

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: P831087

Luminaire Tested: S123DIP-S1000D1195U930-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831087  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-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: -

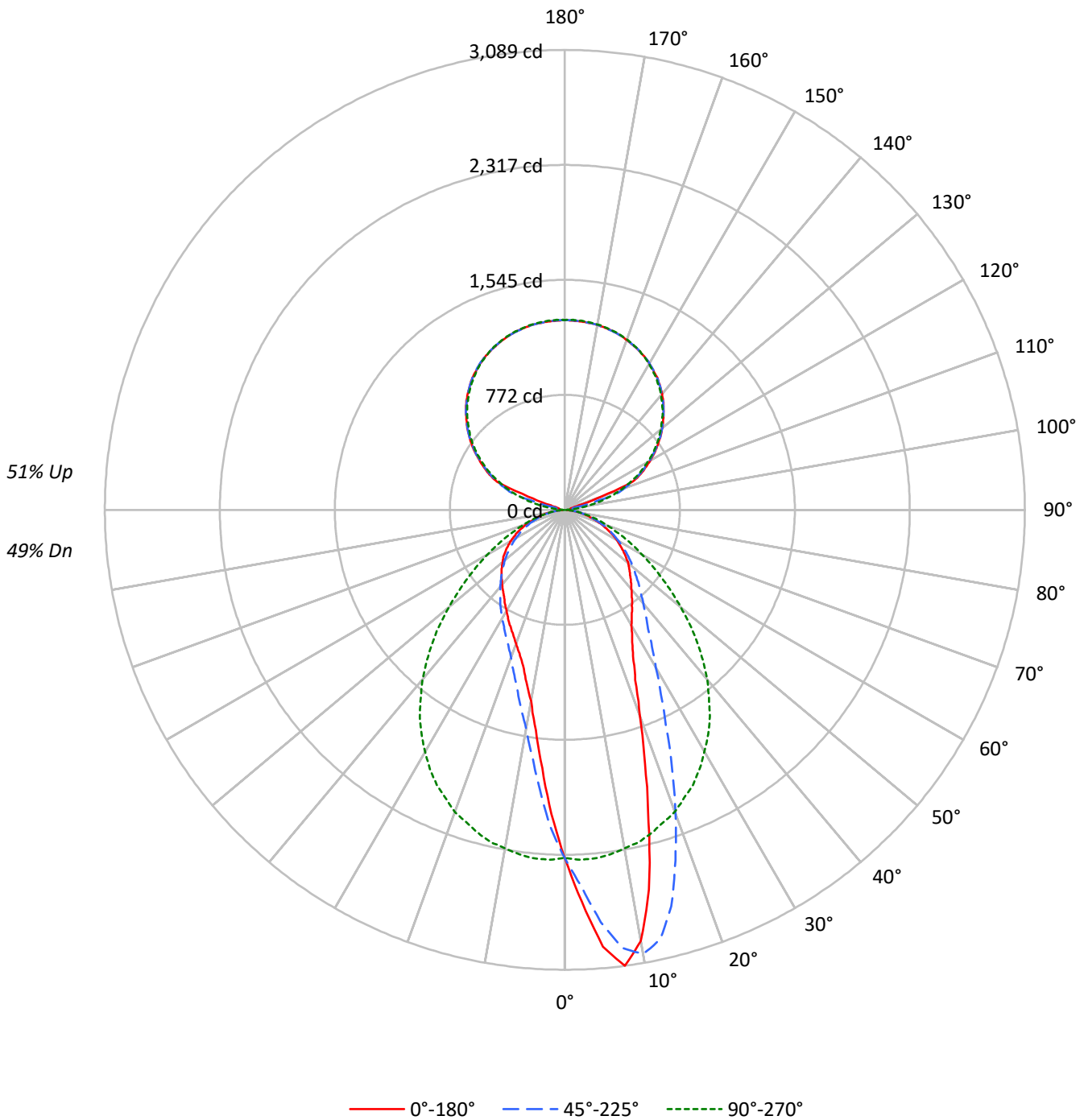
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7647.9 lumens  
Efficiency: N/A  
Efficacy: 115.7 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
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	99	99	99	99	83	83	83	69	69	69	55	55	55	49				
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48	42				
2	90	83	77	72	83	77	71	67	65	61	58	54	52	49	44	43	41	36				
3	82	73	66	61	76	68	62	57	58	53	50	49	45	42	40	38	36	32				
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	36	33	31	28				
5	70	59	51	45	64	54	48	42	47	41	37	40	36	33	33	30	28	25				
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	30	27	25	22				
7	60	48	40	35	55	45	38	33	39	33	29	33	29	26	28	25	22	20				
8	56	44	36	31	51	41	34	30	36	30	26	31	26	23	26	23	20	18				
9	52	40	33	28	48	38	31	27	33	28	24	28	24	21	24	21	19	17				
10	49	37	30	25	45	35	28	24	30	25	22	26	22	20	22	19	17	15				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	25168	25168	25168	25168	25168
5°	31829	30041	25393	20464	18805
10°	32138	33111	25224	16312	14255
15°	24206	30741	25052	13814	12055
20°	16866	24876	24733	12080	10950
25°	12860	19130	24188	11114	10271
30°	11125	15198	23317	10432	9723
35°	10322	12832	22312	9938	9339
40°	9773	11511	20903	9468	9208
45°	9447	10653	19110	9100	9150
50°	9284	9975	16988	8766	9103
55°	8938	9479	14904	8450	9143
60°	8620	8947	12848	8153	8992
65°	8097	8443	11082	7834	8815
70°	7478	7802	9426	7308	8299
75°	6771	6995	8077	6791	7582
80°	5585	6118	6391	5920	6391
85°	4421	4952	4693	5027	5088

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 21818 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	221.1	2.9
10°-20°	549.9	7.2
20°-30°	651.1	8.5
30°-40°	654.7	8.6
40°-50°	600.7	7.9
50°-60°	495.8	6.5
60°-70°	350.7	4.6
70°-80°	187.2	2.4
80°-90°	50.0	0.7
90°-100°	44.9	0.6
100°-110°	217.3	2.8
110°-120°	532.6	7.0
120°-130°	676.2	8.8
130°-140°	722.4	9.4
140°-150°	675.5	8.8
150°-160°	544.9	7.1
160°-170°	351.6	4.6
170°-180°	121.2	1.6
0°-30°	1422.1	18.6
0°-40°	2076.8	27.2
