

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: P242741

Luminaire Tested: S124RDRP-S350D835-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242741
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-S350D835-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

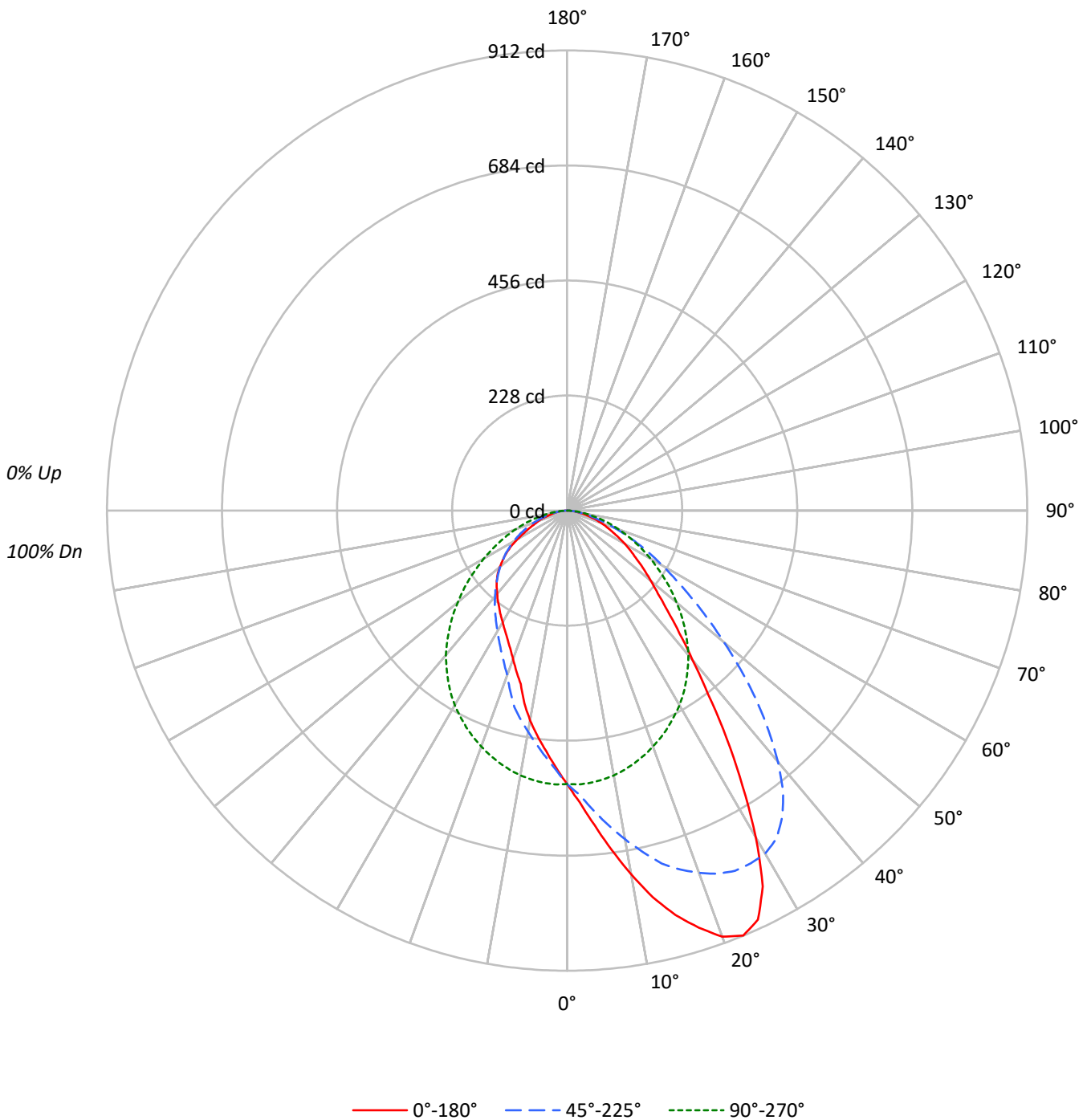
Lumens per Lamp: N/A
Luminaire Lumens: 1369.7 lumens
Efficiency: N/A
Efficacy: 118.1 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 11.6
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: P242741

CATALOG NUMBER: S124RDRP-S350D835-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot



