

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: P242408

Luminaire Tested: S122RDRP-S485D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242408
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122RDRP-S485D930-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

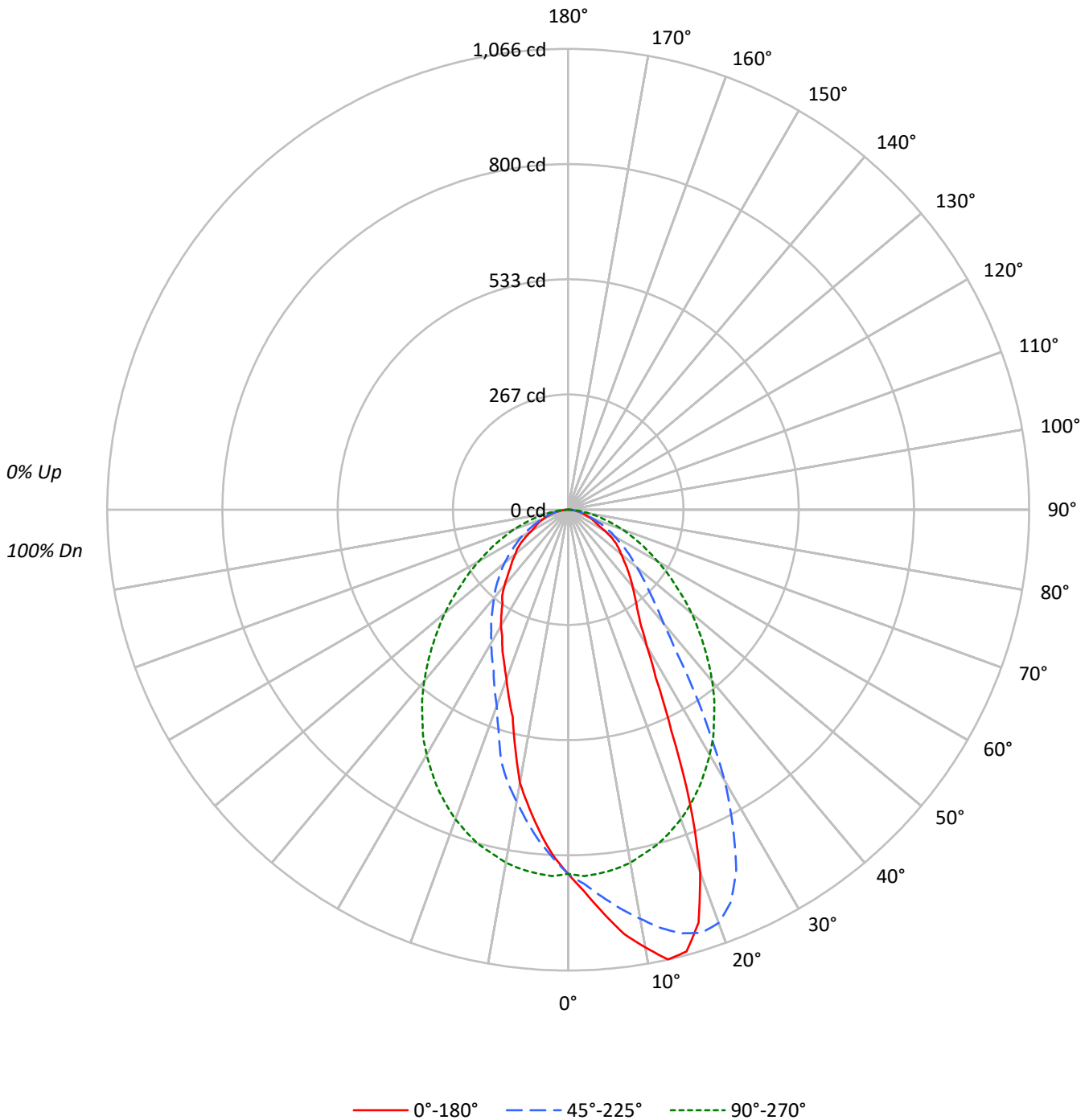
Lumens per Lamp: N/A
Luminaire Lumens: 1455.8 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
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	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	111	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	87	83	80	84	81	78					76				
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68					66				
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60					59				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	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					39				
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	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°	16046	16046	16046	16046	16046
5°	17922	17182	16147	14715	14317
10°	19883	18587	16034	13259	12410
15°	20861	20008	15799	11828	9779
20°	18085	20625	15450	9797	8461
25°	11862	19323	14974	8577	7556
30°	7984	15909	14395	7810	6838
35°	6467	11620	13668	7201	6167
40°	5749	8539	12875	6646	5707
45°	5204	7095	11947	6158	5094
50°	4735	6149	11023	5690	4718
55°	4453	5443	10002	5141	4394
60°	3726	4739	9067	4716	3680
65°	3141	4223	8234	4196	3561
70°	2902	3358	7351	3698	3358
75°	2716	3039	6395	3488	3106
80°	2501	2764	5265	3049	2764
85°	2295	2360	4152	2426	2426

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 70°
 Vertical Angle: 45°
 Luminance: 17402 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.9	5.5
10°-20°	223.0	15.3
20°-30°	287.0	19.7
30°-40°	272.3	18.7
40°-50°	233.3	16.0
50°-60°	177.7	12.2
60°-70°	112.1	7.7
70°-80°	55.9	3.8
80°-90°	14.4	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°	590.0	40.5
0°-40°	862.3	59.2
0°-60°	1273.4	87.5
0°-90°	1455.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1455.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	842	842	842	842	842	
5°	937	899	844	770	749	92
15°	1058	1015	801	600	496	288
25°	564	919	712	408	360	267
35°	278	500	588	310	265	177
45°	193	263	444	229	189	149
55°	134	164	301	155	132	118
65°	70	94	183	93	79	70
75°	37	41	87	47	42	39
85°	10	11	19	11	11	12
90°	0	0	0	0	0	



TEST NUMBER: P242408

CATALOG NUMBER: S122RDRP-S485D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4
