

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: P831807

Luminaire Tested: S123RDIP-S1000D1195U930-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831807
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-5)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D1195U930-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

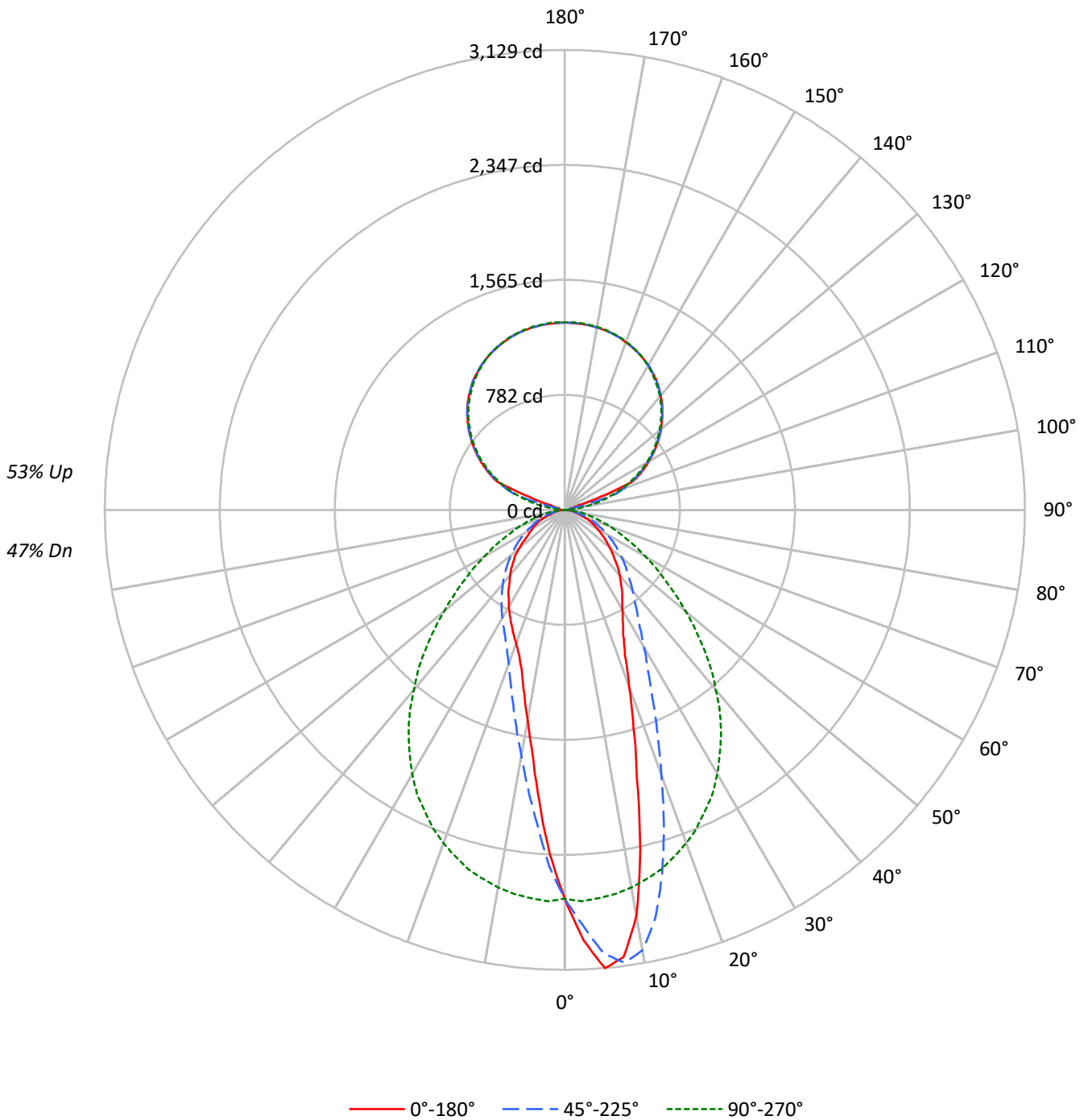
Lumens per Lamp: N/A
Luminaire Lumens: 7397.0 lumens
Efficiency: N/A
Efficacy: 111.9 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 66.1
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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	98	94	90	87	90	87	84	81	73	71	69	60	59	57	49	48	47	41				41
2	90	83	77	72	83	77	72	68	65	61	58	54	51	49	44	42	41	36				36
3	83	74	67	61	76	68	62	58	58	54	50	48	45	43	40	37	36	32				32
4	76	66	58	53	70	61	55	50	52	47	43	44	40	37	36	34	32	28				28
5	70	59	52	46	64	55	48	43	47	42	38	40	36	33	33	30	28	25				25
6	65	53	46	40	60	50	43	38	43	38	34	36	32	29	30	28	25	22				22
7	60	49	41	36	56	45	39	34	39	34	30	33	30	27	28	25	23	20				20
8	56	44	37	32	52	42	35	30	36	31	27	31	27	24	26	23	21	19				19
9	53	41	34	29	49	38	32	28	33	28	25	29	25	22	24	21	19	17				17
10	49	38	31	26	46	35	29	25	31	26	23	27	23	20	23	20	18	16				16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	28478	28478	28478	28478	28478
5°	33813	32736	28657	23166	21507
10°	30636	33250	28514	18560	15923
15°	21094	28509	28213	15170	12596
20°	14675	21950	27646	12791	11071
25°	11182	16728	26822	11370	10203
30°	9734	13375	25792	10556	9451
35°	8937	11282	24331	9871	8766
40°	8154	10075	22420	9198	8139
45°	7365	9214	20360	8561	7514
50°	6685	8502	17928	7937	6738
55°	6047	7807	15593	7328	5782
60°	5419	7100	13543	6654	5464
65°	5000	6299	11660	5980	5165
70°	4063	5445	10172	5410	4198
75°	3564	4329	8617	4487	3697
80°	3230	3663	7060	3763	3496
85°	2952	3211	5360	3421	3211

