

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P832064

Luminaire Tested: S123RDIP-S340D1195U830-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832064
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S340D1195U830-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

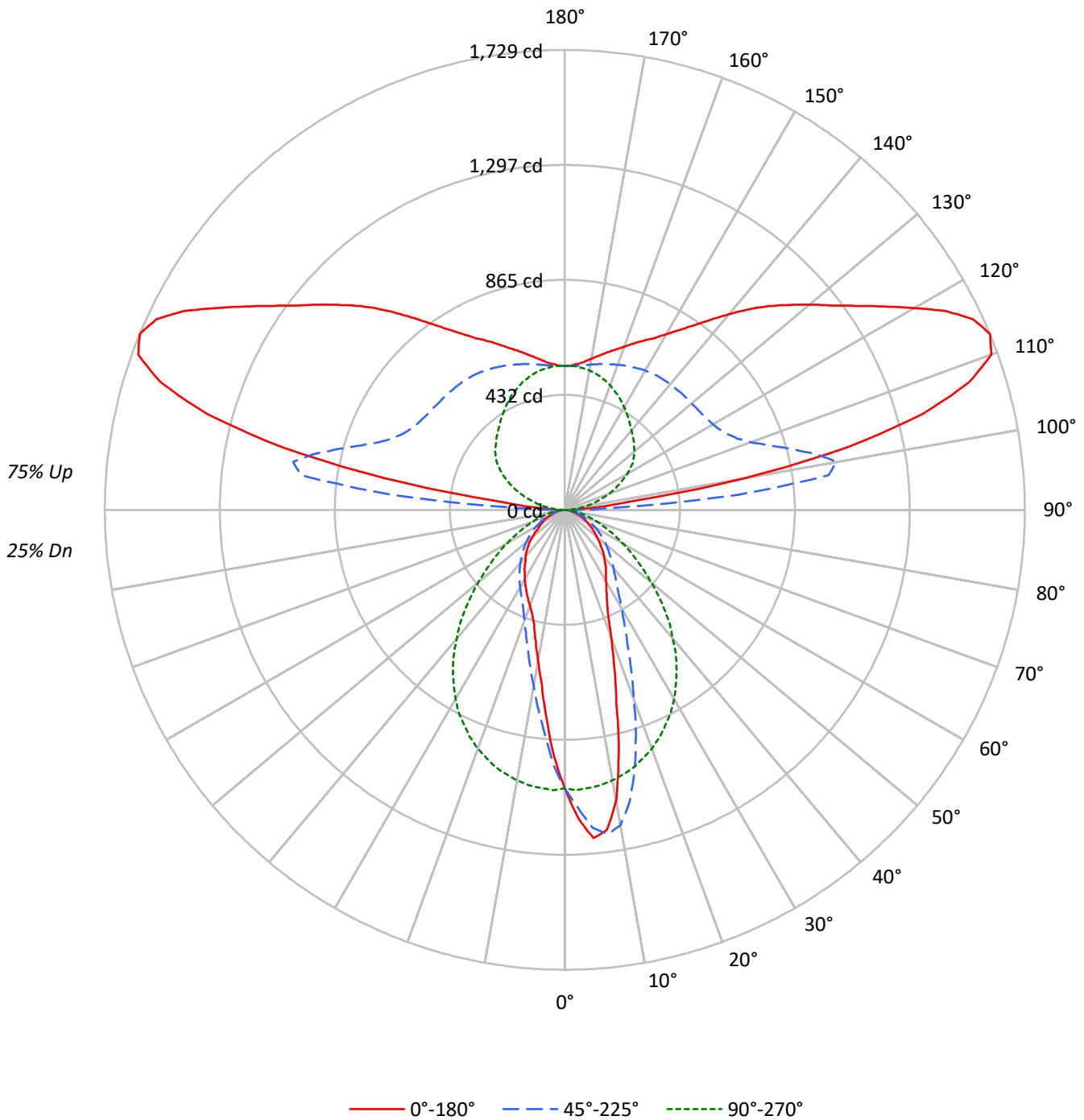
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5460.6 lumens
Efficiency: N/A
Efficacy: 125.8 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 43.4
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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	25				
1	93	89	85	82	83	79	76	74	62	60	58	45	44	43	30	30	29	22				
2	85	78	72	67	75	70	65	61	54	51	48	40	38	37	27	26	25	19				
3	78	69	62	57	69	62	56	51	48	44	41	36	33	31	24	23	22	17				
4	71	61	54	48	63	55	49	44	43	39	35	32	29	27	22	21	19	15				
5	65	55	47	41	58	49	43	38	39	34	31	29	26	24	20	18	17	13				
6	60	49	41	36	54	44	38	33	35	30	27	27	23	21	19	17	15	12				
7	56	44	37	32	50	40	34	29	32	27	24	24	21	19	17	15	14	11				
8	52	40	33	28	46	36	30	26	29	25	21	22	19	17	16	14	13	10				
9	48	37	30	25	43	33	27	23	27	22	19	21	17	15	15	13	11	9				
10	45	34	27	22	40	31	25	21	25	20	17	19	16	14	14	12	11	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	11271	11271	11271	11271	11271
5°	13383	12956	11342	9168	8512
10°	12125	13160	11285	7346	6302
15°	8349	11283	11166	6004	4985
20°	5808	8687	10942	5063	4381
25°	4425	6621	10615	4500	4038
30°	3853	5294	10208	4179	3740
35°	3537	4465	9629	3907	3469
40°	3228	3988	8873	3641	3222
45°	2915	3647	8057	3389	2973
50°	2646	3364	7095	3141	2668
55°	2393	3089	6172	2901	2288
60°	2144	2809	5360	2635	2164
65°	1979	2493	4615	2366	2045
70°	1608	2156	4025	2140	1662
75°	1410	1713	3410	1776	1464
80°	1277	1450	2796	1488	1382
85°	1161	1272	2124	1346	1272