2.5°	885.2	886.1	886.9	884.9	884.9	883.1	879.3	876.4	868.2	867.0	867.0
5°	937.3	936.7	937.9	934.1	928.8	927.6	922.1	914.7	907.1	898.6	896.9
7.5°	990.0	986.5	985.0	986.8	981.2	973.6	964.2	955.4	942.3	931.4	924.7
10°	1028.0	1037.7	1031.8	1021.6	1023.6	1009.9	1002.6	990.0	979.4	961.0	956.9
12.5°	1065.5	1067.8	1067.0	1062.3	1058.5	1050.0	1039.4	1028.9	1007.2	991.1	974.2
15°	1057.9	1063.4	1064.9	1063.2	1064.6	1064.0	1058.8	1049.7	1032.7	1014.6	998.8
17.5°	1001.7	1008.1	1013.4	1018.1	1025.4	1039.7	1044.1	1045.9	1038.9	1026.0	1012.8
20°	892.2	885.8	912.7	926.5	938.2	967.4	992.6	1002.3	1017.8	1017.5	1014.6
22.5°	737.1	740.6	765.8	782.7	822.5	851.8	881.4	924.4	958.1	982.9	998.2
25°	564.4	575.5	601.0	623.2	661.3	715.7	765.2	822.5	876.7	919.4	960.1
27.5°	439.1	440.5	463.7	486.2	509.6	556.8	622.9	691.7	769.0	824.6	894.8
30°	363.0	361.2	369.7	382.3	401.6	436.2	483.0	550.3	627.3	723.3	808.8
32.5°	309.1	309.7	315.6	324.0	339.3	359.8	388.1	439.7	511.4	605.3	709.3
35°	278.1	277.8	282.5	289.2	295.9	310.9	332.8	361.5	411.6	499.7	602.1
37.5°	252.3	253.8	255.8	260.2	268.4	277.2	291.0	311.2	349.2	404.0	495.9
40°	231.2	231.8	235.1	238.6	243.0	249.4	260.2	275.7	301.8	343.4	406.3
42.5°	211.9	212.5	214.6	217.8	221.0	227.4	235.9	248.8	268.7	298.9	348.0
45°	193.2	193.2	195.2	196.7	200.5	206.4	213.7	224.8	239.4	263.4	298.0
47.5°	175.0	175.0	176.5	179.1	181.8	186.5	194.1	203.4	214.0	233.6	264.3
50°	159.8	160.1	161.0	163.0	164.5	168.6	174.2	182.1	193.2	207.5	232.1
52.5°	147.5	147.2	148.4	149.0	149.9	152.5	156.3	163.0	172.7	184.7	204.0
55°	134.1	132.9	134.7	136.1	137.0	138.2	140.5	144.9	153.4	163.9	179.1
57.5°	118.3	117.7	118.6	120.0	122.6	125.6	127.0	130.0	134.4	142.6	158.7
60°	97.8	97.8	100.4	101.3	104.5	108.6	112.7	115.0	119.4	124.4	135.5
62.5°	79.6	79.9	80.8	81.7	83.1	88.4	94.5	100.4	104.5	109.2	115.6
65°	69.7	70.3	70.3	70.8	72.0	73.2	75.5	79.6	86.9	93.7	99.2
67.5°	60.9	60.9	61.2	61.8	62.1	63.5	64.4	66.4	67.9	75.5	83.1
70°	52.1	53.0	52.7	53.3	53.6	54.2	55.3	56.2	58.8	60.3	64.4
72.5°	43.9	44.5	44.5	44.8	45.7	45.7	46.5	47.4	48.9	50.1	51.8
75°	36.9	36.6	36.9	37.5	37.8	38.1	38.1	39.2	40.1	41.3	42.7
77.5°	29.9	30.2	30.2	30.2	30.2	30.7	30.7	31.3	32.2	32.8	33.7
80°	22.8	23.1	22.8	23.1	23.4	23.7	23.4	23.7	24.6	25.2	25.2
82.5°	16.4	16.4	16.7	16.7	16.7	16.7	17.3	17.3	17.9	17.6	17.9
85°	10.5	10.2	10.2	10.2	10.5	10.8	10.5	10.5	10.8	10.8	10.8
87.5°	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.3	5.0	5.3	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4