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 21482 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.1	3.3
10°-20°	558.0	7.5
20°-30°	640.2	8.7
30°-40°	631.1	8.5
40°-50°	556.5	7.5
50°-60°	428.1	5.8
60°-70°	281.5	3.8
70°-80°	136.7	1.8
80°-90°	37.0	0.5
90°-100°	44.9	0.6
100°-110°	217.3	2.9
110°-120°	532.6	7.2
120°-130°	676.2	9.1
130°-140°	722.4	9.8
140°-150°	675.5	9.1
150°-160°	544.9	7.4
160°-170°	351.6	4.8
170°-180°	121.2	1.6
0°-30°	1439.4	19.5
0°-40°	2070.5	28.0
0°-60°	3055.1	41.3
0°-90°	3510.3	47.5
90°-120°	794.9	10.7
90°-150°	2869.0	38.8
90°-180°	3887.0	52.5
0°-180°	7397.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2646	2646	2646	2646	2646	
5°	3129	3030	2652	2144	1990	286
15°	1893	2558	2532	1361	1130	534
25°	942	1408	2258	957	859	445
35°	680	859	1852	751	667	424
45°	484	605	1338	562	494	376
55°	322	416	831	390	308	289
65°	196	247	458	235	203	192
75°	86	104	207	108	89	92
85°	24	26	43	28	26	25
90°	28	23	1	23	28	14
95°	36	29	58	29	36	30
105°	42	207	282	207	42	87
115°	557	544	530	544	557	524
125°	762	758	746	758	762	681
135°	939	939	929	939	939	724
145°	1083	1081	1072	1081	1083	676
155°	1179	1180	1181	1180	1179	544
165°	1243	1242	1246	1242	1243	351
175°	1270	1271	1275	1271	1270	121
180°	1275	1275	1275	1275	1275	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7
2.5°	2932.0	2922.8	2913.6	2910.9	2908.2	2899.5	2890.8	2871.3	2851.8	2831.7	2811.6
5°	3129.4	3130.5	3131.6	3128.9	3126.2	3114.8	3103.4	3079.6	3055.7	3029.7	3003.6
7.5°	3068.7	3086.1	3103.4	3106.7	3109.9	3118.6	3127.3	3121.9	3116.4	3106.7	3096.9
10°	2802.9	2801.9	2800.8	2820.3	2839.8	2897.9	2955.9	2985.7	3015.6	3042.1	3068.7
12.5°	2369.1	2370.7	2372.3	2436.3	2500.3	2555.1	2609.9	2685.8	2761.7	2843.6	2925.5
15°	1892.9	1919.4	1946.0	2003.0	2059.9	2142.3	2224.8	2326.7	2428.7	2558.3	2688.0
17.5°	1554.4	1565.8	1577.2	1632.0	1686.8	1764.9	1843.0	1958.5	2074.0	2241.1	2408.1
20°	1281.1	1291.4	1301.7	1341.3	1380.9	1455.7	1530.6	1640.7	1750.8	1916.2	2081.6
22.5°	1069.5	1089.6	1109.7	1136.3	1162.8	1217.1	1271.3	1383.6	1495.8	1646.6	1797.4
25°	941.5	950.8	960.0	982.8	1005.5	1057.6	1109.7	1184.0	1258.3	1408.5	1558.8
27.5°	854.8	857.5	860.2	877.0	893.8	927.4	961.1	1030.0	1098.8	1222.5	1346.2
30°	783.2	788.1	792.9	806.0	819.0	843.4	867.8	916.6	965.4	1076.1	1186.7
32.5°	727.9	730.6	733.3	744.1	755.0	772.9	790.8	829.3	867.8	952.4	1037.0
35°	680.1	680.7	681.2	689.3	697.5	714.8	732.2	764.2	796.2	858.6	920.9
37.5°	625.9	629.7	633.5	639.4	645.4	660.6	675.8	701.8	727.9	779.4	830.9
40°	580.3	583.6	586.8	593.9	600.9	612.9	624.8	648.7	672.5	717.0	761.5
42.5°	534.8	536.9	539.1	546.2	553.2	567.9	582.5	601.5	620.5	657.3	694.2
45°	483.8	489.2	494.6	502.2	509.8	522.3	534.8	554.3	573.8	605.3	636.7
47.5°	441.5	444.2	446.9	453.4	459.9	475.1	490.3	507.7	525.0	554.3	583.6
50°	399.2	400.3	401.4	407.3	413.3	426.8	440.4	460.5	480.5	507.7	534.8
52.5°	359.0	361.8	364.5	370.4	376.4	385.6	394.8	415.5	436.1	462.6	489.2
55°	322.2	323.8	325.4	329.8	334.1	344.9	355.8	373.7	391.6	416.0	440.4
57.5°	287.5	289.6	291.8	295.0	298.3	308.1	317.8	333.6	349.3	373.7	398.1
60°	251.7	254.4	257.1	260.9	264.7	272.3	279.9	294.0	308.1	329.8	351.5
62.5°	225.6	226.2	226.7	230.0	233.2	238.6	244.1	255.5	266.8	288.5	310.2
65°	196.3	198.0	199.6	201.2	202.8	207.2	211.5	221.3	231.0	247.3	263.6