0°-60°	3173.3	41.5
0°-90°	3761.3	49.2
90°-120°	794.9	10.4
90°-150°	2869.0	37.5
90°-180°	3887.0	50.8
0°-180°	7647.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2338	2338	2338	2338	2338	
5°	2946	2780	2350	1894	1740	281
15°	2172	2759	2248	1240	1082	600
25°	1083	1611	2037	936	865	511
35°	786	976	1698	756	711	494
45°	621	700	1255	598	601	481
55°	476	505	794	450	487	426
65°	318	332	435	308	346	316
75°	163	168	194	163	182	171
85°	36	40	38	41	41	40
90°	28	23	1	23	28	15
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°	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2
2.5°	2635.5	2632.8	2630.1	2616.5	2602.9	2596.4	2589.9	2570.4	2550.9	2529.2	2507.5
5°	2945.8	2953.4	2961.0	2952.3	2943.6	2917.1	2890.5	2855.2	2819.9	2780.3	2740.7
7.5°	3089.0	3093.4	3097.7	3092.3	3086.9	3079.8	3072.8	3041.3	3009.8	2969.1	2928.5
10°	2940.4	2950.2	2959.9	2981.1	3002.2	3026.1	3050.0	3045.6	3041.3	3029.4	3017.4
12.5°	2613.8	2625.7	2637.7	2680.0	2722.3	2776.5	2830.8	2877.5	2924.1	2956.7	2989.2
15°	2172.2	2205.3	2238.4	2276.9	2315.4	2395.2	2474.9	2573.1	2671.3	2758.6	2846.0
17.5°	1789.2	1801.7	1814.1	1855.4	1896.6	1997.0	2097.3	2210.7	2324.1	2468.9	2613.8
20°	1472.4	1483.8	1495.1	1549.4	1603.6	1682.3	1761.0	1888.5	2016.0	2171.7	2327.4
22.5°	1236.9	1254.8	1272.7	1303.1	1333.5	1408.9	1484.3	1597.7	1711.1	1883.0	2055.0
25°	1082.8	1095.9	1108.9	1127.3	1145.8	1206.0	1266.2	1359.5	1452.8	1610.7	1768.6
27.5°	977.6	983.0	988.4	1006.9	1025.3	1064.4	1103.5	1183.7	1264.0	1398.0	1532.0
30°	895.1	898.9	902.7	919.0	935.3	961.9	988.4	1046.5	1104.5	1222.8	1341.1
32.5°	837.6	840.3	843.1	855.5	868.0	887.0	906.0	948.3	990.6	1088.3	1185.9
35°	785.5	787.2	788.8	798.0	807.2	821.4	835.5	867.5	899.5	976.5	1053.5
37.5°	740.0	742.1	744.3	749.7	755.2	767.6	780.1	805.6	831.1	890.3	949.4
40°	695.5	699.3	703.1	706.9	710.7	721.0	731.3	750.8	770.4	819.2	868.0
42.5°	657.5	661.3	665.1	666.7	668.4	674.3	680.3	698.2	716.1	752.5	788.8
45°	620.6	622.3	623.9	625.5	627.1	632.0	636.9	652.6	668.4	699.8	731.3
47.5°	587.0	587.0	587.0	588.1	589.2	593.5	597.8	609.2	620.6	645.0	669.5
50°	554.4	554.4	554.4	552.8	551.2	553.9	556.6	565.3	574.0	595.7	617.4
52.5°	515.4	515.4	515.4	515.9	516.5	516.5	516.5	524.1	531.7	551.2	570.7
55°	476.3	478.5	480.7	479.0	477.4	478.5	479.6	484.5	489.3	505.1	520.8
