

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: P831621

Luminaire Tested: S123DIP-S775D1195U850-4F0-1E-UDD-G

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831621  
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-S775D1195U850-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

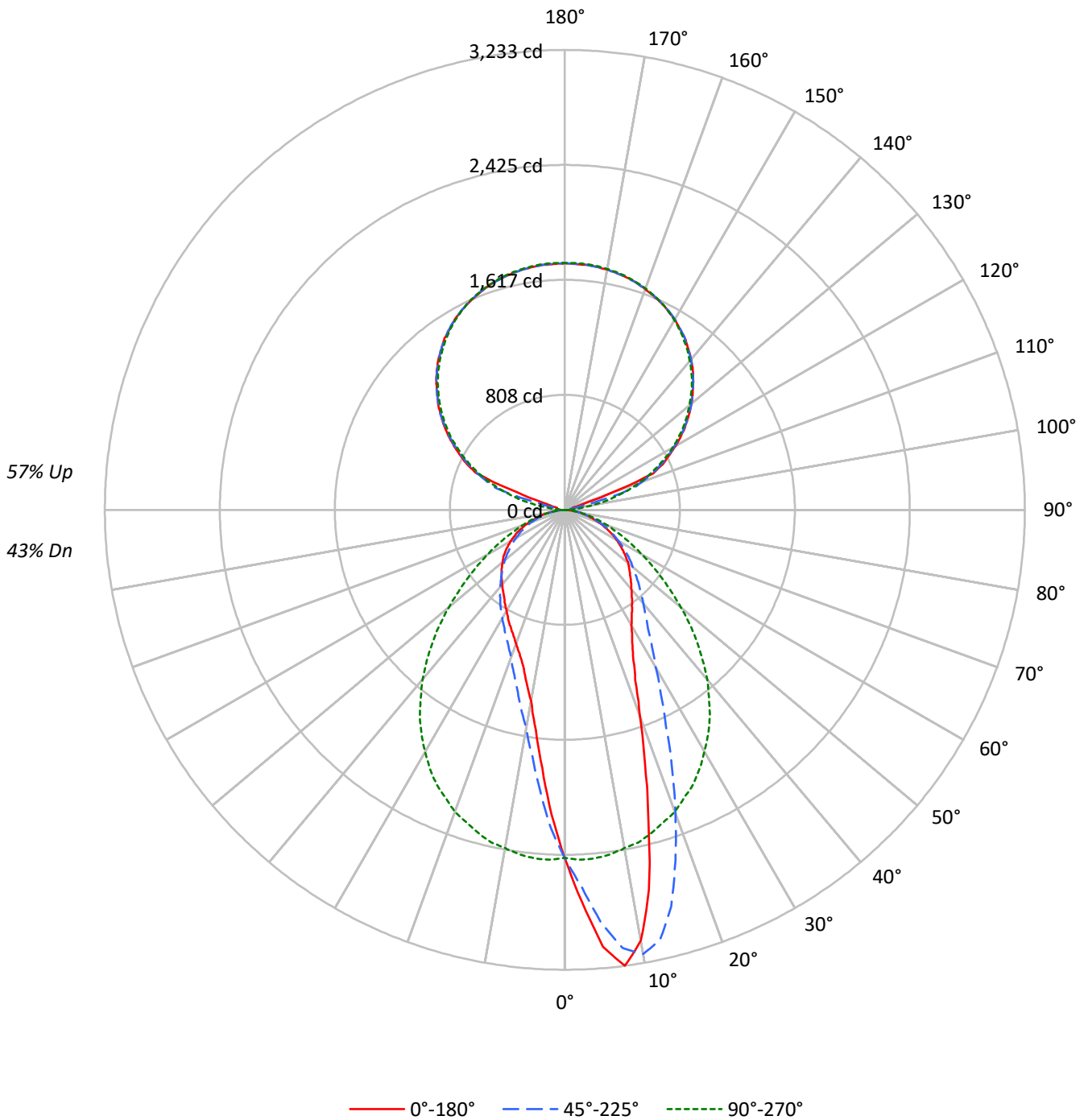
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9223.6 lumens  
Efficiency: N/A  
Efficacy: 162.1 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): 56.9  
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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43				43
1	97	92	89	85	88	85	82	79	70	68	66	57	55	54	44	43	43	37				37
2	88	81	75	71	81	75	70	65	62	58	55	50	48	46	40	38	37	32				32
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	33	32	27				27
4	74	64	56	51	68	59	52	47	49	44	41	40	37	34	32	30	28	24				24
5	68	57	50	44	62	53	46	41	44	39	35	37	33	30	29	27	25	21				21
6	63	52	44	38	58	48	41	36	40	35	31	33	30	27	27	24	22	19				19
7	59	47	39	34	54	43	37	32	37	32	28	31	27	24	25	22	20	17				17
8	54	43	35	30	50	40	33	28	34	29	25	28	24	21	23	20	18	16				16
9	51	39	32	27	47	36	30	26	31	26	22	26	22	19	21	19	17	14				14
10	48	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13				13

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

	0°	45°	90°	135°	180°
0°	26337	26337	26337	26337	26337
5°	33309	31437	26573	21414	19678
10°	33632	34649	26397	17070	14917
15°	25331	32169	26216	14456	12615
20°	17649	26032	25882	12641	11458
25°	13459	20018	25312	11631	10747
30°	11642	15904	24401	10916	10174
35°	10801	13428	23349	10399	9772
40°	10227	12045	21874	9908	9636
45°	9887	11149	19998	9523	9575
50°	9716	10438	17777	9173	9525
55°	9355	9918	15597	8843	9567
60°	9020	9362	13444	8531	9410
65°	8474	8835	11596	8199	9225
70°	7827	8164	9863	7648	8683
75°	7083	7320	8451	7107	7935
80°	5839	6403	6688	6192	6688
85°	4631	5187	4903	5261	5323

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 22832 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	231.3	2.5
10°-20°	575.5	6.2
20°-30°	681.4	7.4
30°-40°	685.1	7.4
40°-50°	628.6	6.8
50°-60°	518.8	5.6
60°-70°	367.0	4.0
70°-80°	195.9	2.1
80°-90°	53.2	0.6
90°-100°	61.1	0.7
100°-110°	295.6	3.2
110°-120°	724.5	7.9
120°-130°	919.8	10.0
130°-140°	982.6	10.7
140°-150°	918.9	10.0
150°-160°	741.1	8.0
160°-170°	478.3	5.2
170°-180°	164.8	1.8
0°-30°	1488.2	16.1
0°-40°	2173.3	23.6
0°-60°	3320.7	36.0
0°-90°	3936.8	42.7
90°-120°	1081.2	11.7
90°-150°	3902.5	42.3
90°-180°	5287.0	57.3
0°-180°	9223.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2447	2447	2447	2447	2447	
5°	3083	2910	2459	1982	1821	294
15°	2273	2887	2353	1297	1132	628
25°	1133	1686	2131	979	905	535
