

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: P243269

Luminaire Tested: S122RDRP-H675D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243269
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-H675D930-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

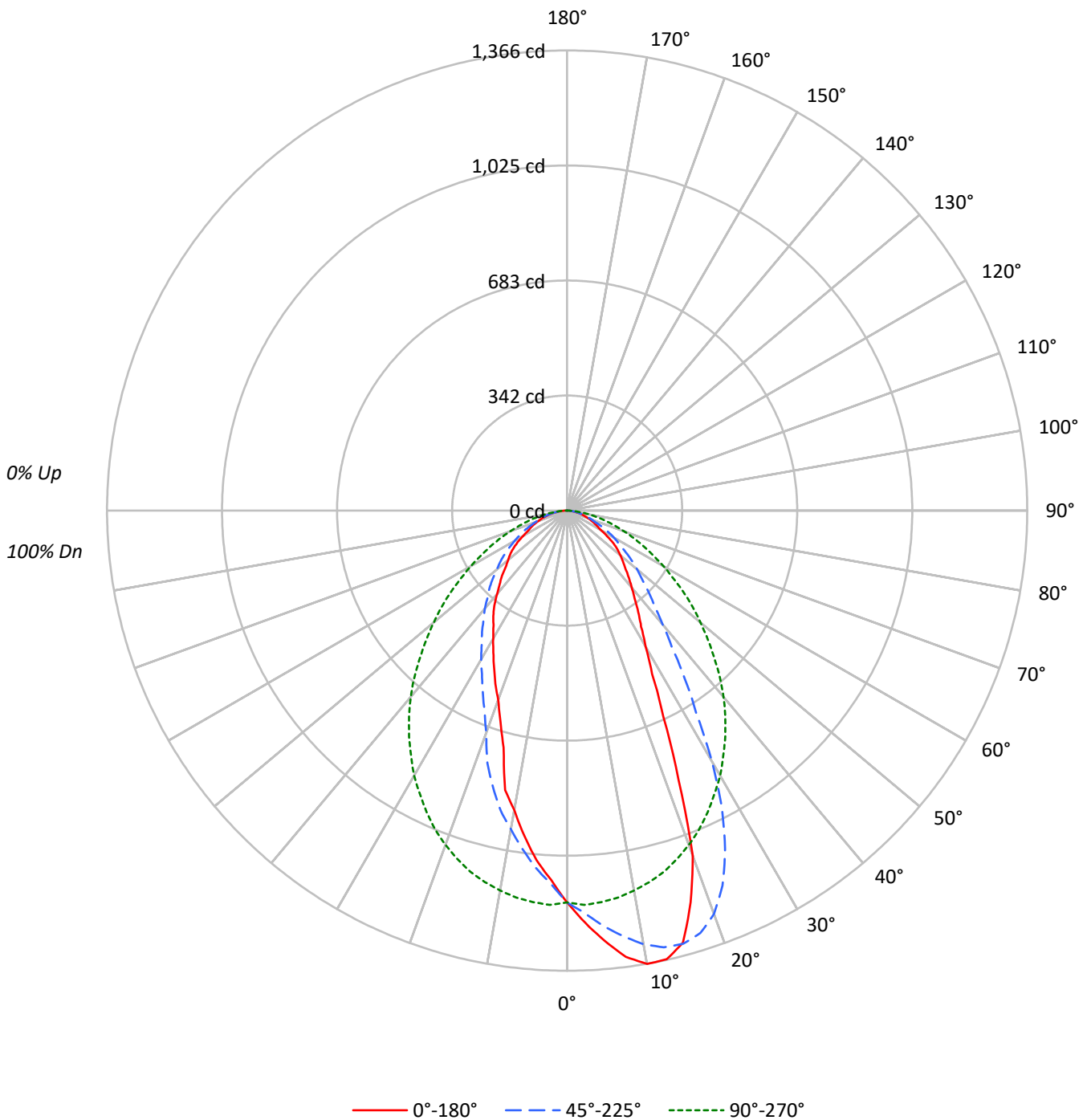
Lumens per Lamp: N/A
Luminaire Lumens: 1960.4 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