57.5°	437.3	438.3	439.4	438.9	438.3	438.9	439.4	443.8	448.1	460.0	472.0
60°	400.4	400.4	400.4	399.3	398.2	399.3	400.4	402.5	404.7	415.6	426.4
62.5°	359.1	359.7	360.2	360.8	361.3	360.2	359.1	361.9	364.6	372.7	380.8
65°	317.9	318.5	319.0	320.6	322.2	321.2	320.1	322.8	325.5	331.5	337.4
67.5°	281.0	279.9	278.8	279.4	279.9	281.6	283.2	283.7	284.3	290.8	297.3
70°	237.6	238.7	239.8	239.2	238.7	239.2	239.8	241.4	243.0	247.9	252.8
72.5°	198.6	199.1	199.6	199.6	199.6	200.7	201.8	203.4	205.1	207.8	210.5
75°	162.8	162.8	162.8	163.8	164.9	165.5	166.0	166.0	166.0	168.2	170.3
77.5°	123.7	126.4	129.1	128.6	128.0	129.1	130.2	131.8	133.5	134.5	135.6
80°	90.1	90.1	90.1	90.6	91.1	92.8	94.4	95.5	96.6	98.7	100.9
82.5°	57.5	58.0	58.6	60.2	61.8	62.9	64.0	65.6	67.3	67.3	67.3
85°	35.8	34.7	33.6	34.7	35.8	36.9	38.0	38.5	39.1	40.1	41.2
87.5°	17.4	17.4	17.4	17.4	17.4	17.9	18.4	18.4	18.4	18.4	18.4
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°	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2
2.5°	2501.0	2494.4	2470.6	2446.7	2419.6	2392.5	2372.4	2352.3	2322.5	2292.6	2268.2
5°	2710.4	2680.0	2629.5	2579.1	2510.7	2442.4	2396.3	2350.1	2288.3	2226.4	2177.1
7.5°	2876.4	2824.3	2753.8	2683.2	2593.7	2504.2	2419.6	2334.9	2240.6	2146.2	2069.1
10°	2982.2	2946.9	2865.5	2784.1	2664.2	2544.4	2426.1	2307.8	2186.3	2064.8	1962.8
12.5°	2992.5	2995.7	2920.9	2846.0	2710.4	2574.7	2431.0	2287.2	2134.2	1981.2	1862.4
15°	2901.9	2957.7	2916.5	2875.3	2738.6	2601.9	2425.0	2248.1	2071.8	1895.5	1758.3
17.5°	2733.7	2853.6	2859.6	2865.5	2728.8	2592.1	2396.3	2200.4	2000.8	1801.1	1656.8
20°	2504.2	2681.1	2741.8	2802.6	2691.4	2580.2	2369.7	2159.2	1935.7	1712.2	1560.8
22.5°	2269.8	2484.7	2595.9	2707.1	2624.6	2542.2	2318.1	2094.1	1858.1	1622.1	1468.6
25°	2002.9	2237.3	2408.2	2579.1	2528.6	2478.2	2257.4	2036.6	1785.4	1534.2	1377.4
27.5°	1770.2	2008.4	2214.5	2420.7	2409.8	2399.0	2179.8	1960.6	1703.5	1446.3	1295.0
30°	1563.0	1784.8	2015.4	2246.0	2272.6	2299.1	2087.6	1876.0	1618.3	1360.6	1214.7
32.5°	1379.6	1573.3	1820.7	2068.0	2120.1	2172.2	1981.2	1790.3	1535.3	1280.3	1139.8
35°	1229.3	1405.1	1652.5	1899.9	1965.0	2030.1	1864.1	1698.0	1449.6	1201.1	1067.1
37.5°	1096.4	1243.4	1484.8	1726.3	1806.0	1885.8	1737.1	1588.5	1355.7	1123.0	999.8
40°	986.3	1104.5	1326.4	1548.3	1640.5	1732.8	1610.2	1487.6	1266.8	1046.0	932.6
