

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: P243268

Luminaire Tested: S122RDRP-H485D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243268
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-H485D930-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

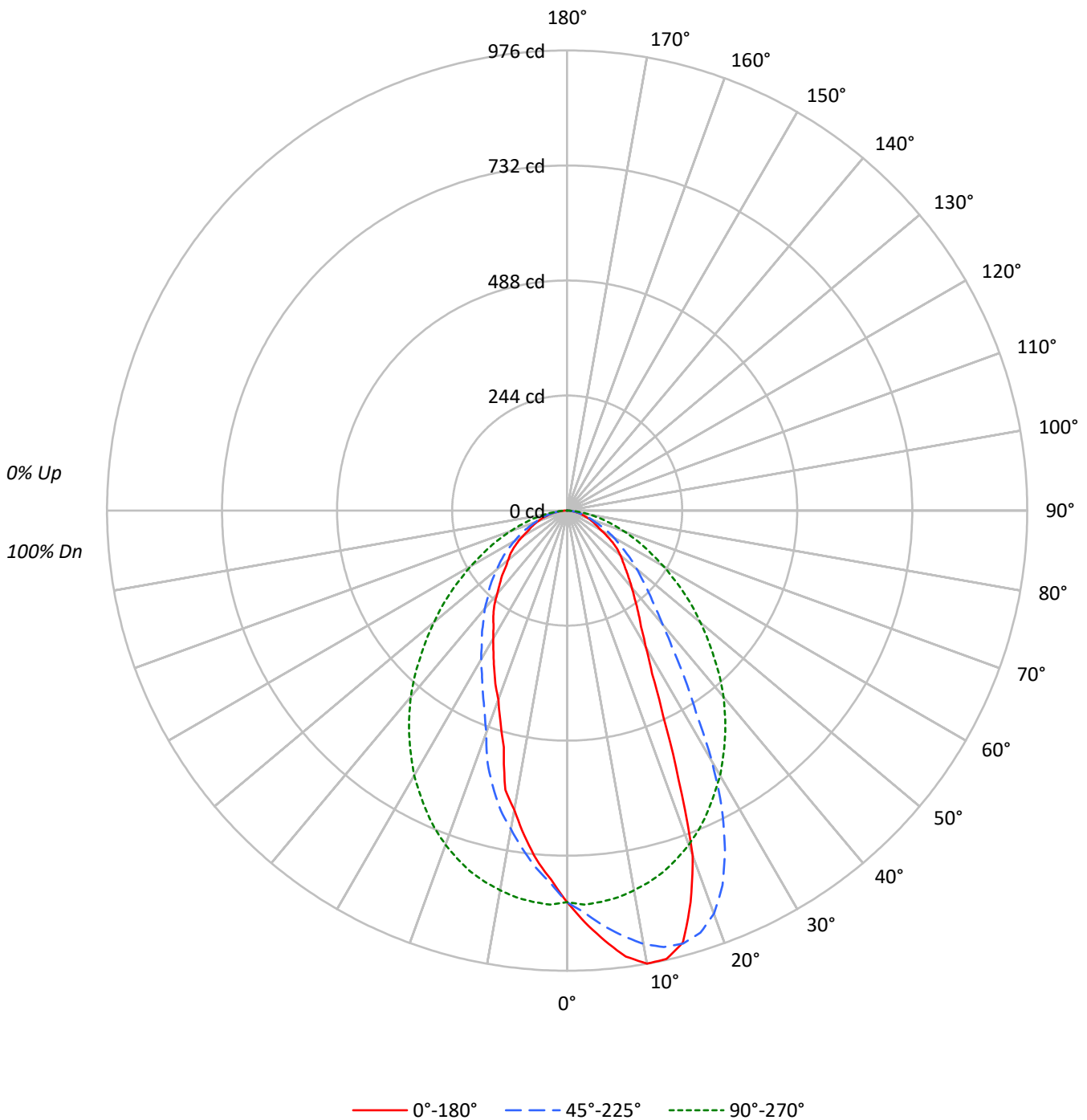
Lumens per Lamp: N/A
Luminaire Lumens: 1399.8 lumens
Efficiency: N/A
Efficacy: 81.4 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

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°	15821	15821	15821	15821	15821
5°	17512	16899	15927	14535	14218
10°	18872	18051	15818	13274	12469
15°	18704	18742	15634	11974	10246
20°	15778	18444	15288	10170	8649
25°	10145	16645	14817	8899	7701
30°	7329	13498	14268	8017	6897
35°	6104	10106	13582	7318	6346
40°	5299	7832	12825	6751	5744
45°	4730	6559	11869	6282	5256
50°	4365	5710	10929	5767	4833
55°	3919	4928	9983	5380	4603
60°	3128	4339	8987	4888	4141
65°	2866	3687	8072	4485	3822
70°	2634	3041	7129	3982	3631
75°	2399	2723	6241	3783	3437
80°	2084	2380	5188	3455	3225
85°	1661	1967	4152	3147	2972

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 75°
 Vertical Angle: 45°
 Luminance: 15710 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.6	5.6
10°-20°	215.1	15.4
20°-30°	271.2	19.4
30°-40°	260.3	18.6
40°-50°	224.2	16.0
50°-60°	171.4	12.2
60°-70°	109.1	7.8
70°-80°	55.3	3.9
80°-90°	14.6	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°	564.9	40.4
0°-40°	825.2	59.0
0°-60°	1220.8	87.2
0°-90°	1399.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1399.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	831	831	831	831	831	
5°	916	884	833	760	744	89
15°	948	950	793	607	520	257
25°	483	792	705	423	366	231
35°	262	435	584	315	273	165
45°	176	244	441	233	195	137
55°	118	148	301	162	139	104
65°	64	82	179	100	85	63
75°	33	37	85	51	47	35
85°	8	9	19	14	14	9
90°	0	0	0	0	0	



TEST NUMBER: P243268

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6
2.5°	874.6	875.7	876.2	874.9	871.9	872.1	869.4	864.8	859.1	853.9	856.9
5°	915.9	917.3	917.0	914.5	911.6	908.8	904.2	897.7	890.9	883.8	882.5
7.5°	954.0	956.9	956.1	951.5	949.3	945.5	937.6	930.3	920.0	909.9	905.9
10°	975.7	978.1	976.8	975.7	973.3	969.4	962.4	955.3	943.9	933.3	927.3
12.5°	974.1	976.2	977.3	978.4	977.6	976.2	973.3	967.3	958.0	948.2	940.6
15°	948.5	945.0	942.5	949.3	951.8	961.0	963.2	964.0	957.8	950.4	948.5