Input Watts (W): 23.6
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: P243269

CATALOG NUMBER: S122RDRP-H675D930-X4F0-XX-UDD-A-W

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	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°	22156	22156	22156	22156	22156
5°	24526	23667	22306	20356	19912
10°	26430	25281	22152	18589	17462
15°	26196	26249	21895	16768	14352
20°	22096	25830	21409	14242	12113
25°	14207	23312	20750	12463	10784
30°	10265	18904	19984	11226	9660
35°	8550	14152	19021	10250	8887
40°	7420	10968	17962	9454	8044
45°	6624	9186	16620	8798	7362
50°	6113	7998	15305	8075	6768
55°	5486	6901	13981	7535	6446
60°	4377	6076	12587	6846	5802
65°	4016	5165	11304	6278	5354
70°	3687	4260	9986	5575	5090
75°	3363	3812	8743	5291	4820
80°	2918	3346	7262	4848	4508
85°	2338	2754	5813	4415	4152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 75°
 Vertical Angle: 45°
 Luminance: 22003 cd/sqm



TEST NUMBER: P243269

CATALOG NUMBER: S122RDRP-H675D930-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	5.6
10°-20°	301.3	15.4
20°-30°	379.8	19.4
30°-40°	364.6	18.6
40°-50°	314.0	16.0
50°-60°	240.1	12.2
60°-70°	152.8	7.8
70°-80°	77.4	3.9
80°-90°	20.4	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°	791.1	40.4
0°-40°	1155.7	59.0
0°-60°	1709.8	87.2
0°-90°	1960.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1960.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1163	1163	1163	1163	1163	
5°	1283	1238	1167	1065	1041	125
15°	1328	1331	1110	850	728	360
25°	676	1109	987	593	513	323
35°	368	609	818	441	382	232
45°	246	341	617	327	273	191
55°	165	208	421	227	194	146
65°	89	115	251	139	119	89
75°	46	52	119	72	66	48
85°	11	13	27	20	19	12
90°	0	0	0	0	0	