42.5°	894.1	999.3	1200.6	1401.8	1490.3	1578.7	1475.1	1371.5	1175.1	978.7	875.1
45°	815.4	899.5	1082.3	1265.1	1349.2	1433.3	1344.3	1255.4	1082.3	909.2	812.7
47.5°	741.6	813.8	970.0	1126.2	1201.1	1276.0	1206.5	1137.1	990.6	844.1	756.8
50°	675.4	733.5	870.2	1006.9	1072.0	1137.1	1075.8	1014.5	894.1	773.6	697.7
52.5°	617.9	665.1	779.6	894.1	949.9	1005.8	953.2	900.6	805.1	709.6	643.4
55°	561.0	601.1	700.4	799.7	837.6	875.6	834.9	794.2	717.2	640.2	584.3
57.5°	507.8	543.6	625.0	706.3	735.6	764.9	728.0	691.2	633.1	575.1	528.4
60°	455.7	485.0	552.8	620.6	638.5	656.4	626.6	596.8	556.1	515.4	473.6
62.5°	407.4	434.0	484.5	534.9	546.8	558.8	536.0	513.2	482.3	451.4	418.8
65°	357.5	377.6	418.8	460.0	467.6	475.2	455.2	435.1	411.8	388.4	364.6
67.5°	311.4	325.5	359.1	392.8	393.3	393.9	377.6	361.3	348.3	335.3	316.3
70°	266.4	279.9	302.2	324.4	325.0	325.5	312.5	299.5	289.7	279.9	265.8
72.5°	220.3	230.0	246.8	263.7	262.6	261.5	253.4	245.2	237.6	230.0	219.7
75°	178.5	186.6	198.0	209.4	206.2	202.9	198.6	194.2	187.7	181.2	174.7
77.5°	140.5	145.4	151.9	158.4	156.2	154.1	150.3	146.5	141.6	136.7	134.0
80°	103.1	105.2	109.6	113.9	112.8	111.8	107.4	103.1	102.0	100.9	97.1
82.5°	70.0	72.7	73.8	74.9	74.3	73.8	70.5	67.3	66.2	65.1	64.6
85°	41.8	42.3	42.9	43.4	41.8	40.1	39.1	38.0	38.0	38.0	37.4
87.5°	19.0	19.5	19.5	19.5	19.0	18.4	17.4	16.3	16.8	17.4	17.4
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





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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°	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2	2338.2
2.5°	2243.8	2222.6	2201.5	2185.2	2168.9	2141.3	2113.6	2107.1	2100.6	2091.4	2082.1
5°	2127.7	2075.6	2023.5	1976.9	1930.2	1893.9	1857.5	1833.7	1809.8	1792.4	1775.1
7.5°	1992.1	1914.0	1835.8	1780.5	1725.2	1672.5	1619.9	1603.1	1586.3	1563.5	1540.7
10°	1860.8	1774.5	1688.3	1616.1	1544.0	1492.4	1440.9	1420.3	1399.7	1370.9	1342.2
12.5°	1743.6	1649.2	1554.8	1482.1	1409.4	1359.5	1309.6	1279.8	1249.9	1233.7	1217.4
15°	1621.0	1520.1	1419.2	1351.9	1284.7	1239.6	1194.6	1168.6	1142.5	1126.8	1111.1
17.5°	1512.5	1412.7	1312.9	1248.3	1183.7	1142.5	1101.3	1078.5	1055.7	1043.8	1031.8
20°	1409.4	1311.8	1214.1	1151.2	1088.3	1054.6	1021.0	1006.3	991.7	981.9	972.2
22.5°	1315.0	1219.0	1123.0	1069.3	1015.6	988.4	961.3	951.0	940.7	932.6	924.4