17.5°	870.8	871.9	890.6	887.6	891.7	914.3	923.2	935.5	940.6	939.0	942.3
20°	778.4	765.6	774.9	788.4	801.2	834.1	855.8	875.1	897.4	909.9	921.9
22.5°	617.5	617.8	640.0	662.3	691.1	726.7	759.9	796.9	836.5	860.7	888.7
25°	482.7	495.7	505.5	515.3	557.2	591.4	646.6	691.4	746.0	792.0	839.0
27.5°	390.3	403.9	405.5	427.5	452.2	480.0	516.1	586.8	642.8	710.2	768.3
30°	333.2	335.9	341.6	347.3	365.5	391.4	430.2	474.5	536.8	613.7	691.7
32.5°	291.9	291.4	297.1	306.0	316.1	333.5	355.5	392.2	448.4	509.6	600.6
35°	262.5	261.7	265.8	269.1	275.0	289.2	309.0	333.2	373.7	434.6	505.2
37.5°	234.8	236.5	238.9	242.4	250.3	259.3	272.6	292.7	324.8	365.0	432.7
40°	213.1	215.0	217.7	220.1	226.1	233.5	242.4	258.5	279.9	315.0	366.9
42.5°	193.5	194.3	196.5	200.0	204.4	210.9	219.6	231.8	249.8	274.2	319.6
45°	175.6	175.6	178.0	181.3	184.0	190.2	197.0	208.7	222.6	243.5	275.9
47.5°	160.4	160.6	162.0	162.5	165.5	171.2	178.6	187.8	199.2	215.3	245.4
50°	147.3	148.4	148.9	149.8	150.8	153.8	159.0	166.1	178.6	192.7	212.8
52.5°	133.7	135.1	136.2	137.8	139.4	139.7	143.5	148.1	156.8	171.5	187.8
55°	118.0	119.0	121.2	122.6	124.7	126.7	129.6	132.9	138.6	148.4	165.2
57.5°	100.0	100.3	102.5	103.8	108.2	112.5	115.2	118.8	122.8	129.6	142.4
60°	82.1	82.9	83.2	84.3	88.1	92.7	98.1	103.5	107.9	113.9	122.8
62.5°	72.3	72.6	73.4	74.5	74.7	76.9	78.5	85.1	92.7	98.7	104.6
65°	63.6	63.9	63.9	64.7	65.8	66.9	67.7	70.1	73.4	81.8	89.1
67.5°	55.4	55.2	55.7	56.5	56.8	57.6	59.0	60.3	62.5	65.0	72.6
70°	47.3	47.3	47.0	47.8	48.6	48.9	49.7	51.1	52.5	54.6	57.1
72.5°	39.1	39.7	39.7	40.2	40.5	41.6	42.1	42.7	44.6	45.7	47.6
75°	32.6	32.3	33.2	32.9	33.4	33.7	34.5	35.3	35.9	37.0	38.6
77.5°	26.1	25.5	26.1	25.8	26.4	26.9	26.9	27.7	28.3	29.4	30.2
80°	19.0	19.0	19.3	19.8	19.8	20.1	20.7	20.4	21.5	21.7	22.6
82.5°	13.0	13.3	13.3	13.6	13.6	13.6	14.1	14.1	14.4	14.9	15.2
85°	7.6	7.3	7.6	7.6	7.6	7.9	8.2	7.9	8.4	9.0	9.0
87.5°	2.2	2.2	2.4	2.7	2.7	3.0	3.0	3.0	3.3	3.3	3.5
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6
2.5°	856.9	855.6	852.0	848.8	842.8	837.9	836.3	836.5	829.2	821.6	819.4
5°	880.6	875.7	868.6	861.3	852.3	843.3	837.6	833.0	821.6	810.2	803.7
7.5°	900.1	892.3	881.9	870.2	858.6	845.2	836.0	827.3	811.5	796.1	787.6
10°	918.1	906.9	892.8	877.6	862.1	844.7	831.4	817.8	798.0	780.6	766.2
12.5°	935.2	917.5	903.1	881.1	864.0	840.4	822.1	806.4	783.0	761.3	745.2