67.5°	166.0	167.6	169.2	171.9	174.6	178.4	182.2	188.7	195.3	210.4	225.6
70°	129.1	129.1	129.1	133.4	137.8	144.3	150.8	155.7	160.5	173.0	185.5
72.5°	105.2	105.8	106.3	106.8	107.4	111.2	115.0	123.1	131.3	138.8	146.4
75°	85.7	86.2	86.8	87.3	87.9	88.9	90.0	92.7	95.5	104.1	112.8
77.5°	68.3	68.9	69.4	70.0	70.5	71.6	72.7	73.8	74.8	78.1	81.4
80°	52.1	52.6	53.2	53.7	54.2	54.8	55.3	56.4	57.5	59.1	60.7
82.5°	38.0	38.0	38.0	38.0	38.0	39.1	40.1	40.1	40.1	41.2	42.3
85°	23.9	23.9	23.9	24.4	24.9	24.9	24.9	25.5	26.0	26.0	26.0
87.5°	10.8	10.3	9.8	10.3	10.8	10.8	10.8	11.4	11.9	11.9	11.9
90°	28.4	28.0	27.6	27.2	26.7	26.1	25.3	24.4	23.6	22.7	20.0
92.5°	32.2	32.0	31.8	31.6	31.4	30.5	29.0	27.6	26.1	24.6	22.7
95°	36.0	36.0	36.0	36.0	36.0	35.3	33.8	32.3	30.8	29.4	27.0
97.5°	38.8	38.6	38.4	38.2	38.0	37.0	35.4	33.7	32.0	30.3	41.0
100°	39.8	39.6	39.4	39.2	38.9	38.0	36.3	34.6	32.9	31.3	64.1
102.5°	40.7	40.3	39.9	39.5	39.0	42.3	49.3	56.2	63.1	70.1	106.7
105°	41.7	41.3	40.8	40.4	40.0	58.4	95.7	132.9	170.2	207.4	226.4
107.5°	98.5	126.1	153.7	181.2	208.8	238.8	271.2	303.6	336.1	368.5	365.3
110°	260.5	290.6	320.7	350.8	380.9	399.4	406.4	413.3	420.3	427.2	424.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	493.5	493.9	494.3	494.8	495.2	494.4	492.6	490.7	488.8	486.9	484.6
115°	557.0	556.1	555.3	554.4	553.6	552.1	550.0	547.9	545.8	543.7	541.8
117.5°	608.1	607.9	607.7	607.5	607.3	606.3	604.6	603.0	601.3	599.6	598.5
120°	661.2	661.2	661.2	661.2	661.2	660.3	658.6	657.0	655.3	653.6	653.0
122.5°	713.3	713.0	712.8	712.6	712.4	711.8	710.7	709.7	708.6	707.6	706.7
125°	761.6	761.1	760.7	760.3	759.9	759.5	759.0	758.6	758.2	757.8	756.9
127.5°	808.9	809.3	809.8	810.2	810.6	810.5	809.9	809.2	808.6	808.0	806.9
130°	854.4	854.8	855.2	855.7	856.1	855.9	855.0	854.2	853.3	852.5	851.7
132.5°	896.1	896.7	897.3	898.0	898.6	898.5	897.7	896.8	896.0	895.1	894.5
135°	938.7	939.3	940.0	940.6	941.2	941.2	940.6	940.0	939.3	938.7	937.9
137.5°	979.4	979.8	980.3	980.7	981.1	980.8	979.7	978.7	977.6	976.6	976.2
140°	1015.4	1015.8	1016.3	1016.7	1017.1	1016.9	1016.1	1015.2	1014.4	1013.5	1012.9
142.5°	1048.6	1049.2	1049.8	1050.5	1051.1	1051.1	1050.5	1049.8	1049.2	1048.6	1047.9
145°	1082.7	1082.7	1082.7	1082.7	1082.7	1082.5	1082.0	1081.6	1081.2	1080.8	1080.4
147.5°	1107.3	1108.4	1109.4	1110.5	1111.5	1111.8	1111.4	1111.0	1110.6	1110.1	1109.7
150°	1135.7	1136.4	1137.0	1137.6	1138.2	1138.3	1137.9	1137.5	1137.1	1136.7	1136.2
152.5°	1158.5	1159.5	1160.6	1161.6	1162.7	1162.8	1161.9	1161.1	1160.2	1159.4	1159.2
155°	1179.3	1180.6	1181.8	1183.1	1184.3	1184.4	1183.4	1182.3	1181.3	1180.2	1180.0
157.5°	1197.3	1199.0	1200.7	1202.3	1204.0	1204.2	1203.0	1201.7	1200.4	1199.2	1199.4
160°	1214.3	1215.8	1217.3	1218.8	1220.2	1220.3	1219.1	1217.8	1216.5	1215.3	1215.5
162.5°	1230.4	1231.7	1233.0	1234.2	1235.5	1235.4	1233.9	1232.4	1231.0	1229.5	1229.7
165°	1242.8	1244.2	1245.7	1247.2	1248.6	1248.5	1246.9	1245.2	1243.5	1241.8	1242.0
167.5°	1252.2	1253.9	1255.6	1257.3	1259.0	1259.0	1257.3	1255.6	1253.9	1252.2	1252.2
170°	1260.8	1262.4	1264.1	1265.8	1267.5	1267.5	1265.8	1264.1	1262.4	1260.8	1260.8
172.5°	1265.5	1267.4	1269.3	1271.2	1273.1	1273.2	1271.5	1269.8	1268.1	1266.4	1266.2
175°	1270.2	1271.9	1273.6	1275.3	1277.0	1277.1	1275.6	1274.1	1272.6	1271.2	1271.0
177.5°	1271.2	1273.3	1275.4	1277.5	1279.6	1279.8	1278.1	1276.4	1274.7	1273.1	1272.9