TEST NUMBER: P242741

CATALOG NUMBER: S124RDRP-S350D835-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				86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74				74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63				63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55				55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48				48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43				43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38				38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34				34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31				31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28				28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	4817	4817	4817	4817	4817
5°	5587	5318	4831	4371	4270
10°	6609	5971	4810	4017	3811
15°	7634	6666	4765	3712	3274
20°	8500	7228	4704	3283	2962
25°	8774	7726	4644	3026	2749
30°	7682	8058	4572	2835	2621
35°	5979	8061	4463	2691	2545
40°	4484	7541	4340	2576	2503
45°	3540	6655	4141	2478	2481
50°	2988	5601	3912	2394	2409
55°	2605	4641	3660	2304	2280
60°	2345	3884	3399	2174	2018
65°	2065	3237	3117	2025	1735
70°	1861	2589	2825	1827	1567
75°	1559	2009	2504	1604	1336
80°	1321	1520	2135	1331	1254
85°	1112	1203	1673	1183	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 7108 cd/sqm



TEST NUMBER: P242741

CATALOG NUMBER: S124RDRP-S350D835-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.5	3.8
10°-20°	158.4	11.6
20°-30°	248.2	18.1
30°-40°	275.6	20.1
40°-50°	244.2	17.8
50°-60°	190.3	13.9
60°-70°	124.5	9.1
70°-80°	61.1	4.5
80°-90°	14.9	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°	459.1	33.5
0°-40°	734.7	53.6
0°-60°	1169.3	85.4
0°-90°	1369.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1369.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	542	542	542	542	542	
5°	626	596	541	490	478	63
15°	830	724	518	403	356	236
25°	895	788	474	308	280	399
35°	551	743	411	248	234	345
45°	282	529	329	197	197	222
55°	168	300	236	149	147	153
65°	98	154	148	96	82	99
75°	45	58	73	47	39	50
85°	11	12	16	12	11	13
90°	0	0	0	0	0	



TEST NUMBER: P242741

CATALOG NUMBER: S124RDRP-S350D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	579.0	580.9	579.0	578.7	576.6	575.9	575.0	572.2	567.0	563.9	564.6
5°	626.1	631.6	628.5	628.1	623.3	618.5	615.4	608.4	601.0	596.0	591.8
7.5°	678.5	681.8	679.6	677.2	668.9	666.3	659.1	650.8	638.3	629.0	620.4
10°	732.2	734.8	734.0	728.3	722.6	711.0	704.5	691.6	674.8	661.5	649.0
12.5°	785.1	787.9	778.5	780.2	768.2	759.7	748.4	731.3	711.3	693.1	676.8
15°	829.6	826.1	826.1	821.7	809.7	797.1	786.4	769.3	744.9	724.4	702.7
17.5°	866.3	867.8	866.0	854.9	846.2	833.3	814.1	794.7	773.5	746.0	724.6
20°	898.6	898.6	896.6	889.6	877.4	863.4	842.2	820.6	791.8	764.1	739.2
22.5°	911.7	912.5	910.1	904.7	894.0	880.5	863.2	841.2	811.2	779.2	746.8
25°	894.6	898.8	899.2	897.7	894.4	886.1	870.6	848.1	821.5	787.7	754.5
27.5°	839.6	845.1	847.3	852.1	861.0	864.3	862.3	847.3	821.5	788.1	755.1
30°	748.4	752.7	766.9	785.5	799.9	813.0	824.3	827.4	814.3	785.1	749.9
32.5°	647.1	653.4	667.6	687.9	714.3	738.8	767.8	783.3	786.1	771.5	739.6
35°	551.0	555.4	568.5	589.4	618.3	651.2	691.6	723.1	744.4	742.9	723.1
37.5°	458.9	465.0	478.3	495.6	523.9	566.1	604.3	646.4	684.8	703.6	693.6
40°	386.4	386.6	399.5	417.4	443.6	479.2	521.8	569.8	613.9	649.9	656.9
42.5°	329.2	329.2	336.6	356.3	373.3	406.3	446.4	494.0	547.5	590.5	611.9
45°	281.6	283.6	290.6	302.1	317.0	345.4	377.9	422.2	480.1	529.4	560.2
47.5°	244.1	247.6	251.7	262.2	274.4	294.3	322.0	363.5	411.5	466.3	508.9
50°	216.1	216.6	222.2	227.5	237.7	252.8	276.4	309.6	352.8	405.0	453.7
52.5°	192.1	191.9	194.7	201.7	209.6	220.5	238.4	267.9	305.0	350.4	401.0
55°	168.1	169.2	171.8	177.1	183.4	191.7	206.7	229.4	259.6	299.5	345.2
57.5°	149.8	150.4	152.8	154.8	160.9	167.0	179.2	195.6	222.0	255.4	300.2
60°	131.9	132.1	132.7	136.0	140.6	146.3	153.9	167.2	188.6	218.5	252.2
62.5°	114.4	114.8	115.9	118.1	121.4	124.9	133.0	143.0	159.8	184.3	213.7
65°	98.2	98.5	100.0	100.9	103.7	107.2	113.1	120.3	132.5	153.9	176.8
67.5°	84.7	84.7	84.7	86.0	88.2	90.6	94.5	100.6	110.5	124.2	145.6
70°	71.6	71.6	72.0	72.7	73.8	75.8	77.7	82.1	88.9	99.6	115.1
72.5°	59.4	59.6	60.0	60.0	60.5	62.0	63.3	65.7	70.3	77.7	89.5
75°	45.4	46.1	47.2	48.0	49.1	48.9	50.4	52.2	53.7	58.5	65.7
77.5°	35.8	35.4	35.4	36.2	36.5	36.7	37.8	39.3	40.6	43.2	45.8
80°	25.8	25.8	26.4	26.6	26.4	26.6	27.7	28.4	28.8	29.7	32.1
82.5°	17.9	18.3	17.9	18.1	18.3	18.6	19.4	19.4	19.9	20.1	20.7
85°	10.9	11.1	11.4	10.9	10.9	10.9	11.4	11.6	12.0	11.8	12.2
87.5°	4.8	4.6	4.8	4.8	5.0	4.8	5.0	5.5	5.0	5.2	5.2
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: P242741