TEST NUMBER: P243269

CATALOG NUMBER: S122RDRP-H675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2
2.5°	1224.9	1226.4	1227.1	1225.2	1221.1	1221.4	1217.6	1211.2	1203.2	1195.9	1200.1
5°	1282.7	1284.6	1284.2	1280.8	1276.6	1272.8	1266.3	1257.2	1247.7	1237.8	1235.9
7.5°	1336.0	1340.2	1339.0	1332.6	1329.5	1324.2	1313.2	1302.9	1288.4	1274.3	1268.6
10°	1366.5	1369.9	1368.0	1366.5	1363.0	1357.7	1347.8	1337.9	1321.9	1307.1	1298.7
12.5°	1364.2	1367.2	1368.7	1370.3	1369.1	1367.2	1363.0	1354.7	1341.7	1328.0	1317.4
15°	1328.4	1323.4	1320.0	1329.5	1333.0	1345.9	1348.9	1350.1	1341.3	1331.1	1328.4
17.5°	1219.5	1221.1	1247.3	1243.1	1248.8	1280.4	1293.0	1310.1	1317.4	1315.1	1319.6
20°	1090.1	1072.2	1085.2	1104.2	1122.1	1168.1	1198.6	1225.6	1256.8	1274.3	1291.1
22.5°	864.8	865.2	896.4	927.6	967.9	1017.8	1064.2	1116.0	1171.6	1205.4	1244.7
25°	676.0	694.3	708.0	721.7	780.3	828.2	905.5	968.3	1044.8	1109.2	1175.0
27.5°	546.6	565.6	567.9	598.7	633.4	672.2	722.8	821.8	900.2	994.6	1076.0
30°	466.7	470.5	478.4	486.4	511.9	548.1	602.5	664.6	751.7	859.5	968.7
32.5°	408.8	408.0	416.0	428.6	442.7	467.0	497.9	549.2	628.0	713.7	841.2
35°	367.7	366.5	372.3	376.8	385.2	405.0	432.8	466.7	523.4	608.6	707.6
37.5°	328.9	331.1	334.6	339.5	350.6	363.1	381.8	409.9	454.9	511.2	606.0
40°	298.4	301.1	304.9	308.3	316.7	327.0	339.5	362.0	392.0	441.1	513.8
42.5°	271.0	272.1	275.2	280.1	286.2	295.4	307.5	324.7	349.8	384.1	447.6
45°	245.9	245.9	249.3	253.9	257.7	266.4	276.0	292.3	311.7	341.0	386.3
47.5°	224.6	225.0	226.9	227.6	231.8	239.8	250.1	263.0	279.0	301.5	343.7
50°	206.3	207.8	208.6	209.7	211.2	215.4	222.7	232.6	250.1	269.9	298.0
52.5°	187.3	189.2	190.7	193.0	195.3	195.6	201.0	207.4	219.6	240.2	263.0
55°	165.2	166.7	169.8	171.7	174.7	177.4	181.6	186.1	194.1	207.8	231.4
57.5°	140.1	140.5	143.5	145.4	151.5	157.6	161.4	166.3	172.0	181.6	199.4
60°	114.9	116.1	116.5	118.0	123.3	129.8	137.4	145.0	151.1	159.5	172.0
62.5°	101.2	101.6	102.8	104.3	104.7	107.7	110.0	119.1	129.8	138.2	146.5
65°	89.1	89.4	89.4	90.6	92.1	93.6	94.8	98.2	102.8	114.6	124.8
67.5°	77.6	77.3	78.0	79.2	79.6	80.7	82.6	84.5	87.5	91.0	101.6
70°	66.2	66.2	65.8	67.0	68.1	68.5	69.7	71.6	73.5	76.5	79.9
72.5°	54.8	55.6	55.6	56.3	56.7	58.2	59.0	59.8	62.4	63.9	66.6
75°	45.7	45.3	46.4	46.1	46.8	47.2	48.3	49.5	50.2	51.8	54.0
77.5°	36.5	35.8	36.5	36.2	36.9	37.7	37.7	38.8	39.6	41.1	42.2
80°	26.6	26.6	27.0	27.8	27.8	28.2	28.9	28.5	30.1	30.5	31.6
82.5°	18.3	18.7	18.7	19.0	19.0	19.0	19.8	19.8	20.2	20.9	21.3
85°	10.7	10.3	10.7	10.7	10.7	11.0	11.4	11.0	11.8	12.6	12.6
87.5°	3.0	3.0	3.4	3.8	3.8	4.2	4.2	4.2	4.6	4.6	4.9
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: P243269