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7
2.5°	2808.9	2806.2	2780.2	2754.1	2728.6	2703.2	2684.2	2665.2	2633.2	2601.2	2581.1
5°	2983.0	2962.4	2921.2	2880.0	2818.1	2756.3	2704.2	2652.2	2586.0	2519.8	2464.5
7.5°	3080.1	3063.3	3013.4	2963.5	2881.6	2799.7	2718.3	2637.0	2539.4	2441.7	2358.2
10°	3082.8	3096.9	3055.7	3014.5	2922.3	2830.1	2719.4	2608.8	2477.5	2346.3	2238.3
12.5°	2986.3	3047.0	3038.3	3029.7	2935.8	2842.0	2707.5	2573.0	2411.9	2250.8	2115.8
15°	2805.7	2923.4	2958.1	2992.8	2915.2	2837.7	2684.7	2531.8	2342.5	2153.2	1998.1
17.5°	2573.0	2737.9	2829.5	2921.2	2864.8	2808.4	2640.8	2473.2	2260.0	2046.9	1878.2
20°	2297.5	2513.3	2657.0	2800.8	2780.2	2759.6	2586.5	2413.5	2183.6	1953.6	1770.8
22.5°	2025.2	2253.0	2451.5	2650.0	2671.2	2692.3	2517.7	2343.0	2091.4	1839.7	1653.7
25°	1790.3	2021.9	2258.4	2494.9	2542.6	2590.3	2424.4	2258.4	1997.5	1736.7	1551.7
27.5°	1566.4	1786.6	2046.9	2307.2	2394.0	2480.8	2328.9	2177.1	1905.3	1633.6	1449.2
30°	1383.6	1580.5	1846.2	2112.0	2232.9	2353.9	2214.5	2075.1	1805.5	1536.0	1355.4
32.5°	1213.3	1389.5	1656.4	1923.2	2063.7	2204.2	2083.8	1963.4	1704.1	1444.9	1266.4
35°	1078.8	1236.6	1485.5	1734.5	1891.8	2049.1	1950.3	1851.6	1598.4	1345.1	1176.4
37.5°	963.2	1095.6	1329.3	1563.1	1730.1	1897.2	1814.8	1732.3	1494.2	1256.1	1096.7
40°	867.8	974.1	1191.6	1409.1	1572.9	1736.7	1666.1	1595.6	1382.5	1169.3	1020.2
42.5°	785.9	877.5	1072.8	1268.1	1418.3	1568.5	1521.9	1475.2	1282.2	1089.1	950.8
45°	713.8	790.8	962.7	1134.6	1272.9	1411.2	1374.4	1337.5	1171.0	1004.5	877.5
47.5°	649.8	715.9	869.4	1022.9	1147.1	1271.3	1237.1	1203.0	1065.2	927.4	811.9
50°	591.2	647.6	775.6	903.6	1015.3	1127.0	1098.8	1070.6	956.7	842.8	743.0
52.5°	535.9	582.5	697.5	812.5	902.5	992.5	970.8	949.1	861.3	773.4	682.8
55°	483.2	526.1	623.2	720.3	797.3	874.3	852.6	830.9	762.6	694.2	614.5
57.5°	435.5	472.9	551.6	630.2	691.5	752.8	742.5	732.2	675.2	618.3	552.7
60°	385.1	418.7	486.5	554.3	603.7	653.0	641.1	629.1	588.5	547.8	491.4
62.5°	340.1	369.9	424.1	478.4	518.5	558.6	550.0	541.3	510.4	479.5	432.8
65°	292.9	322.2	366.1	410.0	441.5	472.9	465.3	457.8	434.4	411.1	373.7
67.5°	250.0	274.4	312.4	350.4	371.5	392.7	388.3	384.0	366.1	348.2	318.9
70°	206.6	227.8	259.3	290.7	305.4	320.0	321.6	323.2	307.0	290.7	269.0
72.5°	163.3	180.1	209.4	238.6	250.0	261.4	260.9	260.3	250.6	240.8	221.3
75°	125.3	137.8	160.5	183.3	193.1	202.8	205.0	207.2	198.0	188.7	177.9
77.5°	90.0	98.7	116.1	133.4	144.3	155.1	156.2	157.3	152.9	148.6	138.3
80°	63.5	66.2	77.0	87.9	99.3	110.6	112.3	113.9	109.6	105.2	98.7
82.5°	43.9	45.6	49.4	53.2	62.4	71.6	73.8	75.9	73.8	71.6	64.5
85°	26.6	27.1	28.7	30.4	34.7	39.1	41.2	43.4	42.3	41.2	37.4
87.5°	11.9	11.9	12.5	13.0	14.1	15.2	17.9	20.6	19.0	17.4	15.7
90°	17.3	14.5	11.8	9.4	7.3	5.2	3.1	0.9	3.1	5.2	7.3
92.5°	20.8	18.9	17.0	16.7	18.0	19.3	20.5	21.8	20.5	19.3	18.0
95°	24.7	22.4	20.1	23.3	31.9	40.5	49.2	57.8	49.2	40.5	31.9
97.5°	51.8	62.5	73.3	81.6	87.5	93.4	99.2	105.1	99.2	93.4	87.5
100°	96.9	129.8	162.6	176.9	172.7	168.5	164.3	160.1	164.3	168.5	172.7
102.5°	143.3	180.0	216.6	233.5	230.8	228.1	225.3	222.6	225.3	228.1	230.8
105°	245.3	264.3	283.2	291.5	289.2	286.9	284.6	282.3	284.6	286.9	289.2
107.5°	362.2	359.0	355.8	353.3	351.4	349.5	347.6	345.7	347.6	349.5	351.4
110°	422.6	420.3	417.9	415.9	414.3	412.6	410.9	409.2	410.9	412.6	414.3