15°	936.8	924.3	905.0	882.2	856.1	834.1	811.3	792.8	766.2	742.0	714.5
17.5°	936.6	926.8	906.7	883.3	852.0	823.2	798.5	774.3	743.9	715.6	692.0
20°	926.8	920.0	902.6	874.9	843.3	810.2	782.7	754.2	718.6	689.5	663.7
22.5°	903.7	905.3	891.7	867.0	833.0	796.1	764.3	731.4	694.9	661.5	628.9
25°	864.5	881.9	877.9	854.8	818.6	778.1	742.0	705.0	665.9	630.3	600.1
27.5°	815.9	848.5	855.6	837.6	803.1	757.7	716.7	676.5	636.5	598.2	567.2
30°	758.3	806.9	824.9	815.1	783.3	735.7	688.2	648.7	605.0	564.2	531.6
32.5°	685.7	753.9	785.5	788.4	762.3	711.3	658.5	616.1	571.3	532.7	497.6
35°	604.7	688.4	739.8	753.7	734.9	684.3	628.9	584.1	536.2	497.4	462.0
37.5°	523.2	621.6	689.0	715.9	703.4	654.5	595.7	550.4	503.1	463.4	430.2
40°	448.2	541.7	629.2	671.3	667.5	622.1	562.9	515.8	467.7	431.0	394.6
42.5°	381.0	471.3	567.5	624.0	627.0	587.3	526.7	479.4	433.2	396.8	358.8
45°	328.0	407.4	502.8	570.2	583.2	550.6	489.2	440.6	398.4	364.2	326.1
47.5°	285.6	347.3	435.9	515.0	538.1	509.6	450.9	404.7	365.0	335.7	299.8
50°	249.0	306.8	382.1	455.2	489.2	467.7	412.8	368.8	332.9	304.7	273.1
52.5°	216.3	261.2	326.4	396.5	442.2	422.6	375.9	335.4	301.7	275.3	249.0
55°	189.4	226.9	284.6	347.1	389.2	378.3	336.7	300.6	271.0	246.0	224.5
57.5°	161.7	193.2	239.7	295.4	336.7	335.1	300.9	266.1	242.7	219.1	203.6
60°	137.5	163.1	200.8	248.1	289.7	290.0	263.4	235.9	215.8	195.4	180.7
62.5°	116.1	136.4	169.3	207.4	240.5	249.0	229.1	205.2	188.9	173.1	160.6
65°	97.6	112.8	137.5	172.0	198.1	209.5	196.5	179.1	165.5	151.4	140.2
67.5°	80.4	91.6	109.8	137.0	163.1	171.5	166.1	152.7	143.0	131.3	122.8
70°	63.3	72.8	85.6	106.0	127.5	139.2	137.5	128.0	119.9	111.4	103.5
72.5°	50.3	55.7	65.5	80.2	97.3	110.3	110.9	106.0	99.2	92.1	87.0
75°	40.5	42.9	47.6	59.0	72.6	83.4	87.2	84.8	79.4	75.0	71.5
77.5°	31.3	33.4	36.4	41.9	52.5	60.9	65.5	65.8	62.5	58.7	56.0
80°	23.4	24.2	26.4	29.1	34.5	41.9	47.3	47.3	45.4	43.5	41.9
82.5°	16.0	16.9	17.9	19.3	22.0	26.4	31.3	32.1	31.0	30.4	28.3
85°	9.0	9.8	10.3	11.1	12.2	14.4	17.9	19.0	19.3	17.7	16.6
87.5°	3.5	3.5	3.8	4.1	4.3	5.2	6.5	8.2	8.2	7.3	7.1
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°	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6	830.6
2.5°	816.7	812.9	808.0	803.7	797.7	791.7	790.6	792.8	793.3	790.6	791.4
5°	797.4	790.3	784.4	774.6	768.3	760.2	754.7	754.7	754.7	750.7	746.9
7.5°	777.3	767.8	756.4	747.1	734.4	723.8	718.6	716.1	711.3	707.2	702.6
