

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: P832082

Luminaire Tested: S123RDIP-S340D1195U935-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832082
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-S340D1195U935-4F0-1E-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

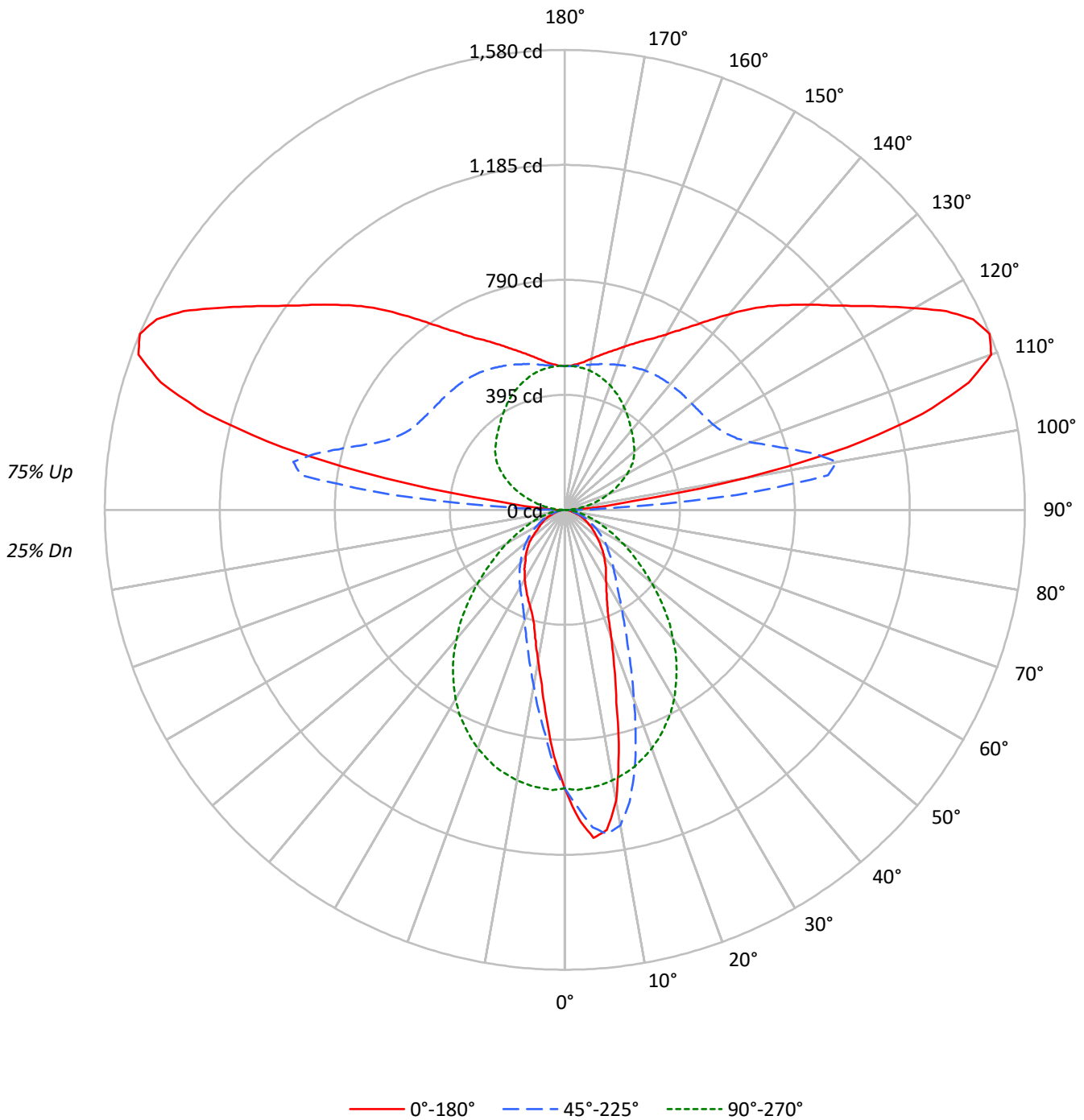
Lumens per Lamp: N/A
Luminaire Lumens: 4988.1 lumens
Efficiency: N/A
Efficacy: 114.9 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