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 8502 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.4	1.7
10°-20°	220.8	4.0
20°-30°	253.4	4.6
30°-40°	249.8	4.6
40°-50°	220.3	4.0
50°-60°	169.5	3.1
60°-70°	111.4	2.0
70°-80°	54.1	1.0
80°-90°	16.6	0.3
90°-100°	293.6	5.4
100°-110°	859.4	15.7
110°-120°	839.3	15.4
120°-130°	668.4	12.2
130°-140°	527.4	9.7
140°-150°	393.4	7.2
150°-160°	274.3	5.0
160°-170°	161.1	3.0
170°-180°	52.4	1.0
0°-30°	569.7	10.4
0°-40°	819.4	15.0
0°-60°	1209.1	22.1
0°-90°	1391.3	25.5
90°-120°	1992.3	36.5
90°-150°	3581.4	65.6
90°-180°	4069.0	74.5
0°-180°	5460.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1047	1047	1047	1047	1047	
5°	1239	1199	1050	848	788	113
15°	749	1012	1002	539	447	211
25°	373	558	894	379	340	176
35°	269	340	733	297	264	168
45°	192	240	529	223	195	149
55°	128	165	329	155	122	114
65°	78	98	181	93	80	76
75°	34	41	82	43	35	36
85°	9	10	17	11	10	10
90°	32	27	2	27	32	17
95°	127	649	37	649	127	206
105°	1393	880	127	880	1393	1390
115°	1694	674	224	674	1694	1652
125°	1336	629	312	629	1336	1209
135°	1083	620	366	620	1083	840
145°	846	612	417	612	846	538
155°	702	592	474	592	702	327
165°	612	567	518	567	612	175
175°	551	544	540	544	551	53
180°	541	541	541	541	541	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1
2.5°	1160.4	1156.8	1153.1	1152.1	1151.0	1147.6	1144.1	1136.4	1128.7	1120.7	1112.8
5°	1238.6	1239.0	1239.4	1238.4	1237.3	1232.8	1228.3	1218.8	1209.4	1199.1	1188.8
7.5°	1214.5	1221.4	1228.3	1229.6	1230.8	1234.3	1237.7	1235.6	1233.4	1229.6	1225.7
10°	1109.3	1108.9	1108.5	1116.2	1123.9	1146.9	1169.9	1181.7	1193.5	1204.0	1214.5
12.5°	937.6	938.3	938.9	964.2	989.6	1011.2	1032.9	1063.0	1093.0	1125.4	1157.9
15°	749.2	759.7	770.2	792.7	815.3	847.9	880.5	920.9	961.2	1012.5	1063.8
17.5°	615.2	619.7	624.2	645.9	667.6	698.5	729.4	775.1	820.8	887.0	953.1
20°	507.0	511.1	515.2	530.8	546.5	576.1	605.8	649.3	692.9	758.4	823.9
22.5°	423.3	431.2	439.2	449.7	460.2	481.7	503.2	547.6	592.0	651.7	711.4
25°	372.6	376.3	379.9	389.0	398.0	418.6	439.2	468.6	498.0	557.5	616.9
27.5°	338.3	339.4	340.4	347.1	353.8	367.1	380.4	407.6	434.9	483.8	532.8
30°	310.0	311.9	313.8	319.0	324.1	333.8	343.5	362.8	382.1	425.9	469.7
32.5°	288.1	289.1	290.2	294.5	298.8	305.9	313.0	328.2	343.5	376.9	410.4
35°	269.2	269.4	269.6	272.8	276.0	282.9	289.8	302.5	315.1	339.8	364.5
37.5°	247.7	249.2	250.7	253.1	255.4	261.5	267.5	277.8	288.1	308.5	328.9
40°	229.7	231.0	232.3	235.0	237.8	242.6	247.3	256.7	266.2	283.8	301.4
42.5°	211.7	212.5	213.4	216.2	219.0	224.7	230.5	238.1	245.6	260.2	274.8
45°	191.5	193.6	195.8	198.8	201.8	206.7	211.7	219.4	227.1	239.6	252.0
47.5°	174.7	175.8	176.9	179.5	182.0	188.0	194.0	200.9	207.8	219.4	231.0
50°	158.0	158.4	158.8	161.2	163.6	168.9	174.3	182.2	190.2	200.9	211.7
52.5°	142.1	143.2	144.2	146.6	149.0	152.6	156.3	164.4	172.6	183.1	193.6
55°	127.5	128.2	128.8	130.5	132.2	136.5	140.8	147.9	155.0	164.6	174.3
57.5°	113.8	114.6	115.5	116.8	118.1	121.9	125.8	132.0	138.2	147.9	157.6
60°	99.6	100.7	101.7	103.2	104.8	107.8	110.8	116.3	121.9	130.5	139.1
62.5°	89.3	89.5	89.7	91.0	92.3	94.4	96.6	101.1	105.6	114.2	122.8
65°	77.7	78.3	79.0	79.6	80.3	82.0	83.7	87.6	91.4	97.9	104.3