10°	753.9	740.6	726.5	712.1	700.9	686.3	677.6	672.1	663.7	660.2	653.4
12.5°	726.5	713.2	696.0	672.7	669.4	651.5	639.2	629.2	618.8	610.4	607.4
15°	704.5	681.4	658.5	641.9	617.8	607.2	589.2	587.6	579.2	554.4	535.1
17.5°	668.9	648.2	622.9	604.4	585.1	561.5	542.5	523.7	505.8	488.4	487.8
20°	637.3	613.1	589.2	569.1	535.4	501.7	490.0	472.9	462.3	448.4	444.4
22.5°	602.8	577.5	547.6	518.3	478.9	457.7	444.9	431.3	420.7	414.5	408.2
25°	568.0	542.7	503.1	466.9	440.0	423.4	412.6	397.9	390.3	384.8	376.7
27.5°	534.1	502.0	460.1	431.3	409.6	390.8	381.0	369.1	360.7	353.6	348.4
30°	500.4	456.3	420.7	398.4	376.1	364.5	351.7	342.7	336.5	329.9	321.5
32.5°	463.4	417.2	394.1	366.6	353.6	336.7	327.5	318.3	310.1	305.5	302.5
35°	420.4	383.2	362.6	342.4	325.9	314.7	301.7	296.0	291.6	282.7	278.8
37.5°	384.0	357.1	335.4	317.4	302.2	290.3	284.3	274.5	268.2	265.3	261.2
40°	353.9	329.9	311.2	293.0	280.2	271.5	260.9	255.7	247.6	244.6	241.3
42.5°	327.8	305.8	286.2	272.3	261.2	249.2	243.8	235.1	231.6	224.2	221.5
45°	301.4	281.8	264.7	251.1	240.5	233.2	223.4	218.0	211.7	207.9	200.6
47.5°	275.0	257.6	243.5	232.1	222.9	213.9	205.7	201.1	193.2	189.2	185.4
50°	254.7	237.8	224.5	213.1	203.6	194.6	189.4	181.8	174.8	170.1	168.8
52.5°	230.5	215.8	203.6	194.9	185.4	178.8	171.8	163.3	159.8	155.2	154.1
55°	209.0	197.0	186.7	177.5	169.3	162.0	153.8	147.8	145.1	143.0	141.3
57.5°	188.9	177.5	168.0	159.5	152.5	144.9	138.1	134.5	132.1	129.6	128.0
60°	169.0	158.7	150.0	143.0	135.6	128.3	123.4	120.4	118.5	115.0	113.9
62.5°	151.4	141.9	132.9	126.4	119.6	113.9	109.8	105.7	102.7	100.0	94.3
65°	132.1	123.7	116.9	110.3	103.8	99.5	94.9	90.2	86.4	86.4	86.4
67.5°	115.0	107.6	100.6	94.9	89.1	84.0	79.4	79.1	77.7	77.2	76.4
70°	97.6	92.4	85.9	79.6	73.9	71.5	70.7	69.3	67.7	67.4	66.3
72.5°	81.8	75.8	69.8	64.4	63.3	62.2	60.6	59.2	58.2	57.3	56.8
75°	66.9	60.9	56.0	54.6	53.3	51.4	50.0	48.9	48.4	48.4	48.1
77.5°	51.1	47.6	45.4	43.2	42.1	41.0	40.2	39.7	38.9	39.1	38.6
80°	37.5	36.4	34.5	33.2	32.6	31.5	31.0	30.7	30.2	30.2	29.9
82.5°	26.9	25.0	24.2	23.4	22.8	22.3	22.6	22.3	22.0	21.7	22.0
85°	15.5	15.2	14.7	14.7	14.7	14.4	14.4	14.4	14.1	13.9	13.9
87.5°	6.8	7.1	7.1	6.5	7.3	7.3	7.1	7.1	6.8	7.3	6.8
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: P243268

CATALOG NUMBER: S122RDRP-H485D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	830.6	830.6	830.6	830.6