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°	10296	10296	10296	10296	10296
5°	12225	11835	10361	8375	7775
10°	11076	12021	10309	6710	5757
15°	7626	10307	10200	5485	4553
20°	5306	7936	9995	4624	4002
25°	4043	6048	9697	4111	3689
30°	3519	4835	9324	3817	3417
35°	3231	4079	8796	3569	3169
40°	2948	3642	8106	3326	2942
45°	2662	3331	7360	3095	2716
50°	2416	3073	6482	2870	2436
55°	2186	2822	5637	2650	2091
60°	1959	2566	4898	2407	1976
65°	1808	2277	4215	2162	1867
70°	1470	1970	3679	1958	1517
75°	1289	1564	3115	1622	1339
80°	1165	1327	2554	1364	1265
85°	1062	1161	1939	1235	1161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 7767 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.2	1.7
10°-20°	201.7	4.0
20°-30°	231.5	4.6
30°-40°	228.2	4.6
40°-50°	201.2	4.0
50°-60°	154.8	3.1
60°-70°	101.8	2.0
70°-80°	49.4	1.0
80°-90°	15.2	0.3
90°-100°	268.2	5.4
100°-110°	785.1	15.7
110°-120°	766.7	15.4
120°-130°	610.6	12.2
130°-140°	481.7	9.7
140°-150°	359.4	7.2
150°-160°	250.6	5.0
160°-170°	147.2	3.0
170°-180°	47.9	1.0
0°-30°	520.4	10.4
0°-40°	748.5	15.0
0°-60°	1104.5	22.1
0°-90°	1270.9	25.5
90°-120°	1819.9	36.5
90°-150°	3271.6	65.6
90°-180°	3717.0	74.5
0°-180°	4988.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	956	956	956	956	956	
5°	1131	1095	959	775	720	103
15°	684	925	915	492	409	193
25°	340	509	816	346	311	161
35°	246	310	669	272	241	153
45°	175	219	484	203	178	136
55°	116	150	300	141	111	104
65°	71	89	166	85	73	70
75°	31	38	75	39	32	33
85°	9	9	16	10	9	9
90°	29	25	2	25	29	16
95°	116	593	34	593	116	189
105°	1272	804	116	804	1272	1269
115°	1548	615	205	615	1548	1509
125°	1220	574	285	574	1220	1104
135°	989	566	334	566	989	767
145°	773	559	381	559	773	491
155°	641	541	433	541	641	299
165°	559	518	473	518	559	160
175°	503	497	493	497	503	49
180°	494	494	494	494	494	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5
2.5°	1060.0	1056.7	1053.4	1052.4	1051.4	1048.3	1045.1	1038.1	1031.0	1023.8	1016.5
5°	1131.4	1131.8	1132.2	1131.2	1130.2	1126.1	1122.0	1113.4	1104.7	1095.3	1085.9
7.5°	1109.5	1115.7	1122.0	1123.2	1124.4	1127.5	1130.6	1128.7	1126.7	1123.2	1119.6
10°	1013.4	1013.0	1012.6	1019.6	1026.7	1047.7	1068.7	1079.5	1090.2	1099.8	1109.5
12.5°	856.5	857.1	857.7	880.8	904.0	923.8	943.6	971.0	998.5	1028.1	1057.7
15°	684.3	693.9	703.6	724.1	744.7	774.5	804.3	841.2	878.1	924.9	971.8
17.5°	562.0	566.1	570.2	590.0	609.8	638.1	666.3	708.1	749.8	810.2	870.6
20°	463.2	466.9	470.6	484.9	499.2	526.3	553.4	593.2	633.0	692.8	752.6
22.5°	386.7	393.9	401.2	410.8	420.4	440.0	459.6	500.2	540.8	595.3	649.8
25°	340.4	343.7	347.1	355.3	363.5	382.4	401.2	428.1	454.9	509.2	563.6
27.5°	309.0	310.0	311.0	317.1	323.1	335.3	347.5	372.4	397.3	442.0	486.7
30°	283.1	284.9	286.7	291.4	296.1	304.9	313.7	331.4	349.0	389.0	429.0
32.5°	263.1	264.1	265.1	269.0	273.0	279.4	285.9	299.8	313.7	344.3	374.9
35°	245.9	246.1	246.3	249.2	252.2	258.4	264.7	276.3	287.9	310.4	333.0
37.5°	226.3	227.7	229.0	231.2	233.3	238.8	244.3	253.7	263.1	281.8	300.4
40°	209.8	211.0	212.2	214.7	217.3	221.6	225.9	234.5	243.1	259.2	275.3
42.5°	193.3	194.1	194.9	197.5	200.0	205.3	210.6	217.5	224.3	237.7	251.0
45°	174.9	176.9	178.8	181.6	184.3	188.8	193.3	200.4	207.5	218.8	230.2
47.5°	159.6	160.6	161.6	163.9	166.3	171.8	177.3	183.5	189.8	200.4	211.0
50°	144.3	144.7	145.1	147.3	149.4	154.3	159.2	166.5	173.7	183.5	193.3