67.5°	65.7	66.3	67.0	68.0	69.1	70.6	72.1	74.7	77.3	83.3	89.3
70°	51.1	51.1	51.1	52.8	54.5	57.1	59.7	61.6	63.5	68.5	73.4
72.5°	41.6	41.9	42.1	42.3	42.5	44.0	45.5	48.7	51.9	55.0	58.0
75°	33.9	34.1	34.3	34.6	34.8	35.2	35.6	36.7	37.8	41.2	44.6
77.5°	27.0	27.3	27.5	27.7	27.9	28.3	28.8	29.2	29.6	30.9	32.2
80°	20.6	20.8	21.0	21.3	21.5	21.7	21.9	22.3	22.8	23.4	24.0
82.5°	15.0	15.0	15.0	15.0	15.0	15.5	15.9	15.9	15.9	16.3	16.7
85°	9.4	9.4	9.4	9.7	9.9	9.9	9.9	10.1	10.3	10.3	10.3
87.5°	4.3	4.1	3.9	4.1	4.3	4.3	4.3	4.5	4.7	4.7	4.7
90°	31.8	32.9	31.8	30.7	31.8	29.6	28.5	27.4	26.3	27.4	24.1
92.5°	58.0	60.2	59.1	63.5	65.7	73.4	84.3	108.4	152.2	203.7	225.6
95°	127.0	131.4	139.1	148.9	169.7	209.2	267.2	394.2	526.7	649.4	578.2
97.5°	260.6	272.7	299.0	340.6	413.9	538.8	683.3	905.6	1032.7	998.7	745.8
100°	686.6	685.5	728.2	808.2	918.8	1074.3	1202.4	1291.1	1252.8	1037.1	700.9
102.5°	1087.4	1119.2	1153.1	1212.3	1292.2	1376.5	1437.9	1419.2	1263.7	965.9	635.2
105°	1393.0	1398.4	1433.5	1475.1	1525.5	1553.9	1533.1	1423.6	1194.7	880.5	583.7
107.5°	1592.3	1604.3	1618.5	1638.3	1644.8	1615.3	1529.8	1357.9	1096.2	804.9	546.5
110°	1706.2	1708.3	1710.5	1701.8	1671.1	1594.5	1456.5	1255.0	1004.2	742.5	526.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1729.1	1728.1	1717.1	1685.3	1622.9	1518.9	1360.1	1153.1	924.3	700.9	515.8
115°	1694.1	1688.6	1666.7	1618.5	1536.4	1417.0	1256.1	1065.5	862.9	673.5	514.7
117.5°	1617.4	1609.8	1576.9	1523.3	1437.9	1314.1	1166.3	997.6	822.4	654.9	515.8
120°	1516.7	1510.1	1483.8	1422.5	1336.0	1225.4	1094.0	946.2	791.8	642.8	520.2
122.5°	1422.5	1413.8	1384.2	1330.5	1256.1	1155.3	1036.0	905.6	766.6	635.2	527.8
125°	1336.0	1328.3	1301.0	1252.8	1182.7	1095.1	990.0	870.6	745.8	628.6	535.5
127.5°	1261.5	1255.0	1229.8	1188.2	1124.7	1043.6	947.3	838.8	726.0	625.3	544.3
130°	1200.2	1191.5	1168.5	1129.0	1071.0	996.5	907.8	809.3	710.7	622.0	553.0
132.5°	1140.0	1134.5	1114.8	1075.4	1021.7	951.6	870.6	781.9	696.5	620.9	559.6
135°	1083.0	1075.4	1055.7	1022.8	969.2	906.7	835.6	757.8	684.4	619.8	566.2
137.5°	1022.8	1016.2	999.8	965.9	919.9	864.0	800.5	734.8	673.5	617.6	570.5
140°	959.3	960.4	942.9	912.2	870.6	823.5	770.9	715.1	663.6	616.5	574.9
142.5°	900.2	901.3	885.9	859.6	825.7	786.3	742.5	696.5	654.9	614.3	578.2
145°	846.5	844.3	835.6	812.6	785.2	753.4	718.4	682.2	647.2	612.2	579.3
147.5°	800.5	799.4	790.7	774.2	752.3	729.3	699.8	670.2	639.5	608.9	579.3
150°	761.1	761.1	754.5	742.5	726.0	705.2	682.2	657.1	631.9	604.5	579.3
152.5°	728.2	728.2	724.9	714.0	702.0	685.5	665.8	645.0	623.1	599.0	576.0
155°	702.0	700.9	698.7	689.9	680.1	666.9	650.5	633.0	614.3	592.4	573.8
157.5°	676.8	676.8	674.6	668.0	659.2	648.3	635.2	619.8	604.5	587.0	570.5
160°	652.7	653.8	653.8	647.2	639.5	631.9	620.9	608.9	594.6	580.4	568.4
162.5°	630.8	631.9	631.9	626.4	622.0	615.4	605.6	595.7	584.8	573.8	564.0
165°	612.2	612.2	613.3	608.9	604.5	599.0	591.3	584.8	576.0	567.3	559.6
167.5°	593.5	593.5	594.6	591.3	589.2	584.8	580.4	574.9	567.3	560.7	555.2
170°	577.1	577.1	578.2	576.0	574.9	572.7	568.4	565.1	559.6	554.1	550.8
172.5°	561.8	562.9	565.1	562.9	562.9	561.8	558.5	556.3	551.9	548.6	547.5
175°	550.8	551.9	553.0	551.9	551.9	551.9	549.7	548.6	546.5	544.3	544.3