35°	822	1022	1777	791	744	517
45°	650	732	1314	626	629	503
55°	498	528	831	471	510	446
65°	333	347	455	322	362	331
75°	170	176	203	171	191	179
85°	38	42	40	43	43	42
90°	39	31	1	31	39	19
95°	49	40	79	40	49	41
105°	57	282	384	282	57	118
115°	758	740	720	740	758	713
125°	1036	1031	1015	1031	1036	926
135°	1277	1277	1264	1277	1277	985
145°	1473	1470	1458	1470	1473	920
155°	1604	1605	1607	1605	1604	740
165°	1690	1689	1694	1689	1690	478
175°	1728	1729	1734	1729	1728	164
180°	1734	1734	1734	1734	1734	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8
2.5°	2758.0	2755.1	2752.3	2738.1	2723.9	2717.1	2710.3	2689.8	2669.4	2646.7	2624.0
5°	3082.7	3090.6	3098.6	3089.5	3080.4	3052.6	3024.8	2987.9	2951.0	2909.5	2868.1
7.5°	3232.6	3237.1	3241.6	3236.0	3230.3	3222.9	3215.5	3182.6	3149.7	3107.1	3064.5
10°	3077.0	3087.2	3097.4	3119.6	3141.7	3166.7	3191.7	3187.1	3182.6	3170.1	3157.6
12.5°	2735.2	2747.7	2760.2	2804.5	2848.8	2905.6	2962.3	3011.2	3060.0	3094.0	3128.1
15°	2273.1	2307.8	2342.4	2382.7	2423.0	2506.5	2589.9	2692.7	2795.4	2886.8	2978.2
17.5°	1872.3	1885.4	1898.4	1941.6	1984.7	2089.8	2194.8	2313.4	2432.1	2583.7	2735.2
20°	1540.8	1552.7	1564.6	1621.4	1678.2	1760.5	1842.8	1976.2	2109.6	2272.6	2435.5
22.5°	1294.4	1313.1	1331.9	1363.6	1395.4	1474.4	1553.3	1671.9	1790.6	1970.5	2150.5
25°	1133.2	1146.8	1160.4	1179.7	1199.0	1262.0	1325.0	1422.7	1520.3	1685.5	1850.7
27.5°	1023.0	1028.7	1034.4	1053.7	1073.0	1113.9	1154.7	1238.8	1322.8	1463.0	1603.2
30°	936.7	940.7	944.7	961.7	978.7	1006.6	1034.4	1095.1	1155.9	1279.6	1403.4
32.5°	876.5	879.4	882.2	895.3	908.3	928.2	948.1	992.4	1036.6	1138.8	1241.0
35°	822.0	823.8	825.5	835.1	844.8	859.5	874.3	907.8	941.3	1021.9	1102.5
37.5°	774.4	776.6	778.9	784.6	790.3	803.3	816.4	843.1	869.7	931.6	993.5
40°	727.8	731.8	735.8	739.7	743.7	754.5	765.3	785.7	806.2	857.2	908.3
42.5°	688.1	692.0	696.0	697.7	699.4	705.7	711.9	730.6	749.4	787.4	825.5
45°	649.5	651.2	652.9	654.6	656.3	661.4	666.5	683.0	699.4	732.4	765.3
47.5°	614.3	614.3	614.3	615.4	616.5	621.1	625.6	637.5	649.5	675.0	700.6
50°	580.2	580.2	580.2	578.5	576.8	579.6	582.5	591.6	600.6	623.3	646.1
52.5°	539.3	539.3	539.3	539.9	540.5	540.5	540.5	548.4	556.4	576.8	597.2
55°	498.5	500.7	503.0	501.3	499.6	500.7	501.9	507.0	512.1	528.5	545.0
57.5°	457.6	458.7	459.8	459.3	458.7	459.3	459.8	464.4	468.9	481.4	493.9
60°	419.0	419.0	419.0	417.8	416.7	417.8	419.0	421.2	423.5	434.9	446.2
62.5°	375.8	376.4	377.0	377.5	378.1	377.0	375.8	378.7	381.5	390.0	398.5
65°	332.7	333.2	333.8	335.5	337.2	336.1	335.0	337.8	340.6	346.9	353.1
67.5°	294.1	292.9	291.8	292.4	292.9	294.6	296.3	296.9	297.5	304.3	311.1
70°	248.7	249.8	250.9	250.4	249.8	250.4	250.9	252.6	254.3	259.4	264.6