CATALOG NUMBER: S122RDRP-H675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2
2.5°	1200.1	1198.2	1193.3	1188.7	1180.3	1173.5	1171.2	1171.6	1161.3	1150.6	1147.6
5°	1233.2	1226.4	1216.5	1206.2	1193.6	1181.1	1173.1	1166.6	1150.6	1134.7	1125.5
7.5°	1260.6	1249.6	1235.1	1218.8	1202.4	1183.8	1170.8	1158.6	1136.6	1114.9	1103.1
10°	1285.8	1270.2	1250.4	1229.0	1207.4	1183.0	1164.3	1145.3	1117.5	1093.2	1073.0
12.5°	1309.7	1285.0	1264.8	1234.0	1210.0	1176.9	1151.4	1129.3	1096.6	1066.1	1043.7
15°	1312.0	1294.5	1267.5	1235.5	1199.0	1168.1	1136.2	1110.3	1073.0	1039.1	1000.7
17.5°	1311.6	1297.9	1269.8	1237.0	1193.3	1152.9	1118.3	1084.4	1041.8	1002.2	969.1
20°	1297.9	1288.4	1264.1	1225.2	1181.1	1134.7	1096.2	1056.2	1006.4	965.7	929.5
22.5°	1265.6	1267.9	1248.8	1214.2	1166.6	1114.9	1070.3	1024.3	973.3	926.4	880.8
25°	1210.8	1235.1	1229.4	1197.1	1146.5	1089.7	1039.1	987.3	932.5	882.7	840.4
27.5°	1142.6	1188.3	1198.2	1173.1	1124.8	1061.2	1003.7	947.4	891.4	837.8	794.4
30°	1062.0	1130.1	1155.2	1141.5	1097.0	1030.4	963.8	908.6	847.3	790.2	744.5
32.5°	960.3	1055.9	1100.0	1104.2	1067.7	996.1	922.3	862.9	800.1	746.0	696.9
35°	846.9	964.1	1036.1	1055.5	1029.2	958.4	880.8	818.0	751.0	696.5	647.1
37.5°	732.7	870.5	964.9	1002.6	985.1	916.6	834.3	770.8	704.5	649.0	602.5
40°	627.7	758.6	881.2	940.2	934.8	871.3	788.3	722.4	655.1	603.7	552.7
42.5°	533.6	660.0	794.8	873.9	878.1	822.5	737.7	671.4	606.7	555.7	502.4
45°	459.4	570.6	704.2	798.6	816.8	771.2	685.1	617.0	558.0	510.0	456.8
47.5°	400.0	486.4	610.5	721.3	753.6	713.7	631.5	566.8	511.2	470.1	419.8
50°	348.7	429.7	535.2	637.6	685.1	655.1	578.2	516.5	466.3	426.7	382.5
52.5°	303.0	365.8	457.1	555.3	619.3	591.9	526.4	469.7	422.5	385.6	348.7
55°	265.3	317.8	398.5	486.1	545.1	529.8	471.6	421.0	379.5	344.5	314.4
57.5°	226.5	270.6	335.7	413.7	471.6	469.3	421.4	372.6	339.9	306.8	285.1
60°	192.6	228.4	281.3	347.5	405.7	406.1	368.8	330.4	302.2	273.7	253.1
62.5°	162.5	191.1	237.1	290.4	336.9	348.7	320.9	287.4	264.5	242.5	225.0
65°	136.6	158.0	192.6	240.9	277.5	293.5	275.2	250.8	231.8	212.0	196.4
67.5°	112.7	128.3	153.8	191.8	228.4	240.2	232.6	213.9	200.2	183.8	172.0
70°	88.7	102.0	119.9	148.4	178.5	194.9	192.6	179.3	167.9	156.1	145.0
72.5°	70.4	78.0	91.7	112.3	136.3	154.5	155.3	148.4	138.9	129.0	121.8
75°	56.7	60.1	66.6	82.6	101.6	116.9	122.2	118.8	111.1	105.1	100.1
77.5°	43.8	46.8	51.0	58.6	73.5	85.3	91.7	92.1	87.5	82.2	78.4
80°	32.7	33.9	36.9	40.7	48.3	58.6	66.2	66.2	63.6	60.9	58.6
82.5°	22.5	23.6	25.1	27.0	30.8	36.9	43.8	44.9	43.4	42.6	39.6
85°	12.6	13.7	14.5	15.6	17.1	20.2	25.1	26.6	27.0	24.7	23.2
87.5°	4.9	4.9	5.3	5.7	6.1	7.2	9.1	11.4	11.4	10.3	9.9