177.5°	543.2	543.2	545.4	544.3	545.4	545.4	544.3	543.2	542.1	541.0	542.1
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1
2.5°	1111.7	1110.6	1100.3	1090.0	1079.9	1069.9	1062.3	1054.8	1042.2	1029.5	1021.6
5°	1180.6	1172.5	1156.1	1139.8	1115.4	1090.9	1070.3	1049.7	1023.5	997.3	975.4
7.5°	1219.0	1212.4	1192.6	1172.9	1140.5	1108.1	1075.9	1043.7	1005.0	966.4	933.3
10°	1220.1	1225.7	1209.4	1193.1	1156.6	1120.1	1076.3	1032.5	980.6	928.6	885.9
12.5°	1181.9	1205.9	1202.5	1199.1	1161.9	1124.8	1071.6	1018.3	954.6	890.8	837.4
15°	1110.4	1157.0	1170.7	1184.5	1153.8	1123.1	1062.6	1002.0	927.1	852.2	790.8
17.5°	1018.3	1083.6	1119.9	1156.1	1133.8	1111.5	1045.2	978.8	894.5	810.1	743.4
20°	909.3	994.7	1051.6	1108.5	1100.3	1092.2	1023.7	955.2	864.2	773.2	700.9
22.5°	801.5	891.7	970.2	1048.8	1057.2	1065.6	996.4	927.3	827.7	728.1	654.5
25°	708.6	800.2	893.8	987.4	1006.3	1025.2	959.5	893.8	790.6	687.3	614.1
27.5°	619.9	707.1	810.1	913.2	947.5	981.8	921.7	861.6	754.1	646.5	573.6
30°	547.6	625.5	730.7	835.9	883.7	931.6	876.4	821.3	714.6	607.9	536.4
32.5°	480.2	550.0	655.6	761.2	816.8	872.4	824.7	777.1	674.5	571.8	501.2
35°	427.0	489.4	587.9	686.5	748.7	811.0	771.9	732.8	632.6	532.3	465.6
37.5°	381.2	433.6	526.1	618.6	684.8	750.9	718.2	685.6	591.4	497.1	434.0
40°	343.5	385.5	471.6	557.7	622.5	687.3	659.4	631.5	547.2	462.8	403.8
42.5°	311.0	347.3	424.6	501.9	561.3	620.8	602.3	583.9	507.4	431.0	376.3
45°	282.5	313.0	381.0	449.1	503.8	558.5	543.9	529.3	463.4	397.5	347.3
47.5°	257.2	283.3	344.1	404.8	454.0	503.2	489.6	476.1	421.6	367.1	321.3
50°	234.0	256.3	307.0	357.6	401.8	446.1	434.9	423.7	378.7	333.6	294.1
52.5°	212.1	230.5	276.0	321.6	357.2	392.8	384.2	375.6	340.9	306.1	270.3
55°	191.3	208.2	246.6	285.1	315.5	346.0	337.4	328.9	301.8	274.8	243.2
57.5°	172.4	187.2	218.3	249.4	273.7	297.9	293.9	289.8	267.2	244.7	218.7
60°	152.4	165.7	192.5	219.4	238.9	258.4	253.7	249.0	232.9	216.8	194.5
62.5°	134.6	146.4	167.9	189.3	205.2	221.1	217.7	214.2	202.0	189.8	171.3
65°	115.9	127.5	144.9	162.3	174.7	187.2	184.2	181.2	171.9	162.7	147.9
67.5°	99.0	108.6	123.6	138.7	147.0	155.4	153.7	152.0	144.9	137.8	126.2
70°	81.8	90.2	102.6	115.1	120.9	126.6	127.3	127.9	121.5	115.1	106.5
72.5°	64.6	71.3	82.9	94.4	99.0	103.5	103.2	103.0	99.2	95.3	87.6
75°	49.6	54.5	63.5	72.6	76.4	80.3	81.1	82.0	78.3	74.7	70.4
77.5°	35.6	39.1	45.9	52.8	57.1	61.4	61.8	62.3	60.5	58.8	54.7
80°	25.1	26.2	30.5	34.8	39.3	43.8	44.4	45.1	43.4	41.6	39.1
82.5°	17.4	18.0	19.5	21.0	24.7	28.3	29.2	30.1	29.2	28.3	25.5
85°	10.5	10.7	11.4	12.0	13.7	15.5	16.3	17.2	16.7	16.3	14.8
87.5°	4.7	4.7	4.9	5.2	5.6	6.0	7.1	8.2	7.5	6.9	6.2
90°	20.8	17.5	14.2	12.0	9.9	6.6	4.4	2.2	4.4	6.6	9.9
92.5°	168.6	110.6	75.6	55.8	44.9	35.0	24.1	16.4	24.1	35.0	44.9
95°	398.6	235.4	142.4	99.7	71.2	52.6	40.5	37.2	40.5	52.6	71.2
97.5°	443.5	254.1	162.1	115.0	86.5	70.1	60.2	59.1	60.2	70.1	86.5
100°	412.8	250.8	174.1	131.4	105.1	89.8	82.1	81.0	82.1	89.8	105.1
102.5°	386.6	255.2	188.4	150.0	127.0	112.8	106.2	104.0	106.2	112.8	127.0
105°	376.7	263.9	204.8	170.8	150.0	136.9	130.3	127.0	130.3	136.9	150.0
107.5°	374.5	278.2	225.6	193.8	174.1	161.0	154.4	151.1	154.4	161.0	174.1
110°	380.0	296.8	247.5	216.8	198.2	186.2	180.7	177.4	180.7	186.2	198.2