TEST NUMBER: P831807

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	482.2	479.9	477.6	475.7	474.2	472.8	471.3	469.8	471.3	472.8	474.2
115°	539.9	538.0	536.1	534.5	533.3	532.0	530.8	529.5	530.8	532.0	533.3
117.5°	597.5	596.4	595.4	594.1	592.6	591.2	589.7	588.2	589.7	591.2	592.6
120°	652.3	651.7	651.1	649.8	647.9	646.0	644.1	642.2	644.1	646.0	647.9
122.5°	705.9	705.0	704.2	703.0	701.6	700.1	698.6	697.2	698.6	700.1	701.6
125°	756.1	755.3	754.4	753.1	751.5	749.8	748.1	746.4	748.1	749.8	751.5
127.5°	805.9	804.8	803.8	802.4	800.7	799.0	797.4	795.7	797.4	799.0	800.7
130°	850.8	850.0	849.1	847.9	846.2	844.5	842.8	841.1	842.8	844.5	846.2
132.5°	893.9	893.2	892.6	891.4	889.8	888.1	886.4	884.7	886.4	888.1	889.8
135°	937.0	936.2	935.3	934.3	933.0	931.8	930.5	929.2	930.5	931.8	933.0
137.5°	975.7	975.3	974.9	973.8	972.2	970.5	968.8	967.1	968.8	970.5	972.2
140°	1012.3	1011.6	1011.0	1010.1	1008.8	1007.5	1006.3	1005.0	1006.3	1007.5	1008.8
142.5°	1047.3	1046.7	1046.0	1045.1	1043.8	1042.6	1041.3	1040.0	1041.3	1042.6	1043.8
145°	1079.9	1079.5	1079.1	1078.1	1076.7	1075.2	1073.7	1072.3	1073.7	1075.2	1076.7
147.5°	1109.3	1108.9	1108.5	1107.7	1106.7	1105.6	1104.6	1103.5	1104.6	1105.6	1106.7
150°	1135.8	1135.4	1135.0	1134.5	1133.8	1133.2	1132.6	1131.9	1132.6	1133.2	1133.8
152.5°	1159.0	1158.8	1158.6	1158.3	1158.1	1157.9	1157.7	1157.5	1157.7	1157.9	1158.1
155°	1179.8	1179.6	1179.4	1179.5	1179.9	1180.3	1180.8	1181.2	1180.8	1180.3	1179.9
157.5°	1199.6	1199.8	1200.0	1200.1	1200.1	1200.1	1200.1	1200.1	1200.1	1200.1	1200.1
160°	1215.7	1215.9	1216.1	1216.3	1216.5	1216.8	1217.0	1217.2	1217.0	1216.8	1216.5
162.5°	1229.9	1230.1	1230.3	1230.8	1231.4	1232.0	1232.7	1233.3	1232.7	1232.0	1231.4
165°	1242.2	1242.4	1242.6	1243.1	1243.7	1244.3	1245.0	1245.6	1245.0	1244.3	1243.7
167.5°	1252.2	1252.2	1252.2	1252.6	1253.5	1254.3	1255.2	1256.0	1255.2	1254.3	1253.5
170°	1260.8	1260.8	1260.8	1261.2	1262.0	1262.9	1263.7	1264.5	1263.7	1262.9	1262.0
172.5°	1266.0	1265.8	1265.6	1266.0	1267.1	1268.1	1269.2	1270.2	1269.2	1268.1	1267.1
175°	1270.8	1270.5	1270.3	1270.8	1271.8	1272.9	1273.9	1275.0	1273.9	1272.9	1271.8
177.5°	1272.6	1272.4	1272.2	1272.6	1273.7	1274.7	1275.8	1276.9	1275.8	1274.7	1273.7
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7	2645.7
2.5°	2561.1	2530.1	2499.2	2477.0	2454.7	2427.1	2399.4	2398.3	2397.3	2376.6	2356.0
5°	2409.2	2355.5	2301.8	2249.2	2196.6	2144.0	2091.4	2079.4	2067.5	2049.6	2031.7
7.5°	2274.7	2189.0	2103.3	2036.0	1968.8	1916.2	1863.6	1827.8	1792.0	1764.3	1736.7
10°	2130.4	2024.1	1917.8	1836.5	1755.1	1698.1	1641.2	1600.0	1558.8	1539.2	1519.7
12.5°	1980.7	1865.2	1749.7	1669.9	1590.2	1521.9	1453.5	1416.1	1378.7	1351.6	1324.5