CATALOG NUMBER: S124RDRP-S350D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	562.4	559.3	557.8	554.3	550.1	548.0	546.0	543.2	539.5	535.5	532.7
5°	586.6	581.4	574.8	567.0	560.0	553.2	547.3	541.4	534.6	527.7	520.7
7.5°	610.6	601.2	591.2	579.2	567.6	556.9	547.3	537.9	527.2	517.6	508.7
10°	635.9	622.0	606.5	590.1	573.7	559.5	545.6	532.9	518.9	506.5	496.0
12.5°	656.5	639.4	620.0	598.6	578.1	560.2	543.6	526.1	509.8	496.0	481.2
15°	679.6	657.1	632.0	607.6	582.0	558.7	537.0	517.8	499.7	480.7	467.4
17.5°	695.5	669.6	639.9	611.5	582.2	555.2	530.7	508.4	487.7	468.7	453.0
20°	709.5	680.0	646.2	612.8	579.0	549.5	522.6	497.3	475.7	454.7	438.4
22.5°	717.4	684.0	646.2	610.8	575.5	542.9	512.8	486.2	462.2	441.2	422.7
25°	717.8	682.9	645.1	604.9	566.5	532.7	502.1	473.5	447.3	426.4	407.2
27.5°	716.1	675.7	637.7	596.9	557.4	521.3	489.7	459.3	433.4	411.1	391.4
30°	710.8	666.7	625.2	582.5	542.3	508.0	474.2	445.4	418.1	394.7	374.8
32.5°	699.5	655.8	610.4	566.3	525.5	489.9	458.2	429.2	402.6	378.6	357.2
35°	683.8	639.4	591.0	546.0	506.0	469.4	439.2	411.3	385.8	360.2	337.9
37.5°	665.6	619.4	571.5	522.2	482.5	447.5	419.4	392.5	367.6	344.3	319.6
40°	637.7	596.4	546.7	497.8	456.7	423.3	397.8	374.0	348.9	325.7	301.1
42.5°	603.9	570.2	519.8	470.7	430.3	398.4	375.1	351.9	329.7	307.4	281.4
45°	565.4	538.8	491.6	444.5	403.7	371.8	350.0	329.4	309.3	288.0	263.7
47.5°	522.6	503.0	461.9	412.6	374.4	345.2	324.2	307.2	289.5	267.9	246.0
50°	477.7	466.1	426.8	382.7	346.7	320.3	298.7	282.9	268.7	248.2	229.2
52.5°	429.6	424.8	393.2	351.5	317.0	291.2	273.5	259.8	245.4	229.2	211.8
55°	380.7	384.0	355.8	319.4	286.6	264.8	248.0	236.2	224.0	209.6	195.8
57.5°	329.9	342.3	321.4	288.4	256.7	236.2	223.3	212.9	202.6	190.4	177.9
60°	285.1	295.2	284.5	256.3	229.4	210.7	198.9	191.2	181.0	170.1	161.1
62.5°	241.5	252.4	247.1	225.7	201.3	185.8	175.7	168.8	161.8	152.6	143.2
65°	206.3	213.3	210.2	194.5	176.8	163.1	153.5	148.2	141.2	134.3	126.0
67.5°	165.0	178.8	176.6	167.9	150.9	139.9	133.2	128.4	121.8	116.6	110.7
70°	129.9	142.3	142.1	135.4	127.1	117.0	112.6	108.7	103.0	98.0	93.4
72.5°	100.4	111.6	113.7	108.9	103.9	96.9	92.8	90.4	84.9	81.9	78.4
75°	74.4	82.7	84.9	84.9	82.3	78.4	74.7	72.9	69.0	65.9	63.7
77.5°	52.4	58.1	61.3	62.0	62.2	60.7	57.2	55.9	52.8	51.7	49.3
80°	34.5	38.0	41.9	43.2	44.3	43.9	42.6	41.7	38.9	37.8	36.9
82.5°	21.2	22.7	25.8	29.0	28.4	29.9	28.8	28.2	26.2	26.0	25.1
85°	12.4	12.7	13.1	15.1	16.2	16.6	16.8	16.4	15.7	15.7	14.2
87.5°	5.2	5.0	5.5	5.5	5.7	6.5	7.2	7.4	6.8	6.1	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: P242741

