

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: P243607

Luminaire Tested: S124RDRP-H575D840-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243607
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-70)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-H575D840-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

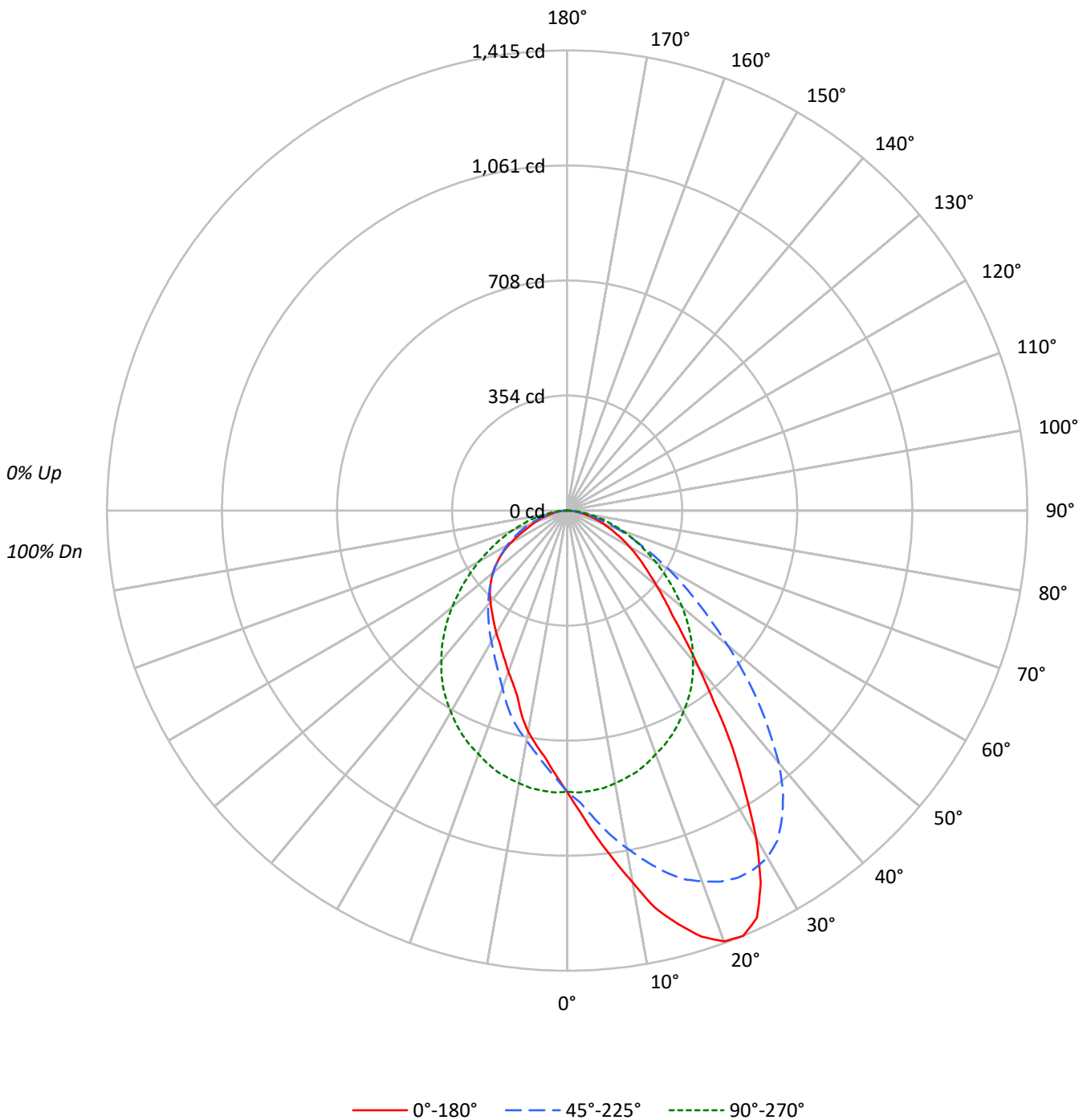
Lumens per Lamp: N/A
Luminaire Lumens: 2231.1 lumens
Efficiency: N/A
Efficacy: 129.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