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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CATALOG NUMBER: S122RDRP-H675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2	1163.2
2.5°	1143.8	1138.5	1131.6	1125.5	1117.1	1108.8	1107.2	1110.3	1111.1	1107.2	1108.4
5°	1116.8	1106.9	1098.5	1084.8	1076.0	1064.6	1057.0	1057.0	1057.0	1051.3	1046.0
7.5°	1088.6	1075.3	1059.3	1046.3	1028.5	1013.6	1006.4	1003.0	996.1	990.4	983.9
10°	1055.9	1037.2	1017.4	997.2	981.6	961.1	948.9	941.3	929.5	924.5	915.0
12.5°	1017.4	998.8	974.8	942.1	937.5	912.4	895.2	881.2	866.7	854.9	850.7
15°	986.6	954.2	922.3	899.0	865.2	850.3	825.2	822.9	811.1	776.5	749.5
17.5°	936.7	907.8	872.4	846.5	819.5	786.4	759.7	733.5	708.3	684.0	683.2
20°	892.6	858.7	825.2	797.0	749.8	702.6	686.3	662.3	647.4	628.0	622.3
22.5°	844.2	808.8	767.0	725.9	670.7	641.0	623.1	604.1	589.2	580.5	571.7
25°	795.5	760.1	704.5	653.9	616.2	593.0	577.8	557.2	546.6	539.0	527.6
27.5°	747.9	703.0	644.4	604.1	573.6	547.3	533.6	516.9	505.1	495.2	488.0
30°	700.7	639.1	589.2	558.0	526.8	510.4	492.5	480.0	471.2	462.1	450.3
32.5°	649.0	584.3	551.9	513.5	495.2	471.6	458.7	445.7	434.3	427.8	423.6
35°	588.8	536.7	507.8	479.6	456.4	440.8	422.5	414.5	408.4	395.9	390.5
37.5°	537.8	500.1	469.7	444.6	423.3	406.5	398.1	384.4	375.7	371.5	365.8
40°	495.6	462.1	435.8	410.3	392.4	380.2	365.4	358.2	346.8	342.6	338.0
42.5°	459.0	428.2	400.8	381.4	365.8	349.0	341.4	329.2	324.3	314.0	310.2
45°	422.1	394.7	370.7	351.7	336.9	326.6	312.9	305.3	296.5	291.2	280.9
47.5°	385.2	360.8	341.0	325.1	312.1	299.6	288.1	281.7	270.6	264.9	259.6
50°	356.6	333.0	314.4	298.4	285.1	272.5	265.3	254.6	244.7	238.3	236.4
52.5°	322.8	302.2	285.1	272.9	259.6	250.5	240.6	228.8	223.8	217.3	215.8
55°	292.7	276.0	261.5	248.6	237.1	226.9	215.4	207.1	203.3	200.2	197.9
57.5°	264.5	248.6	235.2	223.4	213.5	202.9	193.4	188.4	185.0	181.6	179.3
60°	236.8	222.3	210.1	200.2	189.9	179.7	172.8	168.6	166.0	161.0	159.5
62.5°	212.0	198.7	186.1	177.0	167.5	159.5	153.8	148.1	143.9	140.1	132.1
65°	185.0	173.2	163.7	154.5	145.4	139.3	132.8	126.4	121.0	121.0	121.0
67.5°	161.0	150.7	140.8	132.8	124.8	117.6	111.1	110.8	108.9	108.1	107.0
70°	136.6	129.4	120.3	111.5	103.5	100.1	99.0	97.1	94.8	94.4	92.9
72.5°	114.6	106.2	97.8	90.2	88.7	87.2	84.9	83.0	81.5	80.3	79.6
75°	93.6	85.3	78.4	76.5	74.6	71.9	70.0	68.5	67.8	67.8	67.4
77.5°	71.6	66.6	63.6	60.5	59.0	57.5	56.3	55.6	54.4	54.8	54.0
80°	52.5	51.0	48.3	46.4	45.7	44.2	43.4	43.0	42.2	42.2	41.9
82.5°	37.7	35.0	33.9	32.7	32.0	31.2	31.6	31.2	30.8	30.5	30.8
85°	21.7	21.3	20.6	20.6	20.6	20.2	20.2	20.2	19.8	19.4	19.4
87.5°	9.5	9.9	9.9	9.1	10.3	10.3	9.9	9.9	9.5	10.3	9.5
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: P243269