TEST NUMBER: P832064

CATALOG NUMBER: S123RDIP-S340D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	390.9	315.4	270.5	240.9	222.3	210.3	204.8	201.5	204.8	210.3	222.3
115°	403.0	336.2	294.6	265.0	246.4	235.4	228.9	224.5	228.9	235.4	246.4
117.5°	418.3	358.1	316.5	289.1	268.3	258.4	253.0	247.5	253.0	258.4	268.3
120°	435.8	378.9	339.5	312.1	291.3	280.3	274.9	271.6	274.9	280.3	291.3
122.5°	452.3	400.8	362.5	332.9	313.2	301.1	295.7	292.4	295.7	301.1	313.2
125°	469.8	421.6	383.3	353.7	332.9	320.9	314.3	312.1	314.3	320.9	332.9
127.5°	484.0	440.2	403.0	373.4	350.4	338.4	330.7	327.4	330.7	338.4	350.4
130°	498.3	456.7	420.5	390.9	368.0	354.8	345.0	341.7	345.0	354.8	368.0
132.5°	511.4	470.9	435.8	407.4	384.4	368.0	357.0	352.6	357.0	368.0	384.4
135°	522.4	485.1	451.2	421.6	398.6	382.2	370.1	365.8	370.1	382.2	398.6
137.5°	531.1	495.0	462.1	434.8	411.8	394.2	382.2	377.8	382.2	394.2	411.8
140°	537.7	504.8	473.1	445.7	423.8	406.3	395.3	389.9	395.3	406.3	423.8
142.5°	544.3	512.5	481.8	456.7	434.8	419.4	407.4	403.0	407.4	419.4	434.8
145°	548.6	519.1	490.6	465.4	446.8	430.4	420.5	417.2	420.5	430.4	446.8
147.5°	551.9	524.5	498.3	476.4	457.7	443.5	433.7	431.5	433.7	443.5	457.7
150°	553.0	530.0	504.8	485.1	469.8	455.6	446.8	445.7	446.8	455.6	469.8
152.5°	555.2	533.3	512.5	493.9	480.7	468.7	459.9	459.9	459.9	468.7	480.7
155°	555.2	537.7	519.1	503.7	491.7	480.7	474.2	474.2	474.2	480.7	491.7
157.5°	556.3	539.9	524.5	512.5	501.6	491.7	486.2	485.1	486.2	491.7	501.6
160°	556.3	543.2	530.0	519.1	511.4	502.6	498.3	498.3	498.3	502.6	511.4
162.5°	555.2	544.3	533.3	524.5	518.0	511.4	508.1	508.1	508.1	511.4	518.0
165°	553.0	545.4	536.6	528.9	524.5	519.1	516.9	518.0	516.9	519.1	524.5
167.5°	551.9	545.4	538.8	533.3	530.0	525.6	524.5	525.6	524.5	525.6	530.0
170°	548.6	544.3	538.8	536.6	534.4	531.1	530.0	532.2	530.0	531.1	534.4
172.5°	547.5	544.3	539.9	538.8	537.7	535.5	535.5	536.6	535.5	535.5	537.7
175°	545.4	543.2	541.0	539.9	539.9	537.7	538.8	539.9	538.8	537.7	539.9
177.5°	544.3	542.1	541.0	541.0	541.0	539.9	541.0	542.1	541.0	539.9	541.0
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