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: P243607

CATALOG NUMBER: S124RDRP-H575D840-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot



TEST NUMBER: P243607

CATALOG NUMBER: S124RDRP-H575D840-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	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86				86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73				73
3	92	83	75	69	90	81	74	68	78	72	67	76	70	66	73	69	65	63				63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55				55
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48				48
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44	42				42
7	68	55	46	41	66	54	46	40	53	45	40	51	45	40	50	44	40	38				38
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36	34				34
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32	31				31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30	28				28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	7684	7684	7684	7684	7684
5°	8951	8468	7716	7004	6813
10°	10483	9507	7684	6481	6229
15°	12112	10570	7645	6056	5440
20°	13336	11479	7537	5500	4987
25°	13550	12213	7469	5075	4662
30°	11927	12646	7336	4775	4471
35°	9571	12504	7211	4562	4325
40°	7281	11745	6981	4379	4257
45°	5780	10435	6724	4228	4206
50°	4962	8896	6392	4092	4133
55°	4383	7553	5979	3949	3933
60°	3925	6386	5548	3771	3604
65°	3456	5254	5126	3513	3031
70°	3080	4330	4655	3220	2729
75°	2682	3400	4231	2833	2428
80°	2273	2600	3634	2396	2242
85°	1989	2132	3121	2336	2264

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 11231 cd/sqm



TEST NUMBER: P243607

CATALOG NUMBER: S124RDRP-H575D840-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	3.8
10°-20°	254.4	11.4
20°-30°	397.0	17.8
30°-40°	442.7	19.8
40°-50°	397.9	17.8
50°-60°	314.4	14.1
60°-70°	208.8	9.4
70°-80°	104.7	4.7
80°-90°	27.3	1.2
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°	735.2	33.0
0°-40°	1177.9	52.8
0°-60°	1890.3	84.7
0°-90°	2231.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2231.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	864	864	864	864	864	
5°	1003	949	865	785	764	100
15°	1316	1149	831	658	591	374
25°	1382	1245	762	517	475	618
35°	882	1152	664	420	399	548
45°	460	830	535	336	335	364
55°	283	487	386	255	254	255
65°	164	250	244	167	144	164
75°	78	99	123	82	71	84
85°	20	21	31	23	22	22
90°	0	0	0	0	0	