52.5°	129.8	130.8	131.8	133.9	136.1	139.4	142.8	150.2	157.7	167.3	176.9
55°	116.5	117.1	117.7	119.2	120.8	124.7	128.6	135.1	141.6	150.4	159.2
57.5°	103.9	104.7	105.5	106.7	107.8	111.4	114.9	120.6	126.3	135.1	143.9
60°	91.0	92.0	92.9	94.3	95.7	98.4	101.2	106.3	111.4	119.2	127.1
62.5°	81.6	81.8	82.0	83.1	84.3	86.3	88.2	92.4	96.5	104.3	112.2
65°	71.0	71.6	72.2	72.7	73.3	74.9	76.5	80.0	83.5	89.4	95.3
67.5°	60.0	60.6	61.2	62.2	63.1	64.5	65.9	68.2	70.6	76.1	81.6
70°	46.7	46.7	46.7	48.2	49.8	52.2	54.5	56.3	58.0	62.6	67.1
72.5°	38.0	38.2	38.4	38.6	38.8	40.2	41.6	44.5	47.5	50.2	52.9
75°	31.0	31.2	31.4	31.6	31.8	32.2	32.6	33.5	34.5	37.6	40.8
77.5°	24.7	24.9	25.1	25.3	25.5	25.9	26.3	26.7	27.1	28.2	29.4
80°	18.8	19.0	19.2	19.4	19.6	19.8	20.0	20.4	20.8	21.4	22.0
82.5°	13.7	13.7	13.7	13.7	13.7	14.1	14.5	14.5	14.5	14.9	15.3
85°	8.6	8.6	8.6	8.8	9.0	9.0	9.0	9.2	9.4	9.4	9.4
87.5°	3.9	3.7	3.5	3.7	3.9	3.9	3.9	4.1	4.3	4.3	4.3
90°	29.0	30.0	29.0	28.0	29.0	27.0	26.0	25.0	24.0	25.0	22.0
92.5°	53.0	55.0	54.0	58.0	60.0	67.0	77.0	99.0	139.0	186.1	206.1
95°	116.0	120.0	127.0	136.0	155.1	191.1	244.1	360.1	481.2	593.2	528.2
97.5°	238.1	249.1	273.1	311.1	378.1	492.2	624.2	827.3	943.3	912.3	681.2
100°	627.2	626.2	665.2	738.3	839.3	981.3	1098.4	1179.4	1144.4	947.3	640.2
102.5°	993.3	1022.4	1053.4	1107.4	1180.4	1257.4	1313.5	1296.5	1154.4	882.3	580.2
105°	1272.4	1277.4	1309.5	1347.5	1393.5	1419.5	1400.5	1300.5	1091.4	804.3	533.2
107.5°	1454.5	1465.5	1478.5	1496.5	1502.5	1475.5	1397.5	1240.4	1001.3	735.3	499.2
110°	1558.5	1560.5	1562.5	1554.5	1526.5	1456.5	1330.5	1146.4	917.3	678.2	481.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1579.5	1578.5	1568.5	1539.5	1482.5	1387.5	1242.4	1053.4	844.3	640.2	471.2
115°	1547.5	1542.5	1522.5	1478.5	1403.5	1294.5	1147.4	973.3	788.3	615.2	470.2
117.5°	1477.5	1470.5	1440.5	1391.5	1313.5	1200.4	1065.4	911.3	751.3	598.2	471.2
120°	1385.5	1379.5	1355.5	1299.5	1220.4	1119.4	999.3	864.3	723.3	587.2	475.2
122.5°	1299.5	1291.4	1264.4	1215.4	1147.4	1055.4	946.3	827.3	700.2	580.2	482.2
125°	1220.4	1213.4	1188.4	1144.4	1080.4	1000.3	904.3	795.3	681.2	574.2	489.2
127.5°	1152.4	1146.4	1123.4	1085.4	1027.4	953.3	865.3	766.3	663.2	571.2	497.2
130°	1096.4	1088.4	1067.4	1031.4	978.3	910.3	829.3	739.3	649.2	568.2	505.2
132.5°	1041.4	1036.4	1018.4	982.3	933.3	869.3	795.3	714.2	636.2	567.2	511.2
135°	989.3	982.3	964.3	934.3	885.3	828.3	763.3	692.2	625.2	566.2	517.2
137.5°	934.3	928.3	913.3	882.3	840.3	789.3	731.3	671.2	615.2	564.2	521.2
140°	876.3	877.3	861.3	833.3	795.3	752.3	704.2	653.2	606.2	563.2	525.2
142.5°	822.3	823.3	809.3	785.3	754.3	718.3	678.2	636.2	598.2	561.2	528.2
145°	773.3	771.3	763.3	742.3	717.2	688.2	656.2	623.2	591.2	559.2	529.2
147.5°	731.3	730.3	722.3	707.2	687.2	666.2	639.2	612.2	584.2	556.2	529.2
150°	695.2	695.2	689.2	678.2	663.2	644.2	623.2	600.2	577.2	552.2	529.2
152.5°	665.2	665.2	662.2	652.2	641.2	626.2	608.2	589.2	569.2	547.2	526.2
155°	641.2	640.2	638.2	630.2	621.2	609.2	594.2	578.2	561.2	541.2	524.2
157.5°	618.2	618.2	616.2	610.2	602.2	592.2	580.2	566.2	552.2	536.2	521.2
160°	596.2	597.2	597.2	591.2	584.2	577.2	567.2	556.2	543.2	530.2	519.2
162.5°	576.2	577.2	577.2	572.2	568.2	562.2	553.2	544.2	534.2	524.2	515.2
165°	559.2	559.2	560.2	556.2	552.2	547.2	540.2	534.2	526.2	518.2	511.2
167.5°	542.2	542.2	543.2	540.2	538.2	534.2	530.2	525.2	518.2	512.2	507.2