CATALOG NUMBER: S124RDRP-S350D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	529.6	527.4	524.6	521.3	517.4	513.9	512.4	513.7	514.3	512.6	512.4
5°	515.9	510.4	506.0	499.5	494.3	489.9	486.8	485.5	486.0	482.5	481.6
7.5°	500.6	494.7	487.5	480.1	473.1	467.0	463.7	462.2	458.5	456.9	454.5
10°	486.0	477.2	470.2	461.1	452.8	445.1	441.4	438.4	434.7	432.9	429.2
12.5°	470.9	460.4	452.6	443.0	434.4	424.8	421.3	415.0	408.7	404.5	399.5
15°	456.9	444.7	435.3	424.0	413.9	403.4	394.1	383.6	379.6	371.3	366.5
17.5°	440.3	427.7	417.2	402.6	387.5	374.8	364.4	353.4	347.6	341.9	339.5
20°	424.0	412.6	396.5	378.8	361.5	347.1	339.0	332.5	325.9	322.2	319.6
22.5°	408.5	393.2	373.8	354.3	337.1	326.6	320.0	313.3	308.3	304.8	301.1
25°	390.8	371.8	351.9	330.1	318.3	308.5	301.1	295.6	292.3	287.7	286.0
27.5°	373.5	350.6	328.1	313.3	301.1	291.7	284.9	281.0	276.6	273.5	271.1
30°	353.0	329.7	310.0	296.0	283.6	276.2	270.9	266.1	262.8	260.4	258.7
32.5°	332.7	309.3	293.6	278.3	269.2	262.0	256.3	253.0	250.6	247.3	246.5
35°	313.3	292.5	278.1	264.6	254.6	248.0	243.6	239.9	237.7	236.9	236.2
37.5°	294.3	277.0	261.1	250.2	240.8	235.8	230.1	228.4	226.8	224.9	225.7
40°	276.4	260.4	246.7	234.9	227.7	222.0	219.0	216.8	215.5	215.5	215.5
42.5°	260.9	245.4	232.1	221.8	214.6	210.0	206.5	204.8	204.6	204.3	205.7
45°	244.7	230.3	216.8	208.1	201.9	197.1	195.2	193.6	193.6	194.5	194.7
47.5°	228.6	215.0	204.1	194.1	188.4	185.3	183.6	182.7	182.7	183.8	184.7
50°	213.9	200.6	189.9	181.2	176.0	173.1	171.6	171.2	171.6	171.6	173.1
52.5°	198.0	186.4	176.0	169.0	162.9	160.2	159.6	158.9	159.1	160.0	160.5
55°	182.5	171.8	161.8	154.8	150.4	148.7	146.7	146.9	146.5	146.9	146.9
57.5°	166.8	157.4	147.6	141.9	138.2	135.6	133.4	134.0	133.4	133.4	133.2
60°	151.7	141.2	133.8	128.8	124.4	122.3	120.3	120.7	120.1	119.6	118.8
62.5°	135.4	127.1	120.1	115.3	112.0	109.4	107.4	106.8	105.0	103.3	101.1
65°	119.6	112.4	106.1	101.5	98.2	96.3	94.7	93.4	90.2	86.7	84.9
67.5°	104.1	98.9	92.8	88.9	86.2	83.6	80.8	78.4	75.1	72.9	71.8
70°	89.3	84.3	79.2	75.5	72.7	70.3	67.0	65.5	63.3	62.4	61.3
72.5°	75.1	70.5	65.9	62.7	59.6	57.9	55.5	53.9	53.3	53.0	52.0
75°	60.7	57.0	53.5	50.4	48.0	46.7	45.6	44.5	44.1	42.1	41.0
77.5°	46.7	44.1	41.9	39.5	38.0	37.1	34.7	33.2	32.3	31.2	31.0
80°	34.5	32.7	30.6	29.3	26.9	26.0	25.1	24.9	24.7	24.5	24.2
82.5°	23.8	22.0	19.9	19.2	19.0	18.6	18.1	17.9	17.7	17.9	17.9
85°	13.1	12.2	12.2	12.0	11.8	11.6	11.4	11.4	11.1	11.4	11.1
87.5°	5.5	5.2	5.2	4.8	5.0	5.0	4.8	4.8	5.0	4.6	4.6
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: P242741