2.5°	867.6	865.3	863.2	858.0	855.3	849.5	848.6	848.3	840.7	833.4	831.3
5°	892.2	887.5	880.5	872.3	863.8	855.0	849.2	844.5	832.8	821.7	815.2
7.5°	916.5	908.0	896.9	882.8	870.8	856.8	847.1	838.3	822.2	807.6	798.0
10°	944.3	927.9	911.8	890.5	873.8	857.4	842.2	829.0	810.2	789.2	774.2
12.5°	961.6	943.1	919.4	898.6	875.8	853.9	832.2	814.3	791.5	769.6	751.1
15°	976.8	957.5	930.6	900.7	872.9	845.7	822.2	801.2	772.5	746.4	724.8
17.5°	990.9	964.2	936.4	901.9	871.1	838.1	808.5	782.1	750.8	720.1	695.5
20°	997.0	970.7	937.3	902.7	864.7	824.0	791.5	762.2	728.0	693.7	664.5
22.5°	993.2	974.2	936.1	893.1	853.9	810.8	773.1	737.9	699.0	663.9	628.8
25°	973.3	966.3	931.1	886.1	841.6	792.1	749.7	712.5	669.2	631.7	594.8
27.5°	936.7	946.9	922.1	873.2	825.2	771.9	725.7	683.8	639.6	597.7	560.8
30°	878.7	913.6	904.2	859.7	804.4	752.3	698.7	654.5	606.5	563.2	526.9
32.5°	799.4	862.6	876.4	841.0	783.3	724.8	668.0	624.1	573.4	527.2	492.1
35°	714.2	800.3	839.8	816.1	758.7	697.0	639.0	587.8	537.4	492.4	457.2
37.5°	613.2	728.0	788.9	786.2	731.5	668.6	605.6	555.0	503.2	458.7	422.1
40°	515.5	642.5	728.3	747.3	702.8	633.4	569.6	517.8	467.5	424.1	380.5
42.5°	427.7	554.1	664.5	701.1	668.0	599.2	535.1	480.4	431.8	391.4	346.6
45°	360.0	470.7	586.9	646.0	626.4	562.6	495.0	443.5	397.5	362.1	319.4
47.5°	311.7	392.2	509.0	586.3	584.0	523.4	456.1	406.6	363.3	330.5	294.2
50°	271.6	339.6	434.7	525.4	533.0	484.2	420.9	372.0	332.2	297.4	269.6
52.5°	235.6	288.6	371.8	457.8	483.0	442.3	381.4	337.2	298.9	267.5	244.7
55°	205.2	248.5	313.5	394.9	427.7	397.8	343.4	301.2	269.9	243.0	222.5
57.5°	178.6	212.5	266.7	334.9	372.0	351.8	305.3	270.5	242.7	217.5	201.1
60°	153.7	180.3	224.5	279.3	321.4	308.2	269.9	238.0	215.1	194.1	178.9
62.5°	130.3	152.2	188.5	230.4	268.1	264.6	235.1	209.6	190.3	171.5	159.2
65°	108.6	125.3	154.8	189.7	220.7	223.3	200.8	182.7	164.8	149.6	138.2
67.5°	89.9	101.3	123.5	154.3	178.0	186.2	170.9	156.3	141.7	129.4	119.1
70°	72.9	81.7	96.9	120.6	142.0	150.8	142.8	132.0	119.7	110.1	101.6
72.5°	55.6	64.1	74.4	90.2	107.7	117.4	115.9	108.9	99.5	91.9	84.0
75°	44.5	47.1	54.7	66.4	80.8	89.0	91.0	86.9	79.0	72.9	68.2
77.5°	34.5	36.3	40.4	47.4	57.4	64.7	67.9	67.3	61.5	57.4	53.0
80°	26.3	27.2	29.0	31.6	38.6	46.0	48.0	48.0	44.2	42.7	38.3
82.5°	18.4	19.0	19.9	21.1	23.4	29.6	31.9	32.5	30.4	28.4	25.2
85°	11.4	11.1	11.7	12.6	13.2	14.9	18.4	19.0	18.4	16.1	15.2
87.5°	5.0	5.3	5.3	5.0	5.3	5.6	7.0	8.5	7.3	6.4	5.9
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°	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4