72.5°	207.8	208.4	208.9	208.9	208.9	210.1	211.2	212.9	214.6	217.4	220.3
75°	170.3	170.3	170.3	171.4	172.6	173.2	173.7	173.7	173.7	176.0	178.3
77.5°	129.4	132.3	135.1	134.5	134.0	135.1	136.3	138.0	139.7	140.8	141.9
80°	94.2	94.2	94.2	94.8	95.4	97.1	98.8	99.9	101.1	103.3	105.6
82.5°	60.2	60.7	61.3	63.0	64.7	65.9	67.0	68.7	70.4	70.4	70.4
85°	37.5	36.3	35.2	36.3	37.5	38.6	39.7	40.3	40.9	42.0	43.1
87.5°	18.2	18.2	18.2	18.2	18.2	18.7	19.3	19.3	19.3	19.3	19.3
90°	38.7	38.1	37.5	36.9	36.4	35.5	34.4	33.2	32.1	30.9	27.2
92.5°	43.8	43.5	43.2	42.9	42.7	41.5	39.5	37.5	35.5	33.5	30.9
95°	49.0	49.0	49.0	49.0	49.0	48.0	46.0	44.0	41.9	39.9	36.8
97.5°	52.8	52.5	52.3	52.0	51.7	50.4	48.1	45.8	43.5	41.2	55.8
100°	54.1	53.8	53.5	53.3	53.0	51.7	49.4	47.1	44.8	42.5	87.2
102.5°	55.4	54.8	54.3	53.7	53.1	57.6	67.0	76.4	85.9	95.3	145.2
105°	56.7	56.1	55.5	55.0	54.4	79.5	130.1	180.8	231.5	282.2	307.9
107.5°	134.0	171.5	209.0	246.5	284.0	324.8	368.9	413.0	457.1	501.2	496.9
110°	354.3	395.3	436.2	477.2	518.1	543.3	552.7	562.2	571.6	581.1	577.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	671.3	671.9	672.4	673.0	673.6	672.6	670.0	667.4	664.8	662.3	659.1
115°	757.6	756.5	755.3	754.2	753.0	751.0	748.2	745.3	742.4	739.6	737.0
117.5°	827.2	826.9	826.6	826.3	826.0	824.7	822.5	820.2	817.9	815.6	814.2
120°	899.3	899.3	899.3	899.3	899.3	898.2	895.9	893.6	891.3	889.0	888.2
122.5°	970.2	969.9	969.6	969.3	969.1	968.2	966.8	965.3	963.9	962.5	961.3
125°	1035.9	1035.3	1034.8	1034.2	1033.6	1033.0	1032.5	1031.9	1031.3	1030.8	1029.6
127.5°	1100.3	1100.9	1101.5	1102.1	1102.6	1102.5	1101.6	1100.8	1099.9	1099.0	1097.6
130°	1162.2	1162.8	1163.3	1163.9	1164.5	1164.2	1163.0	1161.9	1160.7	1159.6	1158.5
132.5°	1218.9	1219.7	1220.6	1221.4	1222.3	1222.2	1221.0	1219.9	1218.7	1217.6	1216.7
135°	1276.9	1277.7	1278.6	1279.4	1280.3	1280.3	1279.4	1278.6	1277.7	1276.9	1275.7
137.5°	1332.3	1332.8	1333.4	1334.0	1334.5	1334.1	1332.7	1331.3	1329.8	1328.4	1327.8
140°	1381.2	1381.8	1382.4	1382.9	1383.5	1383.2	1382.1	1380.9	1379.8	1378.6	1377.8
142.5°	1426.3	1427.2	1428.0	1428.9	1429.7	1429.7	1428.9	1428.0	1427.2	1426.3	1425.5
145°	1472.7	1472.7	1472.7	1472.7	1472.7	1472.4	1471.8	1471.3	1470.7	1470.1	1469.5
147.5°	1506.2	1507.6	1509.1	1510.5	1511.9	1512.4	1511.8	1511.2	1510.6	1510.1	1509.5
150°	1544.8	1545.7	1546.6	1547.4	1548.3	1548.4	1547.9	1547.3	1546.7	1546.1	1545.6
152.5°	1575.8	1577.2	1578.6	1580.1	1581.5	1581.6	1580.5	1579.3	1578.2	1577.1	1576.8
155°	1604.1	1605.8	1607.6	1609.3	1611.0	1611.1	1609.7	1608.3	1606.8	1605.4	1605.1
157.5°	1628.6	1630.9	1633.2	1635.5	1637.8	1638.0	1636.3	1634.6	1632.9	1631.2	1631.5
160°	1651.8	1653.8	1655.8	1657.8	1659.8	1659.9	1658.2	1656.5	1654.8	1653.1	1653.4