170°	527.2	527.2	528.2	526.2	525.2	523.2	519.2	516.2	511.2	506.2	503.2
172.5°	513.2	514.2	516.2	514.2	514.2	513.2	510.2	508.2	504.2	501.2	500.2
175°	503.2	504.2	505.2	504.2	504.2	504.2	502.2	501.2	499.2	497.2	497.2
177.5°	496.2	496.2	498.2	497.2	498.2	498.2	497.2	496.2	495.2	494.2	495.2
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5
2.5°	1015.5	1014.5	1005.1	995.7	986.5	977.3	970.4	963.6	952.0	940.4	933.2
5°	1078.5	1071.0	1056.1	1041.2	1018.9	996.5	977.7	958.9	934.9	911.0	891.0
7.5°	1113.6	1107.5	1089.5	1071.4	1041.8	1012.2	982.8	953.4	918.1	882.8	852.6
10°	1114.6	1119.6	1104.7	1089.8	1056.5	1023.2	983.2	943.2	895.7	848.3	809.2
12.5°	1079.6	1101.6	1098.5	1095.3	1061.4	1027.5	978.9	930.2	872.0	813.8	764.9
15°	1014.4	1056.9	1069.5	1082.0	1054.0	1025.9	970.6	915.3	846.9	778.5	722.4
17.5°	930.2	989.8	1023.0	1056.1	1035.7	1015.3	954.7	894.2	817.1	740.0	679.0
20°	830.6	908.7	960.6	1012.6	1005.1	997.7	935.1	872.6	789.4	706.3	640.2
22.5°	732.2	814.5	886.3	958.1	965.7	973.4	910.2	847.1	756.1	665.1	597.9
25°	647.3	731.0	816.5	902.0	919.3	936.5	876.5	816.5	722.2	627.9	561.0
27.5°	566.3	645.9	740.0	834.1	865.5	896.9	842.0	787.1	688.8	590.6	523.9
30°	500.2	571.4	667.5	763.6	807.3	851.0	800.6	750.2	652.8	555.3	490.0
32.5°	438.6	502.4	598.8	695.3	746.1	796.9	753.4	709.8	616.1	522.4	457.9
35°	390.0	447.1	537.1	627.1	683.9	740.8	705.1	669.4	577.9	486.3	425.3
37.5°	348.2	396.1	480.6	565.1	625.5	685.9	656.1	626.3	540.2	454.1	396.5
40°	313.7	352.2	430.8	509.4	568.6	627.9	602.4	576.9	499.8	422.8	368.8
42.5°	284.1	317.3	387.9	458.4	512.8	567.1	550.2	533.4	463.5	393.7	343.7
45°	258.0	285.9	348.1	410.2	460.2	510.2	496.9	483.5	423.3	363.2	317.3
47.5°	234.9	258.8	314.3	369.8	414.7	459.6	447.3	434.9	385.1	335.3	293.5
50°	213.7	234.1	280.4	326.7	367.1	407.5	397.3	387.1	345.9	304.7	268.6
52.5°	193.7	210.6	252.2	293.7	326.3	358.8	351.0	343.2	311.4	279.6	246.9
55°	174.7	190.2	225.3	260.4	288.2	316.1	308.2	300.4	275.7	251.0	222.2
57.5°	157.5	171.0	199.4	227.9	250.0	272.2	268.4	264.7	244.1	223.5	199.8
60°	139.2	151.4	175.9	200.4	218.2	236.1	231.8	227.5	212.8	198.0	177.7
62.5°	122.9	133.7	153.3	172.9	187.5	202.0	198.8	195.7	184.5	173.3	156.5
65°	105.9	116.5	132.4	148.2	159.6	171.0	168.2	165.5	157.1	148.6	135.1
67.5°	90.4	99.2	112.9	126.7	134.3	142.0	140.4	138.8	132.4	125.9	115.3
70°	74.7	82.4	93.7	105.1	110.4	115.7	116.3	116.9	111.0	105.1	97.3
72.5°	59.0	65.1	75.7	86.3	90.4	94.5	94.3	94.1	90.6	87.1	80.0
75°	45.3	49.8	58.0	66.3	69.8	73.3	74.1	74.9	71.6	68.2	64.3
77.5°	32.6	35.7	42.0	48.2	52.2	56.1	56.5	56.9	55.3	53.7	50.0
80°	22.9	23.9	27.8	31.8	35.9	40.0	40.6	41.2	39.6	38.0	35.7
82.5°	15.9	16.5	17.8	19.2	22.5	25.9	26.7	27.5	26.7	25.9	23.3
85°	9.6	9.8	10.4	11.0	12.5	14.1	14.9	15.7	15.3	14.9	13.5
87.5°	4.3	4.3	4.5	4.7	5.1	5.5	6.5	7.5	6.9	6.3	5.7
90°	19.0	16.0	13.0	11.0	9.0	6.0	4.0	2.0	4.0	6.0	9.0
92.5°	154.1	101.0	69.0	51.0	41.0	32.0	22.0	15.0	22.0	32.0	41.0
95°	364.1	215.1	130.0	91.0	65.0	48.0	37.0	34.0	37.0	48.0	65.0
97.5°	405.1	232.1	148.1	105.0	79.0	64.0	55.0	54.0	55.0	64.0	79.0
100°	377.1	229.1	159.1	120.0	96.0	82.0	75.0	74.0	75.0	82.0	96.0
102.5°	353.1	233.1	172.1	137.0	116.0	103.0	97.0	95.0	97.0	103.0	116.0
105°	344.1	241.1	187.1	156.1	137.0	125.0	119.0	116.0	119.0	125.0	137.0
107.5°	342.1	254.1	206.1	177.1	159.1	147.1	141.0	138.0	141.0	147.1	159.1
110°	347.1	271.1	226.1	198.1	181.1	170.1	165.1	162.1	165.1	170.1	181.1