2.5°	827.5	825.5	821.7	815.8	812.3	806.1	802.0	804.4	805.0	804.4	803.8
5°	808.2	802.0	793.6	785.4	777.8	769.6	764.9	762.8	758.7	756.4	755.2
7.5°	786.2	777.2	765.2	752.0	739.7	728.0	722.7	718.6	711.0	706.9	703.1
10°	761.1	744.4	732.4	713.6	702.2	685.5	674.1	674.4	663.0	656.6	651.9
12.5°	733.3	714.5	692.6	676.2	659.2	646.6	632.3	625.2	613.0	606.8	592.2
15°	701.9	680.6	659.5	636.7	620.6	599.8	579.9	555.6	536.0	519.0	514.3
17.5°	668.6	642.2	621.4	598.0	572.9	535.1	510.5	495.6	483.9	475.1	468.1
20°	634.0	607.1	584.6	544.2	507.0	483.3	466.3	455.5	443.2	433.5	428.2
22.5°	597.7	569.3	536.6	490.3	463.4	445.5	430.9	418.0	410.7	403.7	399.0
25°	563.8	533.0	482.4	451.4	428.0	408.1	397.5	389.9	381.1	370.9	366.2
27.5°	528.4	479.5	441.1	418.6	394.6	382.0	372.9	360.3	352.4	348.6	343.4
30°	487.7	438.8	410.4	385.2	369.4	355.1	343.9	337.5	329.9	322.0	318.8
32.5°	442.3	405.7	378.8	358.9	342.8	331.1	322.9	311.5	306.5	302.4	294.8
35°	406.3	376.7	351.8	334.9	319.6	309.7	299.5	293.3	283.4	279.3	276.6
37.5°	373.5	347.8	329.0	310.3	298.6	286.9	281.0	270.8	267.0	260.5	255.3
40°	346.6	321.4	303.5	288.9	275.4	267.3	259.3	251.4	245.0	242.4	235.6
42.5°	319.1	299.7	281.9	265.5	257.6	248.8	238.3	233.0	226.3	221.6	218.1
45°	294.2	276.0	260.8	247.6	237.7	228.6	222.2	212.5	208.7	200.2	196.7
47.5°	272.2	254.7	240.0	227.1	217.2	211.9	202.6	194.1	188.8	182.9	178.0
50°	248.5	234.5	220.4	209.3	200.5	192.0	182.4	178.6	169.2	166.6	163.9
52.5°	226.9	213.7	201.1	190.3	181.5	173.3	165.1	159.8	154.3	151.6	149.9
55°	207.0	194.1	181.8	172.1	163.3	154.8	149.6	143.4	140.5	138.5	136.1
57.5°	186.5	174.8	165.1	155.1	146.4	139.3	132.9	129.4	126.5	124.1	120.9
60°	167.1	156.0	147.5	138.5	129.4	123.8	119.1	114.7	111.2	107.1	106.0
62.5°	146.7	137.3	129.7	120.9	113.3	108.3	103.9	99.8	95.4	89.0	87.2
65°	128.2	120.6	112.4	105.1	98.1	93.1	86.6	82.0	80.2	79.6	79.3
67.5°	111.2	103.9	96.9	89.3	82.8	77.3	73.5	72.9	71.7	71.4	70.5
70°	94.3	87.5	80.5	73.5	67.3	66.4	65.3	64.1	62.6	62.1	61.5
72.5°	79.0	72.0	65.0	59.7	58.0	56.8	55.6	54.4	53.6	53.0	52.7
75°	62.9	56.5	51.8	49.8	48.3	47.4	45.7	44.8	44.2	43.3	43.0
77.5°	48.0	43.9	41.6	40.4	38.6	37.8	36.6	35.7	34.8	34.8	34.2
80°	34.5	32.8	31.3	29.6	29.0	27.8	27.5	26.6	26.9	26.1	26.1
82.5°	24.9	22.5	21.4	20.8	20.2	19.3	19.0	18.7	18.7	18.1	18.1
85°	13.8	13.2	12.6	12.0	12.0	11.1	11.4	11.1	11.1	10.5	10.2
87.5°	5.6	5.3	4.7	4.7	4.7	4.4	4.4	4.1	4.1	4.1	3.8
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: P242408