162.5°	1673.7	1675.4	1677.1	1678.8	1680.6	1680.4	1678.4	1676.4	1674.4	1672.4	1672.7
165°	1690.4	1692.4	1694.5	1696.5	1698.5	1698.3	1696.0	1693.7	1691.4	1689.2	1689.4
167.5°	1703.3	1705.6	1707.9	1710.2	1712.5	1712.5	1710.2	1707.9	1705.6	1703.3	1703.3
170°	1714.9	1717.2	1719.5	1721.8	1724.1	1724.1	1721.8	1719.5	1717.2	1714.9	1714.9
172.5°	1721.4	1723.9	1726.5	1729.1	1731.7	1731.8	1729.5	1727.2	1724.9	1722.7	1722.4
175°	1727.8	1730.1	1732.4	1734.7	1737.0	1737.1	1735.1	1733.1	1731.1	1729.1	1728.8
177.5°	1729.1	1732.0	1734.8	1737.7	1740.5	1740.8	1738.5	1736.3	1734.0	1731.7	1731.4
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8
2.5°	2617.2	2610.3	2585.4	2560.4	2532.0	2503.6	2482.6	2461.6	2430.4	2399.2	2373.6
5°	2836.3	2804.5	2751.7	2698.9	2627.4	2555.8	2507.6	2459.3	2394.6	2329.9	2278.2
7.5°	3010.0	2955.5	2881.7	2807.9	2714.2	2620.6	2532.0	2443.4	2344.7	2245.9	2165.3
10°	3120.7	3083.8	2998.7	2913.5	2788.0	2662.6	2538.8	2415.1	2287.9	2160.7	2054.0
12.5°	3131.5	3134.9	3056.6	2978.2	2836.3	2694.4	2543.9	2393.5	2233.4	2073.3	1949.0
15°	3036.7	3095.2	3052.0	3008.9	2865.8	2722.8	2537.7	2352.6	2168.1	1983.6	1840.0
17.5°	2860.7	2986.2	2992.4	2998.7	2855.6	2712.5	2507.6	2302.6	2093.7	1884.8	1733.8
20°	2620.6	2805.6	2869.2	2932.8	2816.4	2700.0	2479.8	2259.5	2025.6	1791.7	1633.3
22.5°	2375.3	2600.1	2716.5	2832.9	2746.6	2660.3	2425.8	2191.4	1944.4	1697.5	1536.8
25°	2096.0	2341.3	2520.1	2698.9	2646.1	2593.3	2362.3	2131.2	1868.3	1605.5	1441.4
27.5°	1852.4	2101.7	2317.4	2533.1	2521.8	2510.4	2281.1	2051.7	1782.6	1513.5	1355.1
30°	1635.6	1867.8	2109.1	2350.3	2378.2	2406.0	2184.6	1963.2	1693.5	1423.8	1271.1
32.5°	1443.7	1646.4	1905.2	2164.1	2218.6	2273.1	2073.3	1873.5	1606.6	1339.8	1192.8
35°	1286.4	1470.4	1729.3	1988.1	2056.3	2124.4	1950.7	1776.9	1516.9	1256.9	1116.7
37.5°	1147.3	1301.2	1553.8	1806.5	1889.9	1973.4	1817.8	1662.3	1418.7	1175.2	1046.3
40°	1032.1	1155.9	1388.1	1620.3	1716.8	1813.3	1685.0	1556.7	1325.6	1094.6	975.9
42.5°	935.6	1045.7	1256.4	1467.0	1559.5	1652.0	1543.6	1435.2	1229.7	1024.2	915.7
45°	853.3	941.3	1132.6	1323.9	1411.9	1499.9	1406.8	1313.7	1132.6	951.5	850.4
47.5°	776.1	851.6	1015.1	1178.6	1256.9	1335.3	1262.6	1189.9	1036.6	883.4	792.0
50°	706.8	767.5	910.6	1053.7	1121.8	1189.9	1125.8	1061.6	935.6	809.6	730.1
52.5°	646.6	696.0	815.8	935.6	994.1	1052.5	997.5	942.4	842.5	742.6	673.3
55°	587.0	629.0	732.9	836.8	876.5	916.3	873.7	831.1	750.5	669.9	611.4
57.5°	531.4	568.8	654.0	739.2	769.8	800.5	761.9	723.3	662.5	601.8	553.0
60°	476.9	507.5	578.5	649.5	668.2	686.9	655.7	624.5	581.9	539.3	495.6
62.5°	426.4	454.2	507.0	559.8	572.3	584.7	560.9	537.1	504.7	472.3	438.3
65°	374.1	395.1	438.3	481.4	489.4	497.3	476.3	455.3	430.9	406.5	381.5