15°	1843.0	1718.8	1594.6	1509.9	1425.3	1361.3	1297.3	1259.9	1222.5	1195.4	1168.3
17.5°	1709.5	1584.3	1459.0	1373.3	1287.6	1229.5	1171.5	1135.2	1098.8	1082.0	1065.2
20°	1588.0	1461.7	1335.3	1254.5	1173.7	1116.7	1059.8	1040.3	1020.7	1005.0	989.3
22.5°	1467.6	1346.2	1224.7	1147.1	1069.5	1028.3	987.1	971.4	955.6	943.7	931.8
25°	1366.8	1245.8	1124.9	1057.1	989.3	957.3	925.3	915.0	904.7	892.7	880.8
27.5°	1264.8	1149.8	1034.8	980.6	926.4	900.3	874.3	861.3	848.3	838.5	828.7
30°	1174.8	1068.5	962.2	917.1	872.1	849.3	826.6	812.5	798.4	789.1	779.9
32.5°	1088.0	993.6	899.2	860.7	822.2	800.0	777.8	764.2	750.6	739.8	728.9
35°	1007.7	925.8	843.9	808.7	773.4	751.2	728.9	715.4	701.8	691.0	680.1
37.5°	937.2	862.9	788.6	755.5	722.4	702.9	683.4	669.3	655.2	643.8	632.4
40°	871.0	805.4	739.8	707.8	675.8	654.6	633.5	621.0	608.5	598.2	587.9
42.5°	812.5	752.3	692.1	660.6	629.1	609.1	589.0	574.4	559.7	553.8	547.8
45°	750.6	697.5	644.3	614.0	583.6	562.4	541.3	528.8	516.3	510.9	505.5
47.5°	696.4	647.0	597.7	567.9	538.0	519.0	500.1	490.3	480.5	472.9	465.3
50°	643.2	595.5	547.8	519.0	490.3	474.0	457.8	445.8	433.9	428.5	423.0
52.5°	592.3	548.9	505.5	476.2	446.9	431.2	415.5	405.1	394.8	383.5	372.1
55°	534.8	496.8	458.8	432.8	406.8	390.5	374.2	362.3	350.4	338.4	326.5
57.5°	487.0	449.6	412.2	388.9	365.6	349.8	334.1	321.1	308.1	298.3	288.5
60°	435.0	402.4	369.9	347.1	324.3	309.1	294.0	281.5	269.0	264.1	259.3
62.5°	386.2	355.8	325.4	305.4	285.3	270.6	256.0	247.9	239.7	236.5	233.2
65°	336.3	310.2	284.2	265.8	247.3	234.8	222.4	218.6	214.8	212.1	209.4
67.5°	289.6	267.4	245.1	228.9	212.6	203.9	195.3	190.9	186.6	183.3	180.1
70°	247.3	227.8	208.3	194.2	180.1	171.9	163.8	160.0	156.2	150.2	144.3
72.5°	201.8	186.6	171.4	160.5	149.7	142.6	135.6	128.0	120.4	115.0	109.6
75°	167.0	151.9	136.7	126.4	116.1	107.9	99.8	97.1	94.4	92.7	91.1
77.5°	128.0	115.0	102.0	93.8	85.7	81.9	78.1	76.5	74.8	74.3	73.8
80°	92.2	81.4	70.5	66.2	61.8	60.7	59.7	58.6	57.5	56.9	56.4
82.5°	57.5	52.1	46.6	45.6	44.5	43.9	43.4	42.8	42.3	41.8	41.2
85°	33.6	31.5	29.3	28.7	28.2	27.7	27.1	27.1	27.1	27.1	27.1
87.5°	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	13.6	13.0
90°	9.4	11.8	14.5	17.3	20.0	22.7	23.6	24.4	25.3	26.1	26.7
92.5°	16.7	17.0	18.9	20.8	22.7	24.6	26.1	27.6	29.0	30.5	31.4
95°	23.3	20.1	22.4	24.7	27.0	29.4	30.8	32.3	33.8	35.3	36.0
97.5°	81.6	73.3	62.5	51.8	41.0	30.3	32.0	33.7	35.4	37.0	38.0
100°	176.9	162.6	129.8	96.9	64.1	31.3	32.9	34.6	36.3	38.0	38.9
102.5°	233.5	216.6	180.0	143.3	106.7	70.1	63.1	56.2	49.3	42.3	39.0
105°	291.5	283.2	264.3	245.3	226.4	207.4	170.2	132.9	95.7	58.4	40.0
107.5°	353.3	355.8	359.0	362.2	365.3	368.5	336.1	303.6	271.2	238.8	208.8
110°	415.9	417.9	420.3	422.6	424.9	427.2	420.3	413.3	406.4	399.4	380.9