TEST NUMBER: P832064

CATALOG NUMBER: S123RDIP-S340D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1	1047.1
2.5°	1013.6	1001.4	989.1	980.3	971.5	960.6	949.6	949.2	948.8	940.6	932.5
5°	953.5	932.3	911.0	890.2	869.4	848.5	827.7	823.0	818.3	811.2	804.1
7.5°	900.3	866.4	832.4	805.8	779.2	758.4	737.6	723.4	709.2	698.3	687.3
10°	843.2	801.1	759.0	726.8	694.6	672.1	649.6	633.2	616.9	609.2	601.5
12.5°	783.9	738.2	692.5	660.9	629.4	602.3	575.3	560.5	545.7	534.9	524.2
15°	729.4	680.2	631.1	597.6	564.1	538.8	513.5	498.6	483.8	473.1	462.4
17.5°	676.6	627.0	577.4	543.5	509.6	486.6	463.7	449.3	434.9	428.2	421.6
20°	628.5	578.5	528.5	496.5	464.5	442.0	419.4	411.7	404.0	397.8	391.5
22.5°	580.9	532.8	484.7	454.0	423.3	407.0	390.7	384.5	378.2	373.5	368.8
25°	540.9	493.1	445.2	418.4	391.5	378.9	366.2	362.1	358.0	353.3	348.6
27.5°	500.6	455.1	409.6	388.1	366.6	356.3	346.0	340.9	335.7	331.9	328.0
30°	464.9	422.9	380.8	363.0	345.2	336.2	327.1	321.6	316.0	312.3	308.7
32.5°	430.6	393.3	355.9	340.7	325.4	316.6	307.8	302.5	297.1	292.8	288.5
35°	398.8	366.4	334.0	320.1	306.1	297.3	288.5	283.1	277.8	273.5	269.2
37.5°	370.9	341.5	312.1	299.0	285.9	278.2	270.5	264.9	259.3	254.8	250.3
40°	344.7	318.8	292.8	280.1	267.5	259.1	250.7	245.8	240.8	236.8	232.7
42.5°	321.6	297.7	273.9	261.5	249.0	241.1	233.1	227.3	221.5	219.2	216.8
45°	297.1	276.0	255.0	243.0	231.0	222.6	214.2	209.3	204.4	202.2	200.1
47.5°	275.6	256.1	236.6	224.7	212.9	205.4	197.9	194.0	190.2	187.2	184.2
50°	254.6	235.7	216.8	205.4	194.0	187.6	181.2	176.4	171.7	169.6	167.4
52.5°	234.4	217.2	200.1	188.5	176.9	170.7	164.4	160.3	156.3	151.8	147.3
55°	211.7	196.6	181.6	171.3	161.0	154.6	148.1	143.4	138.7	133.9	129.2
57.5°	192.8	178.0	163.1	153.9	144.7	138.5	132.2	127.1	121.9	118.1	114.2
60°	172.2	159.3	146.4	137.4	128.4	122.4	116.3	111.4	106.5	104.5	102.6
62.5°	152.8	140.8	128.8	120.9	112.9	107.1	101.3	98.1	94.9	93.6	92.3
65°	133.1	122.8	112.5	105.2	97.9	92.9	88.0	86.5	85.0	83.9	82.9
67.5°	114.6	105.8	97.0	90.6	84.1	80.7	77.3	75.6	73.8	72.6	71.3
70°	97.9	90.2	82.4	76.8	71.3	68.0	64.8	63.3	61.8	59.5	57.1
72.5°	79.9	73.8	67.8	63.5	59.2	56.5	53.7	50.7	47.7	45.5	43.4
75°	66.1	60.1	54.1	50.0	45.9	42.7	39.5	38.4	37.4	36.7	36.1
77.5°	50.7	45.5	40.4	37.1	33.9	32.4	30.9	30.3	29.6	29.4	29.2
80°	36.5	32.2	27.9	26.2	24.5	24.0	23.6	23.2	22.8	22.5	22.3
82.5°	22.8	20.6	18.5	18.0	17.6	17.4	17.2	17.0	16.7	16.5	16.3
85°	13.3	12.5	11.6	11.4	11.2	10.9	10.7	10.7	10.7	10.7	10.7
87.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.2
90°	12.0	14.2	17.5	20.8	24.1	27.4	26.3	27.4	28.5	29.6	31.8
92.5°	55.8	75.6	110.6	168.6	225.6	203.7	152.2	108.4	84.3	73.4	65.7
95°	99.7	142.4	235.4	398.6	578.2	649.4	526.7	394.2	267.2	209.2	169.7
97.5°	115.0	162.1	254.1	443.5	745.8	998.7	1032.7	905.6	683.3	538.8	413.9
100°	131.4	174.1	250.8	412.8	700.9	1037.1	1252.8	1291.1	1202.4	1074.3	918.8
102.5°	150.0	188.4	255.2	386.6	635.2	965.9	1263.7	1419.2	1437.9	1376.5	1292.2
105°	170.8	204.8	263.9	376.7	583.7	880.5	1194.7	1423.6	1533.1	1553.9	1525.5
107.5°	193.8	225.6	278.2	374.5	546.5	804.9	1096.2	1357.9	1529.8	1615.3	1644.8
110°	216.8	247.5	296.8	380.0	526.7	742.5	1004.2	1255.0	1456.5	1594.5	1671.1