67.5°	325.9	340.6	375.8	411.0	411.6	412.2	395.1	378.1	364.5	350.8	331.0
70°	278.7	292.9	316.2	339.5	340.1	340.6	327.0	313.4	303.2	292.9	278.2
72.5°	230.5	240.7	258.3	275.9	274.8	273.6	265.1	256.6	248.7	240.7	229.9
75°	186.8	195.3	207.2	219.1	215.7	212.3	207.8	203.2	196.4	189.6	182.8
77.5°	147.0	152.1	159.0	165.8	163.5	161.2	157.3	153.3	148.2	143.1	140.2
80°	107.9	110.1	114.7	119.2	118.1	116.9	112.4	107.9	106.7	105.6	101.6
82.5°	73.2	76.1	77.2	78.3	77.8	77.2	73.8	70.4	69.3	68.1	67.6
85°	43.7	44.3	44.8	45.4	43.7	42.0	40.9	39.7	39.7	39.7	39.2
87.5°	19.9	20.4	20.4	20.4	19.9	19.3	18.2	17.0	17.6	18.2	18.2
90°	23.5	19.8	16.0	12.7	9.9	7.0	4.2	1.3	4.2	7.0	9.9
92.5°	28.3	25.8	23.2	22.8	24.5	26.2	27.9	29.6	27.9	26.2	24.5
95°	33.6	30.5	27.3	31.6	43.4	55.1	66.9	78.6	66.9	55.1	43.4
97.5°	70.4	85.0	99.6	110.9	119.0	127.0	135.0	143.0	135.0	127.0	119.0
100°	131.9	176.5	221.2	240.7	234.9	229.2	223.5	217.7	223.5	229.2	234.9
102.5°	195.0	244.8	294.6	317.7	314.0	310.2	306.5	302.8	306.5	310.2	314.0
105°	333.7	359.5	385.2	396.6	393.4	390.3	387.1	384.0	387.1	390.3	393.4
107.5°	492.6	488.3	484.0	480.6	478.0	475.4	472.9	470.3	472.9	475.4	478.0
110°	574.8	571.6	568.5	565.8	563.5	561.2	558.9	556.6	558.9	561.2	563.5





TEST NUMBER: P831621

CATALOG NUMBER: S123DIP-S775D1195U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	656.0	652.8	649.7	647.1	645.1	643.1	641.1	639.1	641.1	643.1	645.1
115°	734.4	731.8	729.3	727.1	725.4	723.7	722.0	720.2	722.0	723.7	725.4
117.5°	812.7	811.3	809.9	808.1	806.1	804.1	802.1	800.1	802.1	804.1	806.1
120°	887.3	886.5	885.6	883.9	881.3	878.7	876.1	873.6	876.1	878.7	881.3
122.5°	960.2	959.0	957.9	956.3	954.3	952.3	950.3	948.3	950.3	952.3	954.3
125°	1028.5	1027.3	1026.2	1024.5	1022.2	1019.9	1017.6	1015.3	1017.6	1019.9	1022.2
127.5°	1096.2	1094.8	1093.3	1091.5	1089.2	1086.9	1084.6	1082.3	1084.6	1086.9	1089.2
130°	1157.3	1156.2	1155.0	1153.3	1151.0	1148.7	1146.4	1144.1	1146.4	1148.7	1151.0
132.5°	1215.9	1215.0	1214.1	1212.6	1210.3	1208.0	1205.7	1203.4	1205.7	1208.0	1210.3
135°	1274.6	1273.4	1272.3	1270.8	1269.1	1267.4	1265.7	1264.0	1265.7	1267.4	1269.1
137.5°	1327.2	1326.7	1326.1	1324.7	1322.4	1320.1	1317.8	1315.5	1317.8	1320.1	1322.4
140°	1376.9	1376.1	1375.2	1373.9	1372.2	1370.5	1368.8	1367.0	1368.8	1370.5	1372.2
142.5°	1424.6	1423.7	1422.9	1421.6	1419.9	1418.2	1416.4	1414.7	1416.4	1418.2	1419.9
145°	1469.0	1468.4	1467.8	1466.5	1464.5	1462.5	1460.5	1458.5	1460.5	1462.5	1464.5
147.5°	1508.9	1508.3	1507.8	1506.8	1505.3	1503.9	1502.5	1501.0	1502.5	1503.9	1505.3
150°	1545.0	1544.4	1543.8	1543.1	1542.3	1541.4	1540.6	1539.7	1540.6	1541.4	1542.3
152.5°	1576.5	1576.2	1575.9	1575.6	1575.3	1575.1	1574.8	1574.5	1574.8	1575.1	1575.3