TEST NUMBER: P831807

CATALOG NUMBER: S123RDIP-S1000D1195U930-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	475.7	477.6	479.9	482.2	484.6	486.9	488.8	490.7	492.6	494.4	495.2
115°	534.5	536.1	538.0	539.9	541.8	543.7	545.8	547.9	550.0	552.1	553.6
117.5°	594.1	595.4	596.4	597.5	598.5	599.6	601.3	603.0	604.6	606.3	607.3
120°	649.8	651.1	651.7	652.3	653.0	653.6	655.3	657.0	658.6	660.3	661.2
122.5°	703.0	704.2	705.0	705.9	706.7	707.6	708.6	709.7	710.7	711.8	712.4
125°	753.1	754.4	755.3	756.1	756.9	757.8	758.2	758.6	759.0	759.5	759.9
127.5°	802.4	803.8	804.8	805.9	806.9	808.0	808.6	809.2	809.9	810.5	810.6
130°	847.9	849.1	850.0	850.8	851.7	852.5	853.3	854.2	855.0	855.9	856.1
132.5°	891.4	892.6	893.2	893.9	894.5	895.1	896.0	896.8	897.7	898.5	898.6
135°	934.3	935.3	936.2	937.0	937.9	938.7	939.3	940.0	940.6	941.2	941.2
137.5°	973.8	974.9	975.3	975.7	976.2	976.6	977.6	978.7	979.7	980.8	981.1
140°	1010.1	1011.0	1011.6	1012.3	1012.9	1013.5	1014.4	1015.2	1016.1	1016.9	1017.1
142.5°	1045.1	1046.0	1046.7	1047.3	1047.9	1048.6	1049.2	1049.8	1050.5	1051.1	1051.1
145°	1078.1	1079.1	1079.5	1079.9	1080.4	1080.8	1081.2	1081.6	1082.0	1082.5	1082.7
147.5°	1107.7	1108.5	1108.9	1109.3	1109.7	1110.1	1110.6	1111.0	1111.4	1111.8	1111.5
150°	1134.5	1135.0	1135.4	1135.8	1136.2	1136.7	1137.1	1137.5	1137.9	1138.3	1138.2
152.5°	1158.3	1158.6	1158.8	1159.0	1159.2	1159.4	1160.2	1161.1	1161.9	1162.8	1162.7
155°	1179.5	1179.4	1179.6	1179.8	1180.0	1180.2	1181.3	1182.3	1183.4	1184.4	1184.3
157.5°	1200.1	1200.0	1199.8	1199.6	1199.4	1199.2	1200.4	1201.7	1203.0	1204.2	1204.0
160°	1216.3	1216.1	1215.9	1215.7	1215.5	1215.3	1216.5	1217.8	1219.1	1220.3	1220.2
162.5°	1230.8	1230.3	1230.1	1229.9	1229.7	1229.5	1231.0	1232.4	1233.9	1235.4	1235.5
165°	1243.1	1242.6	1242.4	1242.2	1242.0	1241.8	1243.5	1245.2	1246.9	1248.5	1248.6
167.5°	1252.6	1252.2	1252.2	1252.2	1252.2	1252.2	1253.9	1255.6	1257.3	1259.0	1259.0
170°	1261.2	1260.8	1260.8	1260.8	1260.8	1260.8	1262.4	1264.1	1265.8	1267.5	1267.5
172.5°	1266.0	1265.6	1265.8	1266.0	1266.2	1266.4	1268.1	1269.8	1271.5	1273.2	1273.1
175°	1270.8	1270.3	1270.5	1270.8	1271.0	1271.2	1272.6	1274.1	1275.6	1277.1	1277.0
177.5°	1272.6	1272.2	1272.4	1272.6	1272.9	1273.1	1274.7	1276.4	1278.1	1279.8	1279.6
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