TEST NUMBER: P832064

CATALOG NUMBER: S123RDIP-S340D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	240.9	270.5	315.4	390.9	515.8	700.9	924.3	1153.1	1360.1	1518.9	1622.9
115°	265.0	294.6	336.2	403.0	514.7	673.5	862.9	1065.5	1256.1	1417.0	1536.4
117.5°	289.1	316.5	358.1	418.3	515.8	654.9	822.4	997.6	1166.3	1314.1	1437.9
120°	312.1	339.5	378.9	435.8	520.2	642.8	791.8	946.2	1094.0	1225.4	1336.0
122.5°	332.9	362.5	400.8	452.3	527.8	635.2	766.6	905.6	1036.0	1155.3	1256.1
125°	353.7	383.3	421.6	469.8	535.5	628.6	745.8	870.6	990.0	1095.1	1182.7
127.5°	373.4	403.0	440.2	484.0	544.3	625.3	726.0	838.8	947.3	1043.6	1124.7
130°	390.9	420.5	456.7	498.3	553.0	622.0	710.7	809.3	907.8	996.5	1071.0
132.5°	407.4	435.8	470.9	511.4	559.6	620.9	696.5	781.9	870.6	951.6	1021.7
135°	421.6	451.2	485.1	522.4	566.2	619.8	684.4	757.8	835.6	906.7	969.2
137.5°	434.8	462.1	495.0	531.1	570.5	617.6	673.5	734.8	800.5	864.0	919.9
140°	445.7	473.1	504.8	537.7	574.9	616.5	663.6	715.1	770.9	823.5	870.6
142.5°	456.7	481.8	512.5	544.3	578.2	614.3	654.9	696.5	742.5	786.3	825.7
145°	465.4	490.6	519.1	548.6	579.3	612.2	647.2	682.2	718.4	753.4	785.2
147.5°	476.4	498.3	524.5	551.9	579.3	608.9	639.5	670.2	699.8	729.3	752.3
150°	485.1	504.8	530.0	553.0	579.3	604.5	631.9	657.1	682.2	705.2	726.0
152.5°	493.9	512.5	533.3	555.2	576.0	599.0	623.1	645.0	665.8	685.5	702.0
155°	503.7	519.1	537.7	555.2	573.8	592.4	614.3	633.0	650.5	666.9	680.1
157.5°	512.5	524.5	539.9	556.3	570.5	587.0	604.5	619.8	635.2	648.3	659.2
160°	519.1	530.0	543.2	556.3	568.4	580.4	594.6	608.9	620.9	631.9	639.5
162.5°	524.5	533.3	544.3	555.2	564.0	573.8	584.8	595.7	605.6	615.4	622.0
165°	528.9	536.6	545.4	553.0	559.6	567.3	576.0	584.8	591.3	599.0	604.5
167.5°	533.3	538.8	545.4	551.9	555.2	560.7	567.3	574.9	580.4	584.8	589.2
170°	536.6	538.8	544.3	548.6	550.8	554.1	559.6	565.1	568.4	572.7	574.9
172.5°	538.8	539.9	544.3	547.5	547.5	548.6	551.9	556.3	558.5	561.8	562.9
175°	539.9	541.0	543.2	545.4	544.3	544.3	546.5	548.6	549.7	551.9	551.9
177.5°	541.0	541.0	542.1	544.3	542.1	541.0	542.1	543.2	544.3	545.4	545.4
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