155°	1604.8	1604.5	1604.3	1604.4	1605.0	1605.5	1606.1	1606.7	1606.1	1605.5	1605.0
157.5°	1631.7	1632.0	1632.3	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5
160°	1653.7	1653.9	1654.2	1654.5	1654.8	1655.1	1655.4	1655.7	1655.4	1655.1	1654.8
162.5°	1673.0	1673.3	1673.5	1674.1	1675.0	1675.8	1676.7	1677.6	1676.7	1675.8	1675.0
165°	1689.7	1690.0	1690.3	1690.9	1691.7	1692.6	1693.4	1694.3	1693.4	1692.6	1691.7
167.5°	1703.3	1703.3	1703.3	1703.9	1705.0	1706.2	1707.3	1708.5	1707.3	1706.2	1705.0
170°	1714.9	1714.9	1714.9	1715.5	1716.6	1717.8	1718.9	1720.1	1718.9	1717.8	1716.6
172.5°	1722.1	1721.8	1721.5	1722.1	1723.5	1724.9	1726.4	1727.8	1726.4	1724.9	1723.5
175°	1728.5	1728.2	1728.0	1728.5	1730.0	1731.4	1732.8	1734.2	1732.8	1731.4	1730.0
177.5°	1731.1	1730.8	1730.5	1731.1	1732.5	1734.0	1735.4	1736.8	1735.4	1734.0	1732.5
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831621

CATALOG NUMBER: S123DIP-S775D1195U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8	2446.8
2.5°	2348.1	2325.9	2303.8	2286.8	2269.7	2240.8	2211.8	2205.0	2198.2	2188.5	2178.9
5°	2226.6	2172.1	2117.6	2068.7	2019.9	1981.9	1943.9	1918.9	1893.9	1875.7	1857.6
7.5°	2084.6	2002.9	1921.1	1863.2	1805.3	1750.3	1695.2	1677.6	1660.0	1636.2	1612.3
10°	1947.3	1857.0	1766.7	1691.2	1615.7	1561.8	1507.8	1486.3	1464.7	1434.6	1404.5
12.5°	1824.6	1725.8	1627.1	1551.0	1474.9	1422.7	1370.5	1339.2	1308.0	1291.0	1273.9
15°	1696.3	1590.7	1485.1	1414.7	1344.3	1297.2	1250.1	1222.9	1195.6	1179.1	1162.7
17.5°	1582.8	1478.3	1373.9	1306.3	1238.8	1195.6	1152.5	1128.6	1104.8	1092.3	1079.8
20°	1474.9	1372.7	1270.5	1204.7	1138.8	1103.6	1068.4	1053.1	1037.8	1027.6	1017.3
22.5°	1376.1	1275.7	1175.2	1119.0	1062.8	1034.4	1006.0	995.2	984.4	975.9	967.4
25°	1277.4	1187.7	1098.0	1050.3	1002.6	979.3	956.0	945.2	934.5	925.9	917.4
27.5°	1196.7	1111.0	1025.3	984.4	943.5	925.4	907.2	898.7	890.2	882.2	874.3
30°	1118.4	1041.8	965.1	929.9	894.7	878.3	861.8	853.3	844.8	837.4	830.0
32.5°	1045.7	979.9	914.0	881.7	849.3	835.7	822.0	811.8	801.6	795.9	790.3
35°	976.5	917.4	858.4	831.7	805.0	791.4	777.8	769.3	760.7	756.2	751.7
37.5°	917.4	864.6	811.8	786.3	760.7	747.7	734.6	727.2	719.9	718.2	716.5
40°	857.2	811.8	766.4	741.4	716.5	705.1	693.7	689.2	684.7	683.5	682.4
42.5°	807.3	763.0	718.7	696.0	673.3	663.7	654.0	651.7	649.5	651.2	652.9
45°	749.4	712.5	675.6	654.6	633.6	625.6	617.7	616.0	614.3	617.7	621.1
47.5°	700.6	666.5	632.4	612.6	592.7	587.0	581.3	580.8	580.2	584.7	589.3
50°	650.6	617.7	584.7	568.8	553.0	547.8	542.7	544.4	546.1	553.5	560.9
52.5°	604.0	573.4	542.7	528.0	513.2	509.8	506.4	510.4	514.3	522.3	530.2
55°	553.0	525.1	497.3	486.0	474.6	471.2	467.8	475.7	483.7	491.1	498.5
57.5°	504.1	479.7	455.3	445.1	434.9	434.3	433.7	441.1	448.5	456.4	464.4