TEST NUMBER: P831807

CATALOG NUMBER: S123RDIP-S1000D1195U930-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2645.7	2645.7	2645.7	2645.7
2.5°	2350.6	2345.2	2343.0	2340.9
5°	2014.9	1998.1	1994.3	1990.5
7.5°	1729.6	1722.6	1699.2	1675.9
10°	1498.0	1476.3	1466.6	1456.8
12.5°	1304.4	1284.3	1281.1	1277.8
15°	1154.2	1140.1	1135.2	1130.3
17.5°	1055.4	1045.7	1039.7	1033.7
20°	982.2	975.2	970.8	966.5
22.5°	926.4	920.9	917.7	914.4
25°	872.7	864.5	861.8	859.1
27.5°	821.7	814.6	811.9	809.2
30°	774.0	768.0	764.2	760.4
32.5°	721.9	714.8	712.7	710.5
35°	675.8	671.4	669.3	667.1
37.5°	627.0	621.6	618.3	615.0
40°	585.2	582.5	580.9	579.2
42.5°	542.9	538.0	537.5	536.9
45°	500.6	495.7	494.6	493.6
47.5°	461.0	456.7	456.1	455.6
50°	417.1	411.1	406.8	402.4
52.5°	366.6	361.2	357.4	353.6
55°	320.5	314.6	311.3	308.1
57.5°	285.8	283.1	281.5	279.9
60°	257.6	256.0	254.9	253.8
62.5°	231.6	230.0	230.0	230.0
65°	207.7	206.1	204.5	202.8
67.5°	176.8	173.6	173.0	172.5
70°	139.4	134.5	134.0	133.4
72.5°	109.0	108.5	107.4	106.3
75°	90.0	88.9	88.9	88.9
77.5°	72.7	71.6	71.6	71.6
80°	55.9	55.3	55.9	56.4
82.5°	41.2	41.2	40.7	40.1
85°	26.6	26.0	26.0	26.0
87.5°	13.0	13.0	13.0	13.0
90°	27.2	27.6	28.0	28.4
92.5°	31.6	31.8	32.0	32.2
95°	36.0	36.0	36.0	36.0
97.5°	38.2	38.4	38.6	38.8
100°	39.2	39.4	39.6	39.8
102.5°	39.5	39.9	40.3	40.7
105°	40.4	40.8	41.3	41.7
107.5°	181.2	153.7	126.1	98.5
110°	350.8	320.7	290.6	260.5



TEST NUMBER: P831807

CATALOG NUMBER: S123RDIP-S1000D1195U930-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	494.8	494.3	493.9	493.5
115°	554.4	555.3	556.1	557.0
117.5°	607.5	607.7	607.9	608.1
120°	661.2	661.2	661.2	661.2
122.5°	712.6	712.8	713.0	713.3
125°	760.3	760.7	761.1	761.6
127.5°	810.2	809.8	809.3	808.9
130°	855.7	855.2	854.8	854.4
132.5°	898.0	897.3	896.7	896.1
135°	940.6	940.0	939.3	938.7
137.5°	980.7	980.3	979.8	979.4
140°	1016.7	1016.3	1015.8	1015.4
142.5°	1050.5	1049.8	1049.2	1048.6
145°	1082.7	1082.7	1082.7	1082.7
147.5°	1110.5	1109.4	1108.4	1107.3
150°	1137.6	1137.0	1136.4	1135.7
152.5°	1161.6	1160.6	1159.5	1158.5
155°	1183.1	1181.8	1180.6	1179.3
157.5°	1202.3	1200.7	1199.0	1197.3
160°	1218.8	1217.3	1215.8	1214.3
162.5°	1234.2	1233.0	1231.7	1230.4
165°	1247.2	1245.7	1244.2	1242.8
167.5°	1257.3	1255.6	1253.9	1252.2
170°	1265.8	1264.1	1262.4	1260.8
172.5°	1271.2	1269.3	1267.4	1265.5
175°	1275.3	1273.6	1271.9	1270.2
177.5°	1277.5	1275.4	1273.3	1271.2
180°	1275.0	1275.0	1275.0	1275.0



TEST NUMBER: P831807

CATALOG NUMBER: S123RDIP-S1000D1195U930-4F0-1E-UDD-G

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	12.14	12.93	13.13	13.92	15.23	16.80	17.59	17.79	18.58	19.90
	3H	13.36	14.06	14.36	15.06	16.40	18.30	19.00	19.30	20.01	21.34
	4H	13.74	14.40	14.75	15.41	16.75	18.79	19.45	19.80	20.46	21.80
	6H	14.01	14.63	15.04	15.64	16.99	19.10	19.71	20.12	20.72	22.07
	8H	14.10	14.68	15.13	15.71	17.06	19.17	19.76	20.20	20.78	22.13
	12H	14.15	14.71	15.19	15.73	17.10	19.20	19.76	20.24	20.78	22.15
4H	2H	12.86	13.52	13.88	14.53	15.87	16.79	17.46	17.81	18.46	19.81
	3H	14.22	14.77	15.25	15.81	17.16	18.45	19.00	19.47	20.04	21.39
	4H	14.67	15.18	15.71	16.21	17.59	19.05	19.56	20.09	20.58	21.96
	6H	15.04	15.47	16.09	16.53	17.90	19.49	19.92	20.53	20.97	22.35
	8H	15.17	15.57	16.21	16.61	18.00	19.62	20.02	20.66	21.07	22.45
	12H	15.24	15.60	16.30	16.66	18.06	19.68	20.04	20.74	21.10	22.49
8H	4H	14.99	15.39	16.03	16.43	17.82	19.02	19.42	20.06	20.46	21.85
	6H	15.45	15.78	16.52	16.87	18.25	19.51	19.84	20.58	20.93	22.31
	8H	15.64	15.93	16.72	17.00	18.41	19.70	19.99	20.77	21.06	22.46
	12H	15.78	16.04	16.86	17.10	18.55	19.81	20.07	20.89	21.13	22.58
12H	4H	15.00	15.36	16.06	16.42	17.81	18.96	19.33	20.03	20.39	21.78
	6H	15.51	15.80	16.58	16.87	18.27	19.49	19.78	20.56	20.85	22.25
	8H	15.72	15.98	16.80	17.05	18.49	19.68	19.93	20.75	21.00	22.44