TEST NUMBER: P243607

CATALOG NUMBER: S124RDRP-H575D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5
2.5°	928.4	925.1	924.7	920.3	920.0	915.6	914.3	910.6	903.2	897.5	897.8
5°	1003.2	1000.5	1000.1	995.7	994.4	989.0	980.6	970.5	958.7	949.0	942.6
7.5°	1079.9	1084.6	1079.6	1079.6	1069.8	1063.4	1046.9	1038.5	1018.3	1004.2	989.4
10°	1161.4	1165.7	1163.7	1159.7	1146.9	1133.8	1116.6	1100.1	1075.5	1053.3	1038.5
12.5°	1252.3	1239.1	1247.5	1235.1	1224.7	1203.8	1187.3	1154.3	1134.8	1102.5	1073.5
15°	1316.2	1311.2	1310.8	1302.4	1291.0	1268.1	1250.2	1215.9	1182.6	1148.6	1115.9
17.5°	1373.4	1374.1	1369.4	1355.9	1341.1	1318.9	1294.7	1264.0	1226.0	1188.3	1149.6
20°	1409.8	1410.1	1406.8	1399.7	1383.5	1363.3	1338.4	1298.4	1255.3	1213.5	1174.8
22.5°	1415.2	1416.2	1415.2	1410.8	1399.7	1383.2	1360.3	1326.3	1282.9	1235.1	1189.0
25°	1381.5	1384.9	1385.2	1391.3	1385.6	1379.2	1362.3	1333.7	1293.7	1245.2	1195.0
27.5°	1289.3	1298.7	1307.5	1318.2	1328.0	1336.8	1338.1	1323.0	1288.6	1243.5	1195.7
30°	1162.0	1173.2	1190.7	1202.1	1232.4	1251.6	1277.5	1283.2	1266.7	1232.1	1185.9
32.5°	1013.9	1025.7	1032.4	1070.1	1113.6	1144.9	1188.0	1213.5	1219.9	1203.4	1165.7
35°	882.0	884.0	889.0	931.8	974.9	1022.3	1075.9	1120.3	1150.6	1152.3	1133.8
37.5°	740.6	742.9	762.8	795.5	832.8	885.0	946.6	1009.9	1065.4	1091.0	1085.6
40°	627.5	626.8	648.0	676.3	712.6	766.8	830.5	899.5	958.7	1012.2	1025.0
42.5°	535.9	538.3	556.4	572.9	608.0	646.0	714.0	785.7	861.8	920.3	959.4
45°	459.8	465.9	478.3	493.8	520.1	555.1	610.6	682.0	759.8	830.1	876.9
47.5°	407.3	409.0	415.4	434.6	452.1	480.4	527.8	588.4	657.4	736.2	797.8
50°	358.8	362.9	365.2	376.7	393.9	420.8	457.5	502.6	570.9	643.3	720.4
52.5°	317.1	319.5	323.8	334.3	347.7	366.6	395.5	435.3	492.2	559.1	631.9
55°	282.8	283.1	287.5	294.9	305.3	319.8	347.4	376.0	426.5	487.4	553.4
57.5°	251.8	249.8	253.8	258.2	268.3	280.7	298.6	327.9	367.3	419.1	478.7
60°	220.8	222.5	222.2	227.2	232.6	245.1	260.2	279.4	311.7	359.2	409.7
62.5°	191.9	191.5	194.9	197.9	201.6	211.7	224.2	240.0	265.3	300.3	349.1
65°	164.3	164.9	167.6	170.0	174.0	180.4	189.9	202.7	222.8	249.8	290.8
67.5°	139.4	141.7	143.1	143.7	147.4	152.2	160.2	170.7	184.5	206.0	240.4
70°	118.5	119.2	119.8	122.2	123.9	126.6	132.6	138.4	150.8	166.6	191.5
72.5°	99.0	98.3	100.3	101.0	101.7	104.4	108.1	111.1	119.2	132.6	148.1
75°	78.1	78.4	78.8	79.8	82.5	82.8	84.5	87.9	93.6	99.0	109.4
77.5°	58.6	59.6	59.2	60.3	61.3	62.3	62.9	66.0	70.0	74.4	79.4
80°	44.4	44.4	44.4	45.1	44.4	46.8	46.8	47.8	48.8	50.8	54.5
82.5°	30.3	31.0	31.3	31.6	32.0	32.0	32.3	33.0	34.3	35.0	36.0
85°	19.5	18.9	19.2	19.2	19.2	19.2	19.9	20.5	20.5	20.9	21.9
87.5°	8.8	8.8	8.8	8.8	8.4	8.8	9.1	9.1	9.4	9.4	10.1
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: P243607