60°	451.9	431.5	411.0	403.1	395.1	396.3	397.4	405.9	414.4	420.7	426.9
62.5°	404.2	387.2	370.1	362.8	355.4	358.2	361.1	369.6	378.1	385.5	392.9
65°	356.5	342.3	328.1	323.0	317.9	321.9	325.9	333.2	340.6	345.7	350.8
67.5°	311.1	299.2	287.3	283.3	279.3	283.3	287.3	294.6	302.0	307.1	312.2
70°	263.4	253.8	244.1	241.3	238.4	243.0	247.5	253.8	260.0	265.1	270.2
72.5°	219.1	211.8	204.4	203.8	203.2	207.2	211.2	217.4	223.7	227.1	230.5
75°	176.0	172.0	168.0	167.5	166.9	170.9	174.9	178.3	181.7	184.5	187.3
77.5°	137.4	134.0	130.6	131.1	131.7	134.5	137.4	140.8	144.2	145.9	147.6
80°	97.6	96.5	95.4	96.5	97.6	99.9	102.2	104.5	106.7	107.9	109.0
82.5°	67.0	65.9	64.7	66.4	68.1	69.8	71.5	73.2	74.9	75.5	76.1
85°	38.6	40.3	42.0	42.0	42.0	42.6	43.1	43.7	44.3	43.7	43.1
87.5°	18.2	18.7	19.3	19.3	19.3	19.9	20.4	20.4	20.4	19.9	19.3
90°	12.7	16.0	19.8	23.5	27.2	30.9	32.1	33.2	34.4	35.5	36.4
92.5°	22.8	23.2	25.8	28.3	30.9	33.5	35.5	37.5	39.5	41.5	42.7
95°	31.6	27.3	30.5	33.6	36.8	39.9	41.9	44.0	46.0	48.0	49.0
97.5°	110.9	99.6	85.0	70.4	55.8	41.2	43.5	45.8	48.1	50.4	51.7
100°	240.7	221.2	176.5	131.9	87.2	42.5	44.8	47.1	49.4	51.7	53.0
102.5°	317.7	294.6	244.8	195.0	145.2	95.3	85.9	76.4	67.0	57.6	53.1
105°	396.6	385.2	359.5	333.7	307.9	282.2	231.5	180.8	130.1	79.5	54.4
107.5°	480.6	484.0	488.3	492.6	496.9	501.2	457.1	413.0	368.9	324.8	284.0
110°	565.8	568.5	571.6	574.8	577.9	581.1	571.6	562.2	552.7	543.3	518.1



TEST NUMBER: P831621

CATALOG NUMBER: S123DIP-S775D1195U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	647.1	649.7	652.8	656.0	659.1	662.3	664.8	667.4	670.0	672.6	673.6
115°	727.1	729.3	731.8	734.4	737.0	739.6	742.4	745.3	748.2	751.0	753.0
117.5°	808.1	809.9	811.3	812.7	814.2	815.6	817.9	820.2	822.5	824.7	826.0
120°	883.9	885.6	886.5	887.3	888.2	889.0	891.3	893.6	895.9	898.2	899.3
122.5°	956.3	957.9	959.0	960.2	961.3	962.5	963.9	965.3	966.8	968.2	969.1
125°	1024.5	1026.2	1027.3	1028.5	1029.6	1030.8	1031.3	1031.9	1032.5	1033.0	1033.6
127.5°	1091.5	1093.3	1094.8	1096.2	1097.6	1099.0	1099.9	1100.8	1101.6	1102.5	1102.6
130°	1153.3	1155.0	1156.2	1157.3	1158.5	1159.6	1160.7	1161.9	1163.0	1164.2	1164.5
132.5°	1212.6	1214.1	1215.0	1215.9	1216.7	1217.6	1218.7	1219.9	1221.0	1222.2	1222.3
135°	1270.8	1272.3	1273.4	1274.6	1275.7	1276.9	1277.7	1278.6	1279.4	1280.3	1280.3
137.5°	1324.7	1326.1	1326.7	1327.2	1327.8	1328.4	1329.8	1331.3	1332.7	1334.1	1334.5
140°	1373.9	1375.2	1376.1	1376.9	1377.8	1378.6	1379.8	1380.9	1382.1	1383.2	1383.5
142.5°	1421.6	1422.9	1423.7	1424.6	1425.5	1426.3	1427.2	1428.0	1428.9	1429.7	1429.7
145°	1466.5	1467.8	1468.4	1469.0	1469.5	1470.1	1470.7	1471.3	1471.8	1472.4	1472.7
147.5°	1506.8	1507.8	1508.3	1508.9	1509.5	1510.1	1510.6	1511.2	1511.8	1512.4	1511.9