TEST NUMBER: P832064

CATALOG NUMBER: S123RDIP-S340D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1047.1	1047.1	1047.1	1047.1
2.5°	930.3	928.2	927.3	926.5
5°	797.5	790.8	789.3	787.8
7.5°	684.5	681.8	672.5	663.3
10°	592.9	584.3	580.4	576.6
12.5°	516.2	508.3	507.0	505.7
15°	456.8	451.2	449.3	447.3
17.5°	417.7	413.9	411.5	409.1
20°	388.7	386.0	384.2	382.5
22.5°	366.6	364.5	363.2	361.9
25°	345.4	342.2	341.1	340.0
27.5°	325.2	322.4	321.3	320.3
30°	306.3	304.0	302.5	300.9
32.5°	285.7	282.9	282.1	281.2
35°	267.5	265.7	264.9	264.0
37.5°	248.1	246.0	244.7	243.4
40°	231.6	230.5	229.9	229.3
42.5°	214.9	212.9	212.7	212.5
45°	198.1	196.2	195.8	195.3
47.5°	182.5	180.7	180.5	180.3
50°	165.1	162.7	161.0	159.3
52.5°	145.1	143.0	141.5	140.0
55°	126.9	124.5	123.2	121.9
57.5°	113.1	112.1	111.4	110.8
60°	102.0	101.3	100.9	100.5
62.5°	91.7	91.0	91.0	91.0
65°	82.2	81.6	80.9	80.3
67.5°	70.0	68.7	68.5	68.3
70°	55.2	53.2	53.0	52.8
72.5°	43.1	42.9	42.5	42.1
75°	35.6	35.2	35.2	35.2
77.5°	28.8	28.3	28.3	28.3
80°	22.1	21.9	22.1	22.3
82.5°	16.3	16.3	16.1	15.9
85°	10.5	10.3	10.3	10.3
87.5°	5.2	5.2	5.2	5.2
90°	30.7	31.8	32.9	31.8
92.5°	63.5	59.1	60.2	58.0
95°	148.9	139.1	131.4	127.0
97.5°	340.6	299.0	272.7	260.6
100°	808.2	728.2	685.5	686.6
102.5°	1212.3	1153.1	1119.2	1087.4
105°	1475.1	1433.5	1398.4	1393.0
107.5°	1638.3	1618.5	1604.3	1592.3
110°	1701.8	1710.5	1708.3	1706.2



TEST NUMBER: P832064

CATALOG NUMBER: S123RDIP-S340D1195U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1685.3	1717.1	1728.1	1729.1
115°	1618.5	1666.7	1688.6	1694.1
117.5°	1523.3	1576.9	1609.8	1617.4
120°	1422.5	1483.8	1510.1	1516.7
122.5°	1330.5	1384.2	1413.8	1422.5
125°	1252.8	1301.0	1328.3	1336.0
127.5°	1188.2	1229.8	1255.0	1261.5
130°	1129.0	1168.5	1191.5	1200.2
132.5°	1075.4	1114.8	1134.5	1140.0
135°	1022.8	1055.7	1075.4	1083.0
137.5°	965.9	999.8	1016.2	1022.8
140°	912.2	942.9	960.4	959.3
142.5°	859.6	885.9	901.3	900.2
145°	812.6	835.6	844.3	846.5
147.5°	774.2	790.7	799.4	800.5
150°	742.5	754.5	761.1	761.1
152.5°	714.0	724.9	728.2	728.2
155°	689.9	698.7	700.9	702.0
157.5°	668.0	674.6	676.8	676.8
160°	647.2	653.8	653.8	652.7
162.5°	626.4	631.9	631.9	630.8
165°	608.9	613.3	612.2	612.2
167.5°	591.3	594.6	593.5	593.5
170°	576.0	578.2	577.1	577.1
172.5°	562.9	565.1	562.9	561.8
175°	551.9	553.0	551.9	550.8
177.5°	544.3	545.4	543.2	543.2
180°	541.0	541.0	541.0	541.0



TEST NUMBER: P832064

CATALOG NUMBER: S123RDIP-S340D1195U830-4F0-1E-UDD-G4

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	6.25	6.90	7.40	8.03	9.62	10.91	11.57	12.06	12.70	14.29
	3H	7.46	8.04	8.61	9.18	10.78	12.40	12.98	13.56	14.13	15.73
	4H	7.83	8.39	9.00	9.53	11.13	12.88	13.44	14.05	14.58	16.18
	6H	8.10	8.61	9.28	9.76	11.37	13.18	13.69	14.36	14.84	16.45
	8H	8.19	8.67	9.36	9.83	11.44	13.26	13.74	14.43	14.90	16.51
	12H	8.23	8.69	9.41	9.84	11.47	13.28	13.74	14.46	14.90	16.53
4H	2H	6.95	7.50	8.12	8.65	10.25	10.89	11.44	12.06	12.58	14.19
	3H	8.30	8.77	9.48	9.93	11.55	12.53	12.99	13.71	14.16	15.78
	4H	8.75	9.18	9.93	10.33	11.97	13.13	13.55	14.31	14.71	16.35
	6H	9.11	9.48	10.30	10.65	12.28	13.56	13.92	14.74	15.10	16.73
	8H	9.24	9.57	10.42	10.74	12.39	13.69	14.03	14.87	15.19	16.84
	12H	9.30	9.61	10.50	10.79	12.44	13.74	14.05	14.94	15.23	16.88
8H	4H	9.06	9.39	10.24	10.56	12.21	13.08	13.42	14.27	14.59	16.24
	6H	9.51	9.79	10.72	11.00	12.64	13.58	13.85	14.78	15.07	16.71
	8H	9.71	9.95	10.91	11.14	12.80	13.76	14.00	14.97	15.19	16.85
	12H	9.84	10.06	11.05	11.24	12.93	13.87	14.08	15.08	15.27	16.96
12H	4H	9.06	9.37	10.26	10.55	12.19	13.03	13.33	14.22	14.51	16.16
	6H	9.57	9.82	10.78	11.00	12.66	13.55	13.79	14.76	14.98	16.64
	8H	9.78	10.00	10.99	11.18	12.88	13.74	13.95	14.94	15.13	16.83