CATALOG NUMBER: S122RDRP-S485D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	842.4	842.4	842.4	842.4
2.5°	800.6	801.2	800.3	800.9
5°	753.8	750.2	749.7	748.8
7.5°	698.4	698.1	696.4	694.3
10°	645.4	644.0	643.7	641.6
12.5°	583.4	572.0	570.8	564.9
15°	507.3	505.5	499.7	495.9
17.5°	464.8	459.0	456.9	456.1
20°	424.1	418.9	418.0	417.4
22.5°	396.0	390.5	387.9	385.8
25°	363.3	361.2	360.0	359.5
27.5°	337.5	332.2	331.7	330.2
30°	316.1	314.7	312.6	310.9
32.5°	291.0	289.8	288.0	287.4
35°	273.7	269.6	267.8	265.2
37.5°	254.7	252.3	249.4	250.6
40°	231.8	230.4	229.8	229.5
42.5°	213.7	209.0	207.2	207.2
45°	195.2	191.4	188.8	189.1
47.5°	175.3	175.6	173.9	174.5
50°	161.9	160.1	158.9	159.2
52.5°	149.0	147.5	146.7	148.1
55°	134.7	132.9	132.6	132.3
57.5°	119.1	118.3	116.8	115.9
60°	102.2	99.8	96.9	96.6
62.5°	86.6	86.6	86.6	86.6
65°	78.7	78.4	78.7	79.0
67.5°	70.5	70.0	69.4	69.7
70°	60.9	60.6	60.3	60.3
72.5°	51.5	51.5	51.2	50.9
75°	42.7	42.2	42.2	42.2
77.5°	34.2	34.0	33.7	33.4
80°	25.8	25.5	25.2	25.2
82.5°	18.1	17.9	17.9	17.6
85°	10.5	10.8	10.5	11.1
87.5°	3.8	3.5	3.8	3.5
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242408
 CATALOG NUMBER: S122RDRP-S485D930-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	15.18	16.63	15.54	16.94	17.26	21.08	22.53	21.44	22.84	23.16
	3H	16.29	17.59	16.67	17.92	18.28	22.23	23.53	22.61	23.86	24.22
	4H	16.75	17.96	17.15	18.31	18.69	22.63	23.84	23.03	24.19	24.57
	6H	17.11	18.23	17.53	18.60	19.00	22.89	24.02	23.31	24.38	24.78
	8H	17.24	18.30	17.66	18.69	19.09	22.97	24.03	23.39	24.42	24.82
	12H	17.32	18.34	17.75	18.72	19.15	23.00	24.02	23.43	24.41	24.83
4H	2H	15.89	17.10	16.29	17.45	17.83	21.04	22.26	21.44	22.61	22.99
	3H	17.16	18.16	17.57	18.56	18.97	22.34	23.34	22.75	23.74	24.15
	4H	17.71	18.61	18.14	19.03	19.47	22.83	23.73	23.26	24.15	24.59
	6H	18.18	18.96	18.64	19.41	19.87	23.22	24.00	23.67	24.44	24.91
	8H	18.34	19.07	18.81	19.52	19.99	23.33	24.06	23.79	24.51	24.98
	12H	18.46	19.11	18.94	19.59	20.06	23.41	24.06	23.89	24.54	25.01
8H	4H	18.05	18.78	18.52	19.23	19.70	22.82	23.55	23.28	23.99	24.46
	6H	18.62	19.22	19.12	19.72	20.20	23.24	23.85	23.74	24.34	24.82
	8H	18.85	19.39	19.36	19.90	20.39	23.39	23.93	23.91	24.44	24.93
	12H	19.03	19.51	19.54	20.00	20.57	23.51	23.99	24.03	24.48	25.05
12H	4H	18.09	18.75	18.58	19.23	19.70	22.79	23.44	23.28	23.92	24.40
	6H	18.68	19.23	19.20	19.74	20.23	23.22	23.76	23.73	24.27	24.76
	8H	18.96	19.44	19.48	19.93	20.50	23.40	23.88	23.91	24.37	24.94