2.5°	787.9	787.6	786.0	783.3
5°	745.2	744.1	741.4	743.6
7.5°	699.6	696.6	693.9	695.2
10°	650.6	649.6	647.9	644.7
12.5°	596.6	600.9	596.3	606.6
15°	516.4	535.7	511.5	519.6
17.5°	476.4	476.7	473.4	469.6
20°	438.9	429.4	432.9	426.7
22.5°	402.8	400.6	399.5	397.3
25°	370.4	366.4	365.0	366.4
27.5°	346.5	344.6	339.5	338.6
30°	316.6	315.8	314.2	313.6
32.5°	297.9	294.3	293.5	290.3
35°	276.9	275.0	273.7	272.9
37.5°	256.0	254.9	252.5	253.8
40°	238.9	233.5	231.3	231.0
42.5°	220.1	217.2	212.8	211.4
45°	198.4	197.0	195.7	195.1
47.5°	179.4	178.6	176.9	176.1
50°	165.8	163.6	163.3	163.1
52.5°	152.7	151.9	151.1	152.2
55°	140.5	139.4	138.6	138.6
57.5°	127.2	125.3	123.7	123.9
60°	111.7	110.6	109.3	108.7
62.5°	93.8	93.8	93.5	93.5
65°	85.3	84.8	84.5	84.8
67.5°	76.1	75.6	74.7	75.0
70°	65.5	65.2	65.5	65.2
72.5°	56.0	55.7	56.0	56.5
75°	47.3	47.0	46.7	46.7
77.5°	38.3	38.0	37.5	38.0
80°	29.9	29.6	29.4	29.4
82.5°	21.2	21.5	21.2	21.2
85°	13.9	14.1	13.9	13.6
87.5°	7.1	7.3	6.8	6.5
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P243268
 CATALOG NUMBER: S122RDRP-H485D930-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	14.43	15.89	14.80	16.20	16.52	20.77	22.22	21.13	22.53	22.85
	3H	15.61	16.91	15.98	17.24	17.60	22.02	23.32	22.40	23.65	24.01
	4H	16.06	17.28	16.46	17.63	18.01	22.45	23.67	22.85	24.02	24.40
	6H	16.39	17.52	16.81	17.89	18.28	22.74	23.87	23.16	24.24	24.63
	8H	16.49	17.56	16.92	17.95	18.36	22.83	23.90	23.26	24.29	24.69
	12H	16.55	17.57	16.98	17.95	18.38	22.88	23.90	23.31	24.28	24.71
4H	2H	15.16	16.38	15.56	16.73	17.11	20.75	21.97	21.15	22.32	22.70
	3H	16.49	17.50	16.90	17.90	18.30	22.13	23.14	22.55	23.55	23.95
	4H	17.04	17.94	17.47	18.36	18.80	22.66	23.57	23.10	23.99	24.43
	6H	17.47	18.26	17.93	18.70	19.16	23.08	23.87	23.54	24.31	24.77
	8H	17.60	18.33	18.06	18.78	19.25	23.21	23.95	23.68	24.39	24.86
	12H	17.68	18.33	18.16	18.81	19.29	23.30	23.96	23.79	24.44	24.91
8H	4H	17.38	18.12	17.85	18.56	19.03	22.66	23.40	23.12	23.84	24.31
	6H	17.91	18.51	18.41	19.01	19.48	23.12	23.73	23.62	24.22	24.70
	8H	18.09	18.64	18.61	19.15	19.64	23.30	23.84	23.81	24.35	24.84
	12H	18.22	18.70	18.74	19.20	19.76	23.44	23.92	23.95	24.41	24.98
12H	4H	17.43	18.08	17.91	18.56	19.03	22.64	23.29	23.12	23.77	24.25
	6H	17.97	18.51	18.49	19.02	19.51	23.10	23.65	23.62	24.16	24.65
	8H	18.20	18.68	18.71	19.18	19.74	23.31	23.79	23.82	24.28	24.85