CATALOG NUMBER: S124RDRP-H575D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5
2.5°	895.8	894.8	889.7	884.3	879.3	874.2	872.5	867.5	861.4	856.0	850.0
5°	935.8	927.7	916.6	905.2	893.4	882.6	874.2	864.8	854.0	841.2	831.1
7.5°	976.2	961.4	943.2	926.4	906.2	890.0	873.9	860.4	844.9	826.8	813.0
10°	1015.6	991.0	968.8	942.2	916.6	894.4	873.9	851.3	830.8	811.3	792.1
12.5°	1046.9	1022.3	990.4	957.7	924.7	895.8	868.2	841.6	816.0	792.4	771.2
15°	1082.6	1047.3	1007.9	971.8	926.7	891.1	859.4	830.8	801.5	772.9	749.7
17.5°	1108.9	1067.1	1018.3	976.9	933.5	889.0	851.0	815.0	781.3	751.4	727.5
20°	1129.1	1079.6	1030.8	978.2	926.4	881.0	838.2	796.8	762.8	730.1	704.9
22.5°	1137.8	1085.6	1031.4	974.5	919.3	867.8	823.4	780.6	742.3	708.6	679.3
25°	1141.5	1084.3	1028.1	963.4	907.6	855.0	805.6	761.5	722.1	684.0	655.1
27.5°	1138.5	1077.2	1012.6	951.6	888.4	836.9	784.3	739.6	698.5	661.8	629.5
30°	1130.4	1061.1	996.8	928.4	867.5	813.3	762.1	714.7	673.3	635.9	603.9
32.5°	1109.5	1042.9	969.8	903.2	837.5	784.0	737.6	690.8	648.7	609.6	578.7
35°	1083.6	1018.3	941.9	872.2	807.2	753.0	706.2	664.5	623.1	581.7	550.1
37.5°	1051.0	984.6	910.9	835.8	772.2	719.7	677.0	634.9	593.8	555.8	520.4
40°	1006.9	946.3	872.2	796.8	732.8	682.3	640.3	601.6	565.2	527.8	489.8
42.5°	952.0	905.9	829.5	755.1	692.4	642.3	604.9	570.2	535.2	496.9	462.5
45°	893.4	854.0	784.7	709.6	650.0	601.2	565.5	534.9	501.9	467.9	431.9
47.5°	827.4	798.1	738.2	663.8	601.2	559.5	526.5	498.5	468.6	438.3	403.3
50°	753.0	735.2	684.0	616.4	556.8	514.4	487.1	462.2	436.6	406.3	376.4
52.5°	678.6	675.3	627.5	567.9	511.7	472.3	445.7	422.8	401.9	373.3	348.1
55°	600.5	610.6	570.9	516.1	465.9	427.9	404.3	385.8	367.6	343.4	319.1
57.5°	531.2	542.6	515.4	464.9	418.1	385.8	365.6	348.7	332.9	310.7	294.6
60°	454.4	475.3	460.8	414.7	373.3	344.4	325.5	312.1	298.9	279.7	265.6
62.5°	393.9	408.3	399.9	365.6	328.9	305.3	288.5	276.0	265.6	250.8	237.0
65°	328.9	347.1	342.7	320.1	287.8	266.3	253.5	243.7	232.9	221.2	209.7
67.5°	270.3	289.2	288.2	272.7	248.8	230.9	218.8	211.7	203.0	191.5	184.5
70°	217.5	235.0	235.6	227.9	211.1	194.2	185.5	179.1	172.4	163.9	158.9
72.5°	169.0	184.8	187.5	183.8	173.0	161.9	154.2	149.8	144.1	137.0	132.6
75°	126.2	137.7	144.1	142.4	138.0	130.6	126.2	123.2	117.5	112.4	108.7
77.5°	89.9	99.0	105.4	108.1	106.0	103.0	99.0	96.6	90.6	88.2	86.2
80°	60.3	68.3	74.1	75.7	76.8	76.1	72.4	71.0	68.0	67.0	65.0
82.5°	37.0	41.4	45.4	49.8	51.8	51.8	49.8	50.2	47.5	46.1	45.4
85°	22.6	23.6	24.2	27.6	30.3	31.3	30.3	30.6	29.6	28.6	27.6
87.5°	10.4	10.4	10.8	11.4	12.1	14.1	14.8	15.8	14.5	14.5	12.1
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: P243607