CATALOG NUMBER: S122RDRP-H675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1163.2	1163.2	1163.2	1163.2
2.5°	1103.4	1103.1	1100.8	1097.0
5°	1043.7	1042.2	1038.4	1041.4
7.5°	979.7	975.5	971.7	973.6
10°	911.2	909.7	907.4	902.8
12.5°	835.5	841.6	835.1	849.6
15°	723.2	750.2	716.3	727.8
17.5°	667.2	667.6	663.1	657.7
20°	614.7	601.4	606.3	597.6
22.5°	564.1	561.0	559.5	556.5
25°	518.8	513.1	511.2	513.1
27.5°	485.3	482.6	475.4	474.3
30°	443.4	442.3	440.0	439.2
32.5°	417.2	412.2	411.1	406.5
35°	387.9	385.2	383.3	382.2
37.5°	358.6	357.0	353.6	355.5
40°	334.6	327.0	323.9	323.5
42.5°	308.3	304.1	298.0	296.1
45°	277.9	276.0	274.1	273.3
47.5°	251.2	250.1	247.8	246.6
50°	232.2	229.1	228.8	228.4
52.5°	213.9	212.8	211.6	213.2
55°	196.8	195.3	194.1	194.1
57.5°	178.1	175.5	173.2	173.6
60°	156.4	154.9	153.0	152.3
62.5°	131.3	131.3	130.9	130.9
65°	119.5	118.8	118.4	118.8
67.5°	106.6	105.8	104.7	105.1
70°	91.7	91.4	91.7	91.4
72.5°	78.4	78.0	78.4	79.2
75°	66.2	65.8	65.5	65.5
77.5°	53.7	53.3	52.5	53.3
80°	41.9	41.5	41.1	41.1
82.5°	29.7	30.1	29.7	29.7
85°	19.4	19.8	19.4	19.0
87.5°	9.9	10.3	9.5	9.1
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P243269
 CATALOG NUMBER: S122RDRP-H675D930-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	15.60	17.06	15.97	17.37	17.69	21.94	23.39	22.30	23.71	24.02
	3H	16.78	18.08	17.16	18.41	18.77	23.19	24.49	23.57	24.82	25.18
	4H	17.23	18.45	17.64	18.80	19.18	23.62	24.84	24.02	25.19	25.57
	6H	17.57	18.69	17.98	19.06	19.45	23.91	25.04	24.33	25.41	25.80
	8H	17.66	18.73	18.09	19.12	19.53	24.00	25.07	24.43	25.46	25.86
	12H	17.72	18.74	18.15	19.12	19.55	24.05	25.07	24.48	25.45	25.88
4H	2H	16.33	17.55	16.73	17.90	18.28	21.92	23.14	22.32	23.49	23.87
	3H	17.66	18.67	18.07	19.07	19.47	23.30	24.31	23.72	24.72	25.12
	4H	18.21	19.12	18.64	19.53	19.97	23.83	24.74	24.27	25.16	25.60
	6H	18.64	19.43	19.10	19.87	20.33	24.25	25.04	24.71	25.48	25.94
	8H	18.77	19.51	19.23	19.95	20.42	24.38	25.12	24.85	25.56	26.03
	12H	18.85	19.51	19.33	19.99	20.46	24.47	25.13	24.96	25.61	26.08
8H	4H	18.55	19.29	19.02	19.73	20.20	23.83	24.57	24.30	25.01	25.48
	6H	19.08	19.68	19.58	20.18	20.65	24.29	24.90	24.79	25.39	25.87
	8H	19.26	19.81	19.78	20.32	20.81	24.47	25.01	24.98	25.52	26.01
	12H	19.40	19.88	19.91	20.37	20.94	24.61	25.09	25.12	25.58	26.15
12H	4H	18.60	19.25	19.08	19.73	20.20	23.81	24.46	24.29	24.94	25.42
	6H	19.14	19.68	19.66	20.20	20.68	24.27	24.82	24.79	25.33	25.82
	8H	19.37	19.85	19.89	20.35	20.91	24.48	24.96	24.99	25.45	26.02