TEST NUMBER: P832082

CATALOG NUMBER: S123RDIP-S340D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	357.1	288.1	247.1	220.1	203.1	192.1	187.1	184.1	187.1	192.1	203.1
115°	368.1	307.1	269.1	242.1	225.1	215.1	209.1	205.1	209.1	215.1	225.1
117.5°	382.1	327.1	289.1	264.1	245.1	236.1	231.1	226.1	231.1	236.1	245.1
120°	398.1	346.1	310.1	285.1	266.1	256.1	251.1	248.1	251.1	256.1	266.1
122.5°	413.1	366.1	331.1	304.1	286.1	275.1	270.1	267.1	270.1	275.1	286.1
125°	429.1	385.1	350.1	323.1	304.1	293.1	287.1	285.1	287.1	293.1	304.1
127.5°	442.2	402.1	368.1	341.1	320.1	309.1	302.1	299.1	302.1	309.1	320.1
130°	455.2	417.1	384.1	357.1	336.1	324.1	315.1	312.1	315.1	324.1	336.1
132.5°	467.2	430.1	398.1	372.1	351.1	336.1	326.1	322.1	326.1	336.1	351.1
135°	477.2	443.2	412.1	385.1	364.1	349.1	338.1	334.1	338.1	349.1	364.1
137.5°	485.2	452.2	422.1	397.1	376.1	360.1	349.1	345.1	349.1	360.1	376.1
140°	491.2	461.2	432.2	407.1	387.1	371.1	361.1	356.1	361.1	371.1	387.1
142.5°	497.2	468.2	440.2	417.1	397.1	383.1	372.1	368.1	372.1	383.1	397.1
145°	501.2	474.2	448.2	425.1	408.1	393.1	384.1	381.1	384.1	393.1	408.1
147.5°	504.2	479.2	455.2	435.2	418.1	405.1	396.1	394.1	396.1	405.1	418.1
150°	505.2	484.2	461.2	443.2	429.1	416.1	408.1	407.1	408.1	416.1	429.1
152.5°	507.2	487.2	468.2	451.2	439.2	428.1	420.1	420.1	420.1	428.1	439.2
155°	507.2	491.2	474.2	460.2	449.2	439.2	433.2	433.2	433.2	439.2	449.2
157.5°	508.2	493.2	479.2	468.2	458.2	449.2	444.2	443.2	444.2	449.2	458.2
160°	508.2	496.2	484.2	474.2	467.2	459.2	455.2	455.2	455.2	459.2	467.2
162.5°	507.2	497.2	487.2	479.2	473.2	467.2	464.2	464.2	464.2	467.2	473.2
165°	505.2	498.2	490.2	483.2	479.2	474.2	472.2	473.2	472.2	474.2	479.2
167.5°	504.2	498.2	492.2	487.2	484.2	480.2	479.2	480.2	479.2	480.2	484.2
170°	501.2	497.2	492.2	490.2	488.2	485.2	484.2	486.2	484.2	485.2	488.2
172.5°	500.2	497.2	493.2	492.2	491.2	489.2	489.2	490.2	489.2	489.2	491.2
175°	498.2	496.2	494.2	493.2	493.2	491.2	492.2	493.2	492.2	491.2	493.2
177.5°	497.2	495.2	494.2	494.2	494.2	493.2	494.2	495.2	494.2	493.2	494.2
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2