CATALOG NUMBER: S124RDRP-H575D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5	864.5
2.5°	846.3	841.9	838.5	833.2	828.8	821.7	819.4	819.4	820.7	819.0	820.7
5°	824.1	816.0	807.2	799.5	791.1	785.0	779.0	777.6	776.9	772.9	773.2
7.5°	801.9	791.1	780.0	769.9	759.4	750.0	743.6	740.9	738.6	735.9	732.8
10°	777.9	765.5	752.4	740.9	730.8	718.0	711.6	709.6	702.9	701.5	696.8
12.5°	752.7	739.9	726.8	712.0	702.2	689.8	680.3	676.0	669.6	664.8	657.8
15°	732.8	716.7	699.2	684.7	671.9	658.1	645.3	636.9	628.5	615.4	609.0
17.5°	708.3	689.8	674.6	659.1	640.6	620.4	605.3	592.8	583.7	572.9	566.5
20°	681.7	664.5	645.7	623.8	604.2	581.4	567.6	557.1	550.1	543.7	540.3
22.5°	658.1	638.2	612.3	591.5	564.2	546.0	534.9	528.2	521.4	514.7	511.3
25°	632.5	609.3	577.7	552.1	531.5	517.4	506.6	500.2	493.2	489.1	484.1
27.5°	607.3	577.3	545.7	522.4	506.3	489.8	480.7	475.7	470.3	464.5	460.5
30°	576.6	542.6	516.4	495.2	479.0	465.2	458.5	451.1	446.4	443.0	440.6
32.5°	544.7	512.0	488.1	469.9	454.1	443.7	435.3	430.5	426.5	422.8	420.1
35°	514.7	483.1	462.9	445.4	432.2	420.4	414.1	409.7	406.3	403.3	401.9
37.5°	485.1	458.2	436.3	422.5	408.7	399.2	393.2	389.1	387.1	384.1	384.4
40°	455.8	431.6	414.1	398.2	385.4	377.4	372.6	371.0	367.9	366.9	367.9
42.5°	429.5	407.3	390.5	375.7	364.6	356.8	353.1	350.8	349.8	349.4	349.8
45°	404.0	383.1	366.9	354.8	343.4	336.3	333.3	331.6	330.6	332.3	332.6
47.5°	378.4	359.5	345.0	330.9	321.5	316.4	313.4	312.1	313.1	313.7	316.1
50°	353.1	335.6	320.5	308.0	300.6	295.9	294.9	292.5	294.2	295.2	296.9
52.5°	327.5	311.7	298.3	286.5	278.7	275.7	273.3	272.3	274.7	274.7	276.4
55°	301.6	287.8	275.4	264.6	258.5	254.8	253.1	251.8	253.1	253.5	253.1
57.5°	277.4	264.3	251.1	242.0	237.0	232.9	231.3	230.6	230.3	231.6	231.3
60°	251.8	239.3	228.9	219.5	214.4	212.1	208.4	209.0	209.0	209.0	205.7
62.5°	226.2	213.8	204.7	198.3	192.2	188.2	187.5	186.5	184.5	184.1	179.8
65°	200.0	190.5	182.8	176.4	170.3	167.0	166.0	162.9	160.6	156.2	153.2
67.5°	175.7	169.0	159.9	154.5	149.5	145.4	141.7	139.4	134.7	130.3	127.6
70°	151.5	144.4	138.4	132.6	127.6	123.9	119.5	115.1	112.1	109.4	107.4
72.5°	127.2	121.2	116.1	110.8	105.4	101.7	98.3	94.9	93.6	92.2	91.2
75°	104.7	99.0	94.3	89.9	86.9	82.5	80.8	79.4	78.1	76.4	74.4
77.5°	82.8	78.4	74.7	71.0	68.3	66.0	64.6	60.6	57.2	56.6	55.9
80°	61.6	58.2	55.9	53.2	50.2	46.8	45.8	44.4	43.8	43.8	44.1
82.5°	43.1	41.1	38.4	36.0	35.0	33.7	33.7	33.3	33.0	33.3	33.3
85°	26.3	23.6	22.9	22.6	22.9	22.9	22.9	22.9	22.6	22.9	22.2
87.5°	11.4	12.5	12.8	11.8	12.1	11.4	11.8	11.8	11.8	12.1	11.8
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: P243607