25°	1220.6	1134.9	1049.2	1003.6	958.1	935.8	913.6	903.3	893.0	884.8	876.7
27.5°	1143.6	1061.7	979.8	940.7	901.6	884.3	866.9	858.8	850.7	843.1	835.5
30°	1068.7	995.5	922.3	888.6	855.0	839.3	823.5	815.4	807.2	800.2	793.1
32.5°	999.3	936.4	873.4	842.5	811.6	798.6	785.5	775.8	766.0	760.6	755.2
35°	933.1	876.7	820.3	794.8	769.3	756.3	743.2	735.1	727.0	722.6	718.3
37.5°	876.7	826.2	775.8	751.4	727.0	714.5	702.0	695.0	687.9	686.3	684.6
40°	819.2	775.8	732.4	708.5	684.6	673.8	662.9	658.6	654.3	653.2	652.1
42.5°	771.4	729.1	686.8	665.1	643.4	634.2	625.0	622.8	620.6	622.3	623.9
45°	716.1	680.8	645.6	625.5	605.4	597.8	590.2	588.6	587.0	590.2	593.5
47.5°	669.5	636.9	604.4	585.4	566.4	561.0	555.5	555.0	554.4	558.8	563.1
50°	621.7	590.2	558.8	543.6	528.4	523.5	518.6	520.3	521.9	528.9	536.0
52.5°	577.2	547.9	518.6	504.5	490.4	487.2	483.9	487.7	491.5	499.1	506.7
55°	528.4	501.8	475.2	464.4	453.5	450.3	447.0	454.6	462.2	469.3	476.3
57.5°	481.7	458.4	435.1	425.3	415.6	415.0	414.5	421.5	428.6	436.2	443.8
60°	431.8	412.3	392.8	385.2	377.6	378.7	379.8	387.9	396.0	402.0	408.0
62.5°	386.3	370.0	353.7	346.7	339.6	342.3	345.0	353.2	361.3	368.4	375.4
65°	340.7	327.1	313.6	308.7	303.8	307.6	311.4	318.5	325.5	330.4	335.3
67.5°	297.3	285.9	274.5	270.7	266.9	270.7	274.5	281.6	288.6	293.5	298.4
70°	251.7	242.5	233.3	230.6	227.9	232.2	236.5	242.5	248.5	253.4	258.2
72.5°	209.4	202.4	195.3	194.8	194.2	198.0	201.8	207.8	213.7	217.0	220.3
75°	168.2	164.4	160.6	160.0	159.5	163.3	167.1	170.3	173.6	176.3	179.0
77.5°	131.3	128.0	124.8	125.3	125.9	128.6	131.3	134.5	137.8	139.4	141.1
80°	93.3	92.2	91.1	92.2	93.3	95.5	97.7	99.8	102.0	103.1	104.2
82.5°	64.0	62.9	61.8	63.5	65.1	66.7	68.4	70.0	71.6	72.2	72.7
85°	36.9	38.5	40.1	40.1	40.1	40.7	41.2	41.8	42.3	41.8	41.2
87.5°	17.4	17.9	18.4	18.4	18.4	19.0	19.5	19.5	19.5	19.0	18.4
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: P831087

CATALOG NUMBER: S123DIP-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



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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2338.2	2338.2	2338.2	2338.2
2.5°	2078.3	2074.5	2059.4	2044.2
5°	1762.1	1749.0	1744.7	1740.4
7.5°	1539.6	1538.5	1515.8	1493.0
10°	1343.8	1345.4	1324.8	1304.2
12.5°	1203.8	1190.3	1188.6	1187.0
15°	1098.6	1086.1	1083.9	1081.8