TEST NUMBER: P832082

CATALOG NUMBER: S123RDIP-S340D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5	956.5
2.5°	925.9	914.7	903.6	895.5	887.5	877.5	867.5	867.1	866.7	859.2	851.8
5°	871.0	851.6	832.2	813.2	794.1	775.1	756.1	751.8	747.5	741.0	734.5
7.5°	822.4	791.4	760.4	736.1	711.8	692.8	673.8	660.8	647.9	637.9	627.9
10°	770.2	731.8	693.4	663.9	634.5	613.9	593.4	578.5	563.6	556.5	549.4
12.5°	716.1	674.3	632.6	603.7	574.9	550.2	525.5	512.0	498.5	488.6	478.8
15°	666.3	621.4	576.5	545.9	515.3	492.2	469.0	455.5	442.0	432.2	422.4
17.5°	618.1	572.8	527.5	496.5	465.5	444.5	423.5	410.4	397.3	391.2	385.1
20°	574.1	528.5	482.8	453.5	424.3	403.7	383.2	376.1	369.0	363.3	357.7
22.5°	530.6	486.7	442.8	414.7	386.7	371.8	356.9	351.2	345.5	341.2	336.9
25°	494.1	450.4	406.7	382.2	357.7	346.1	334.5	330.8	327.1	322.8	318.4
27.5°	457.3	415.7	374.1	354.5	334.9	325.5	316.1	311.4	306.7	303.1	299.6
30°	424.7	386.3	347.9	331.6	315.3	307.1	298.8	293.7	288.6	285.3	282.0
32.5°	393.3	359.2	325.1	311.2	297.3	289.2	281.2	276.3	271.4	267.5	263.5
35°	364.3	334.7	305.1	292.4	279.6	271.6	263.5	258.6	253.7	249.8	245.9
37.5°	338.8	312.0	285.1	273.1	261.2	254.1	247.1	242.0	236.9	232.8	228.6
40°	314.9	291.2	267.5	255.9	244.3	236.7	229.0	224.5	220.0	216.3	212.6
42.5°	293.7	272.0	250.2	238.8	227.5	220.2	212.9	207.7	202.4	200.2	198.0
45°	271.4	252.2	232.9	222.0	211.0	203.3	195.7	191.2	186.7	184.7	182.8
47.5°	251.8	233.9	216.1	205.3	194.5	187.7	180.8	177.3	173.7	171.0	168.2
50°	232.6	215.3	198.0	187.7	177.3	171.4	165.5	161.2	156.9	154.9	152.9
52.5°	214.1	198.4	182.8	172.2	161.6	155.9	150.2	146.5	142.8	138.6	134.5
55°	193.3	179.6	165.9	156.5	147.1	141.2	135.3	131.0	126.7	122.4	118.0
57.5°	176.1	162.6	149.0	140.6	132.2	126.5	120.8	116.1	111.4	107.8	104.3
60°	157.3	145.5	133.7	125.5	117.3	111.8	106.3	101.8	97.3	95.5	93.7
62.5°	139.6	128.6	117.7	110.4	103.1	97.8	92.6	89.6	86.7	85.5	84.3
65°	121.6	112.2	102.7	96.1	89.4	84.9	80.4	79.0	77.6	76.7	75.7
67.5°	104.7	96.7	88.6	82.7	76.9	73.7	70.6	69.0	67.5	66.3	65.1
70°	89.4	82.4	75.3	70.2	65.1	62.2	59.2	57.8	56.5	54.3	52.2
72.5°	72.9	67.5	62.0	58.0	54.1	51.6	49.0	46.3	43.5	41.6	39.6
75°	60.4	54.9	49.4	45.7	42.0	39.0	36.1	35.1	34.1	33.5	32.9
77.5°	46.3	41.6	36.9	33.9	31.0	29.6	28.2	27.6	27.1	26.9	26.7
80°	33.3	29.4	25.5	23.9	22.4	22.0	21.6	21.2	20.8	20.6	20.4
82.5°	20.8	18.8	16.9	16.5	16.1	15.9	15.7	15.5	15.3	15.1	14.9
85°	12.2	11.4	10.6	10.4	10.2	10.0	9.8	9.8	9.8	9.8	9.8
87.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.9	4.7
90°	11.0	13.0	16.0	19.0	22.0	25.0	24.0	25.0	26.0	27.0	29.0
92.5°	51.0	69.0	101.0	154.1	206.1	186.1	139.0	99.0	77.0	67.0	60.0
95°	91.0	130.0	215.1	364.1	528.2	593.2	481.2	360.1	244.1	191.1	155.1
97.5°	105.0	148.1	232.1	405.1	681.2	912.3	943.3	827.3	624.2	492.2	378.1
100°	120.0	159.1	229.1	377.1	640.2	947.3	1144.4	1179.4	1098.4	981.3	839.3
102.5°	137.0	172.1	233.1	353.1	580.2	882.3	1154.4	1296.5	1313.5	1257.4	1180.4
105°	156.1	187.1	241.1	344.1	533.2	804.3	1091.4	1300.5	1400.5	1419.5	1393.5
107.5°	177.1	206.1	254.1	342.1	499.2	735.3	1001.3	1240.4	1397.5	1475.5	1502.5
110°	198.1	226.1	271.1	347.1	481.2	678.2	917.3	1146.4	1330.5	1456.5	1526.5