CATALOG NUMBER: S124RDRP-H575D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	864.5	864.5	864.5	864.5
2.5°	818.7	818.7	815.3	812.6
5°	772.6	768.2	767.5	763.5
7.5°	729.5	728.8	727.1	727.1
10°	695.1	692.8	690.4	690.1
12.5°	646.7	650.0	646.0	645.0
15°	604.2	601.6	598.2	591.1
17.5°	564.9	559.8	558.5	555.4
20°	533.9	530.2	528.8	527.2
22.5°	504.6	503.9	499.9	498.9
25°	483.1	479.7	477.0	475.3
27.5°	459.5	457.1	455.8	453.1
30°	438.0	437.3	435.6	435.6
32.5°	418.4	416.4	416.4	416.1
35°	400.6	401.3	399.2	398.6
37.5°	383.8	382.7	383.1	382.4
40°	367.3	366.6	366.6	366.9
42.5°	350.4	350.8	351.4	351.4
45°	333.6	333.9	334.6	334.6
47.5°	317.8	317.1	317.8	317.1
50°	297.6	299.6	299.3	298.9
52.5°	277.0	276.4	277.7	277.4
55°	254.8	253.8	255.2	253.8
57.5°	229.9	230.3	230.3	229.6
60°	205.0	204.0	202.7	202.7
62.5°	176.1	173.0	171.0	172.4
65°	148.1	145.8	145.1	144.1
67.5°	125.9	123.2	122.2	121.9
70°	106.7	105.4	105.0	105.0
72.5°	90.6	90.6	89.5	88.9
75°	73.7	72.4	70.7	70.7
77.5°	55.2	54.9	54.5	54.5
80°	43.1	43.1	43.4	43.8
82.5°	32.3	32.7	33.0	33.0
85°	21.9	21.9	22.2	22.2
87.5°	11.8	11.8	11.8	11.4
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P243607
 CATALOG NUMBER: S124RDRP-H575D840-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	16.42	17.96	16.79	18.27	18.59	18.12	19.66	18.49	19.97	20.28
	3H	17.66	19.04	18.04	19.36	19.72	19.60	20.98	19.98	21.31	21.67
	4H	18.09	19.38	18.49	19.73	20.11	20.15	21.44	20.54	21.79	22.16
	6H	18.37	19.56	18.78	19.93	20.32	20.53	21.73	20.94	22.09	22.49
	8H	18.45	19.59	18.88	19.98	20.38	20.65	21.79	21.08	22.18	22.58
	12H	18.51	19.60	18.94	19.98	20.41	20.73	21.82	21.16	22.20	22.63
4H	2H	17.63	18.93	18.03	19.27	19.65	18.65	19.94	19.05	20.29	20.67
	3H	18.90	19.97	19.31	20.37	20.78	20.43	21.50	20.84	21.90	22.30
	4H	19.37	20.34	19.80	20.75	21.19	21.08	22.05	21.52	22.46	22.90
	6H	19.70	20.54	20.16	20.99	21.45	21.58	22.42	22.04	22.86	23.32
	8H	19.81	20.59	20.27	21.04	21.50	21.74	22.52	22.20	22.97	23.43
	12H	19.88	20.59	20.37	21.06	21.53	21.85	22.55	22.33	23.03	23.50
8H	4H	19.78	20.57	20.25	21.01	21.48	21.21	22.00	21.67	22.44	22.91
	6H	20.18	20.83	20.68	21.32	21.80	21.81	22.46	22.30	22.95	23.43
	8H	20.33	20.91	20.84	21.42	21.91	22.03	22.61	22.54	23.12	23.61
	12H	20.45	20.96	20.96	21.46	22.02	22.21	22.72	22.72	23.21	23.78
12H	4H	19.83	20.53	20.31	21.01	21.48	21.20	21.90	21.68	22.38	22.85
	6H	20.24	20.82	20.75	21.33	21.82	21.80	22.39	22.32	22.89	23.38
	8H	20.43	20.94	20.94	21.44	22.00	22.06	22.58	22.57	23.07	23.63