CATALOG NUMBER: S124RDRP-S350D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	541.9	541.9	541.9	541.9
2.5°	511.1	511.5	510.0	509.5
5°	479.9	479.4	478.3	478.5
7.5°	452.8	451.3	452.3	450.6
10°	428.3	425.9	424.0	422.2
12.5°	394.9	393.0	390.1	391.2
15°	363.7	360.4	355.2	355.8
17.5°	335.8	336.2	333.1	334.0
20°	315.0	313.5	313.7	313.1
22.5°	300.6	298.7	296.7	295.2
25°	284.0	282.7	280.7	280.3
27.5°	269.4	269.2	268.3	267.2
30°	257.0	256.5	256.1	255.4
32.5°	245.8	245.6	245.2	245.4
35°	235.3	235.1	234.7	234.5
37.5°	225.5	226.2	225.7	225.7
40°	215.3	215.5	215.9	215.7
42.5°	206.7	206.7	207.4	206.5
45°	196.3	197.6	197.4	197.4
47.5°	185.1	186.7	186.9	186.9
50°	174.2	173.8	174.4	174.2
52.5°	160.9	161.1	160.9	160.7
55°	147.1	147.4	146.9	147.1
57.5°	132.5	131.6	132.3	131.9
60°	116.6	114.8	114.4	113.5
62.5°	98.7	97.6	95.8	96.9
65°	83.2	82.3	81.6	82.5
67.5°	70.7	70.3	70.3	69.9
70°	61.3	60.7	60.7	60.3
72.5°	51.7	51.1	51.3	51.1
75°	39.7	38.6	38.6	38.9
77.5°	31.0	30.8	31.2	30.6
80°	24.2	24.0	23.8	24.5
82.5°	17.5	17.5	17.5	18.3
85°	11.4	10.9	11.4	10.9
87.5°	5.0	4.8	4.6	4.8
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242741
 CATALOG NUMBER: S124RDRP-S350D835-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	14.56	16.09	14.93	16.40	16.71	16.38	17.90	16.75	18.22	18.53
	3H	15.79	17.16	16.17	17.48	17.85	17.84	19.20	18.21	19.53	19.89
	4H	16.22	17.50	16.62	17.85	18.23	18.35	19.63	18.75	19.98	20.36
	6H	16.50	17.68	16.91	18.05	18.44	18.70	19.89	19.12	20.25	20.64
	8H	16.58	17.70	17.00	18.09	18.49	18.81	19.93	19.23	20.32	20.72
	12H	16.63	17.70	17.06	18.09	18.52	18.86	19.94	19.29	20.32	20.75
4H	2H	15.82	17.10	16.22	17.45	17.83	16.89	18.17	17.29	18.52	18.90
	3H	17.06	18.12	17.47	18.52	18.92	18.63	19.69	19.04	20.09	20.49
	4H	17.52	18.48	17.96	18.89	19.33	19.26	20.21	19.69	20.63	21.07
	6H	17.85	18.68	18.30	19.12	19.58	19.71	20.54	20.17	20.99	21.45
	8H	17.94	18.72	18.40	19.16	19.63	19.85	20.62	20.31	21.07	21.54
	12H	18.01	18.70	18.49	19.18	19.65	19.94	20.63	20.42	21.11	21.58
8H	4H	17.93	18.70	18.39	19.15	19.61	19.37	20.14	19.83	20.59	21.06
	6H	18.31	18.95	18.81	19.44	19.92	19.91	20.55	20.41	21.04	21.52
	8H	18.45	19.02	18.96	19.53	20.02	20.10	20.68	20.62	21.19	21.67
	12H	18.56	19.07	19.07	19.56	20.12	20.25	20.76	20.76	21.25	21.81
12H	4H	17.96	18.65	18.44	19.13	19.60	19.36	20.05	19.84	20.53	21.00
	6H	18.36	18.93	18.87	19.44	19.93	19.90	20.48	20.41	20.99	21.47
	8H	18.54	19.05	19.05	19.54	20.10	20.13	20.64	20.64	21.13	21.69