TEST NUMBER: P832082

CATALOG NUMBER: S123RDIP-S340D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	220.1	247.1	288.1	357.1	471.2	640.2	844.3	1053.4	1242.4	1387.5	1482.5
115°	242.1	269.1	307.1	368.1	470.2	615.2	788.3	973.3	1147.4	1294.5	1403.5
117.5°	264.1	289.1	327.1	382.1	471.2	598.2	751.3	911.3	1065.4	1200.4	1313.5
120°	285.1	310.1	346.1	398.1	475.2	587.2	723.3	864.3	999.3	1119.4	1220.4
122.5°	304.1	331.1	366.1	413.1	482.2	580.2	700.2	827.3	946.3	1055.4	1147.4
125°	323.1	350.1	385.1	429.1	489.2	574.2	681.2	795.3	904.3	1000.3	1080.4
127.5°	341.1	368.1	402.1	442.2	497.2	571.2	663.2	766.3	865.3	953.3	1027.4
130°	357.1	384.1	417.1	455.2	505.2	568.2	649.2	739.3	829.3	910.3	978.3
132.5°	372.1	398.1	430.1	467.2	511.2	567.2	636.2	714.2	795.3	869.3	933.3
135°	385.1	412.1	443.2	477.2	517.2	566.2	625.2	692.2	763.3	828.3	885.3
137.5°	397.1	422.1	452.2	485.2	521.2	564.2	615.2	671.2	731.3	789.3	840.3
140°	407.1	432.2	461.2	491.2	525.2	563.2	606.2	653.2	704.2	752.3	795.3
142.5°	417.1	440.2	468.2	497.2	528.2	561.2	598.2	636.2	678.2	718.3	754.3
145°	425.1	448.2	474.2	501.2	529.2	559.2	591.2	623.2	656.2	688.2	717.2
147.5°	435.2	455.2	479.2	504.2	529.2	556.2	584.2	612.2	639.2	666.2	687.2
150°	443.2	461.2	484.2	505.2	529.2	552.2	577.2	600.2	623.2	644.2	663.2
152.5°	451.2	468.2	487.2	507.2	526.2	547.2	569.2	589.2	608.2	626.2	641.2
155°	460.2	474.2	491.2	507.2	524.2	541.2	561.2	578.2	594.2	609.2	621.2
157.5°	468.2	479.2	493.2	508.2	521.2	536.2	552.2	566.2	580.2	592.2	602.2
160°	474.2	484.2	496.2	508.2	519.2	530.2	543.2	556.2	567.2	577.2	584.2
162.5°	479.2	487.2	497.2	507.2	515.2	524.2	534.2	544.2	553.2	562.2	568.2
165°	483.2	490.2	498.2	505.2	511.2	518.2	526.2	534.2	540.2	547.2	552.2
167.5°	487.2	492.2	498.2	504.2	507.2	512.2	518.2	525.2	530.2	534.2	538.2
170°	490.2	492.2	497.2	501.2	503.2	506.2	511.2	516.2	519.2	523.2	525.2
172.5°	492.2	493.2	497.2	500.2	500.2	501.2	504.2	508.2	510.2	513.2	514.2
175°	493.2	494.2	496.2	498.2	497.2	497.2	499.2	501.2	502.2	504.2	504.2
177.5°	494.2	494.2	495.2	497.2	495.2	494.2	495.2	496.2	497.2	498.2	498.2
180°	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2	494.2

TEST NUMBER: P832082

CATALOG NUMBER: S123RDIP-S340D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	956.5	956.5	956.5	956.5
2.5°	849.8	847.9	847.1	846.3
5°	728.5	722.4	721.0	719.6
7.5°	625.3	622.8	614.3	605.9
10°	541.6	533.7	530.2	526.7
12.5°	471.6	464.3	463.2	462.0
15°	417.3	412.2	410.4	408.6
17.5°	381.6	378.1	375.9	373.7
20°	355.1	352.6	351.0	349.4
22.5°	334.9	333.0	331.8	330.6
25°	315.5	312.6	311.6	310.6
27.5°	297.1	294.5	293.5	292.6
30°	279.8	277.7	276.3	274.9
32.5°	261.0	258.4	257.7	256.9
35°	244.3	242.8	242.0	241.2
37.5°	226.7	224.7	223.5	222.4
40°	211.6	210.6	210.0	209.4
42.5°	196.3	194.5	194.3	194.1
45°	181.0	179.2	178.8	178.4
47.5°	166.7	165.1	164.9	164.7
50°	150.8	148.6	147.1	145.5
52.5°	132.6	130.6	129.2	127.8
55°	115.9	113.7	112.6	111.4
57.5°	103.3	102.4	101.8	101.2
60°	93.1	92.6	92.2	91.8
62.5°	83.7	83.1	83.1	83.1
65°	75.1	74.5	73.9	73.3
67.5°	63.9	62.7	62.6	62.4
70°	50.4	48.6	48.4	48.2
72.5°	39.4	39.2	38.8	38.4
75°	32.6	32.2	32.2	32.2
77.5°	26.3	25.9	25.9	25.9
80°	20.2	20.0	20.2	20.4
82.5°	14.9	14.9	14.7	14.5
85°	9.6	9.4	9.4	9.4
87.5°	4.7	4.7	4.7	4.7
90°	28.0	29.0	30.0	29.0
92.5°	58.0	54.0	55.0	53.0
95°	136.0	127.0	120.0	116.0
97.5°	311.1	273.1	249.1	238.1
100°	738.3	665.2	626.2	627.2
102.5°	1107.4	1053.4	1022.4	993.3
105°	1347.5	1309.5	1277.4	1272.4
107.5°	1496.5	1478.5	1465.5	1454.5
110°	1554.5	1562.5	1560.5	1558.5



