227.9	228.5
55°	211.0	211.0	211.3	211.8
57.5°	193.5	195.5	194.0	195.2
60°	176.2	176.5	176.8	176.2
62.5°	159.9	159.6	159.9	160.7
65°	142.1	142.7	142.4	141.8
67.5°	124.6	124.0	124.9	124.0
70°	105.9	107.1	106.2	107.4
72.5°	89.0	88.7	89.3	87.8
75°	71.2	71.2	71.5	71.2
77.5°	54.5	54.0	53.7	52.8
80°	37.6	37.6	36.5	37.3
82.5°	23.0	23.3	23.5	21.8
85°	10.9	10.9	10.6	10.3
87.5°	2.3	2.3	2.6	2.9
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P243170  
 CATALOG NUMBER: S122DRP-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	18.00	19.53	18.37	19.84	20.16	20.84	22.36	21.21	22.68	22.99
	3H	19.36	20.72	19.73	21.05	21.41	21.86	23.23	22.24	23.56	23.92
	4H	19.84	21.12	20.24	21.47	21.85	22.19	23.47	22.59	23.82	24.20
	6H	20.19	21.38	20.60	21.74	22.13	22.38	23.57	22.80	23.93	24.33
	8H	20.30	21.43	20.72	21.81	22.22	22.43	23.55	22.85	23.94	24.35
	12H	20.37	21.45	20.80	21.83	22.26	22.44	23.52	22.87	23.90	24.33
4H	2H	18.89	20.17	19.29	20.52	20.89	21.08	22.36	21.48	22.71	23.09
	3H	20.38	21.45	20.79	21.85	22.25	22.45	23.52	22.86	23.92	24.32
	4H	20.95	21.91	21.38	22.32	22.76	22.97	23.93	23.40	24.34	24.78
	6H	21.39	22.22	21.85	22.66	23.12	23.30	24.13	23.76	24.58	25.03
	8H	21.52	22.30	21.99	22.75	23.21	23.37	24.15	23.84	24.60	25.06
	12H	21.62	22.32	22.10	22.80	23.27	23.41	24.11	23.89	24.59	25.06
8H	4H	21.39	22.17	21.85	22.61	23.08	23.10	23.88	23.57	24.33	24.79
	6H	21.91	22.55	22.41	23.04	23.52	23.55	24.19	24.04	24.68	25.16
	8H	22.10	22.67	22.61	23.18	23.67	23.68	24.26	24.19	24.77	25.25
	12H	22.25	22.76	22.76	23.25	23.82	23.77	24.28	24.28	24.77	25.34
12H	4H	21.44	22.14	21.93	22.62	23.09	23.10	23.79	23.58	24.27	24.74
	6H	21.99	22.56	22.50	23.07	23.56	23.55	24.13	24.06	24.63	25.12
	8H	22.23	22.73	22.74	23.23	23.79	23.73	24.24	24.24	24.73	25.29