17.5°	1024.3	1016.7	1014.5	1012.3
20°	967.8	963.5	959.7	955.9
22.5°	919.0	913.6	910.3	907.1
25°	871.8	866.9	865.8	864.8
27.5°	829.5	823.5	823.5	823.5
30°	789.3	785.5	783.9	782.3
32.5°	751.9	748.7	748.7	748.7
35°	716.7	715.0	712.9	710.7
37.5°	684.6	684.6	683.6	682.5
40°	653.7	655.3	655.3	655.3
42.5°	625.5	627.1	627.1	627.1
45°	596.2	598.9	600.0	601.1
47.5°	567.5	571.8	572.9	574.0
50°	539.3	542.5	543.0	543.6
52.5°	510.5	514.3	517.0	519.7
55°	480.1	483.9	485.5	487.2
57.5°	447.6	451.4	451.9	452.5
60°	411.8	415.6	416.6	417.7
62.5°	377.6	379.8	380.8	381.9
65°	338.5	341.8	343.9	346.1
67.5°	301.1	303.8	303.8	303.8
70°	259.3	260.4	262.0	263.7
72.5°	220.8	221.3	221.3	221.3
75°	180.1	181.2	181.7	182.3
77.5°	141.6	142.1	142.1	142.1
80°	103.6	103.1	103.1	103.1
82.5°	71.1	69.4	69.4	69.4
85°	40.7	40.1	40.7	41.2
87.5°	18.4	18.4	18.4	18.4
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



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**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: P831087

CATALOG NUMBER: S123DIP-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	14.70	15.52	15.67	16.50	17.78	16.93	17.75	17.90	18.73	20.02
	3H	16.34	17.07	17.32	18.06	19.37	18.36	19.09	19.34	20.08	21.39
	4H	16.92	17.61	17.91	18.60	19.92	18.80	19.50	19.80	20.49	21.81
	6H	17.29	17.92	18.29	18.92	20.25	19.08	19.72	20.08	20.71	22.04
	8H	17.38	17.99	18.39	19.00	20.33	19.14	19.75	20.15	20.76	22.09
	12H	17.42	18.00	18.44	19.01	20.36	19.16	19.73	20.17	20.74	22.09
4H	2H	15.27	15.96	16.27	16.95	18.27	17.09	17.79	18.09	18.78	20.10
	3H	17.09	17.67	18.10	18.69	20.02	18.71	19.28	19.72	20.31	21.64
	4H	17.79	18.32	18.81	19.33	20.68	19.29	19.82	20.31	20.83	22.19
	6H	18.26	18.72	19.29	19.75	21.10	19.69	20.15	20.72	21.18	22.53
	8H	18.40	18.82	19.43	19.85	21.22	19.80	20.23	20.83	21.26	22.62
	12H	18.46	18.84	19.51	19.89	21.26	19.85	20.23	20.89	21.27	22.64
8H	4H	18.05	18.47	19.08	19.51	20.87	19.39	19.82	20.42	20.85	22.21
	6H	18.64	18.99	19.69	20.06	21.42	19.89	20.24	20.95	21.32	22.68
	8H	18.85	19.15	19.91	20.21	21.59	20.07	20.38	21.13	21.44	22.82
	12H	18.97	19.24	20.03	20.29	21.71	20.17	20.44	21.24	21.49	22.92
12H	4H	18.05	18.43	19.10	19.48	20.85	19.37	19.75	20.41	20.79	22.16
	6H	18.69	19.00	19.75	20.05	21.44	19.91	20.21	20.97	21.27	22.65
	8H	18.92	19.19	19.99	20.24	21.67	20.11	20.37	21.17	21.43	22.85