TEST NUMBER: P832082

CATALOG NUMBER: S123RDIP-S340D1195U935-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1539.5	1568.5	1578.5	1579.5
115°	1478.5	1522.5	1542.5	1547.5
117.5°	1391.5	1440.5	1470.5	1477.5
120°	1299.5	1355.5	1379.5	1385.5
122.5°	1215.4	1264.4	1291.4	1299.5
125°	1144.4	1188.4	1213.4	1220.4
127.5°	1085.4	1123.4	1146.4	1152.4
130°	1031.4	1067.4	1088.4	1096.4
132.5°	982.3	1018.4	1036.4	1041.4
135°	934.3	964.3	982.3	989.3
137.5°	882.3	913.3	928.3	934.3
140°	833.3	861.3	877.3	876.3
142.5°	785.3	809.3	823.3	822.3
145°	742.3	763.3	771.3	773.3
147.5°	707.2	722.3	730.3	731.3
150°	678.2	689.2	695.2	695.2
152.5°	652.2	662.2	665.2	665.2
155°	630.2	638.2	640.2	641.2
157.5°	610.2	616.2	618.2	618.2
160°	591.2	597.2	597.2	596.2
162.5°	572.2	577.2	577.2	576.2
165°	556.2	560.2	559.2	559.2
167.5°	540.2	543.2	542.2	542.2
170°	526.2	528.2	527.2	527.2
172.5°	514.2	516.2	514.2	513.2
175°	504.2	505.2	504.2	503.2
177.5°	497.2	498.2	496.2	496.2
180°	494.2	494.2	494.2	494.2



TEST NUMBER: P832082

CATALOG NUMBER: S123RDIP-S340D1195U935-4F0-1E-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	5.93	6.59	7.08	7.72	9.31	10.60	11.25	11.75	12.39	13.97
	3H	7.14	7.72	8.30	8.87	10.47	12.09	12.67	13.24	13.81	15.41
	4H	7.52	8.07	8.68	9.21	10.82	12.57	13.12	13.73	14.26	15.87
	6H	7.79	8.30	8.96	9.44	11.06	12.87	13.38	14.04	14.52	16.14
	8H	7.87	8.35	9.05	9.51	11.12	12.94	13.43	14.12	14.59	16.20
	12H	7.92	8.38	9.10	9.53	11.16	12.97	13.43	14.15	14.58	16.21
4H	2H	6.64	7.19	7.81	8.33	9.94	10.57	11.13	11.75	12.27	13.87
	3H	7.99	8.45	9.17	9.62	11.24	12.22	12.68	13.39	13.84	15.46
	4H	8.44	8.86	9.62	10.02	11.66	12.82	13.24	13.99	14.40	16.03
	6H	8.80	9.16	9.98	10.34	11.96	13.24	13.61	14.43	14.79	16.41
	8H	8.92	9.26	10.10	10.43	12.07	13.37	13.71	14.55	14.88	16.52
	12H	8.99	9.29	10.19	10.47	12.12	13.43	13.73	14.62	14.91	16.56
8H	4H	8.74	9.08	9.92	10.25	11.89	12.77	13.11	13.95	14.28	15.92
	6H	9.20	9.48	10.40	10.69	12.33	13.26	13.54	14.46	14.75	16.39
	8H	9.39	9.63	10.60	10.82	12.48	13.45	13.69	14.65	14.88	16.54
	12H	9.53	9.74	10.74	10.93	12.62	13.56	13.77	14.76	14.95	16.65
12H	4H	8.74	9.05	9.94	10.23	11.88	12.71	13.02	13.91	14.20	15.85
	6H	9.26	9.50	10.46	10.69	12.35	13.24	13.48	14.44	14.67	16.33
	8H	9.47	9.68	10.68	10.87	12.56	13.42	13.63	14.63	14.82	16.51