150°	1543.1	1543.8	1544.4	1545.0	1545.6	1546.1	1546.7	1547.3	1547.9	1548.4	1548.3
152.5°	1575.6	1575.9	1576.2	1576.5	1576.8	1577.1	1578.2	1579.3	1580.5	1581.6	1581.5
155°	1604.4	1604.3	1604.5	1604.8	1605.1	1605.4	1606.8	1608.3	1609.7	1611.1	1611.0
157.5°	1632.5	1632.3	1632.0	1631.7	1631.5	1631.2	1632.9	1634.6	1636.3	1638.0	1637.8
160°	1654.5	1654.2	1653.9	1653.7	1653.4	1653.1	1654.8	1656.5	1658.2	1659.9	1659.8
162.5°	1674.1	1673.5	1673.3	1673.0	1672.7	1672.4	1674.4	1676.4	1678.4	1680.4	1680.6
165°	1690.9	1690.3	1690.0	1689.7	1689.4	1689.2	1691.4	1693.7	1696.0	1698.3	1698.5
167.5°	1703.9	1703.3	1703.3	1703.3	1703.3	1703.3	1705.6	1707.9	1710.2	1712.5	1712.5
170°	1715.5	1714.9	1714.9	1714.9	1714.9	1714.9	1717.2	1719.5	1721.8	1724.1	1724.1
172.5°	1722.1	1721.5	1721.8	1722.1	1722.4	1722.7	1724.9	1727.2	1729.5	1731.8	1731.7
175°	1728.5	1728.0	1728.2	1728.5	1728.8	1729.1	1731.1	1733.1	1735.1	1737.1	1737.0
177.5°	1731.1	1730.5	1730.8	1731.1	1731.4	1731.7	1734.0	1736.3	1738.5	1740.8	1740.5
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831621

CATALOG NUMBER: S123DIP-S775D1195U850-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2446.8	2446.8	2446.8	2446.8
2.5°	2174.9	2170.9	2155.0	2139.1
5°	1843.9	1830.3	1825.8	1821.2
7.5°	1611.2	1610.0	1586.2	1562.3
10°	1406.2	1407.9	1386.4	1364.8
12.5°	1259.8	1245.6	1243.9	1242.2
15°	1149.6	1136.6	1134.3	1132.0
17.5°	1071.8	1063.9	1061.6	1059.4
20°	1012.8	1008.3	1004.3	1000.3
22.5°	961.7	956.0	952.6	949.2
25°	912.3	907.2	906.1	904.9
27.5°	868.0	861.8	861.8	861.8
30°	826.0	822.0	820.3	818.6
32.5°	786.9	783.4	783.4	783.4
35°	749.9	748.2	746.0	743.7
37.5°	716.5	716.5	715.3	714.2
40°	684.1	685.8	685.8	685.8
42.5°	654.6	656.3	656.3	656.3
45°	623.9	626.8	627.9	629.0
47.5°	593.8	598.4	599.5	600.6
50°	564.3	567.7	568.3	568.8
52.5°	534.2	538.2	541.0	543.9
55°	502.4	506.4	508.1	509.8
57.5°	468.4	472.3	472.9	473.5
60°	430.9	434.9	436.0	437.1
62.5°	395.1	397.4	398.5	399.7
65°	354.3	357.7	359.9	362.2
67.5°	315.1	317.9	317.9	317.9
70°	271.4	272.5	274.2	275.9
72.5°	231.1	231.6	231.6	231.6
75°	188.5	189.6	190.2	190.8
77.5°	148.2	148.7	148.7	148.7
80°	108.4	107.9	107.9	107.9
82.5°	74.4	72.7	72.7	72.7
85°	42.6	42.0	42.6	43.1
87.5°	19.3	19.3	19.3	19.3
90°	36.9	37.5	38.1	38.7
92.5°	42.9	43.2	43.5	43.8
95°	49.0	49.0	49.0	49.0
97.5°	52.0	52.3	52.5	52.8
100°	53.3	53.5	53.8	54.1
102.5°	53.7	54.3	54.8	55.4
105°	55.0	55.5	56.1	56.7
107.5°	246.5	209.0	171.5	134.0
110°	477.2	436.2	395.3	354.3



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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	673.0	672.4	671.9	671.3
115°	754.2	755.3	756.5	757.6
117.5°	826.3	826.6	826.9	827.2
120°	899.3	899.3	899.3	899.3
122.5°	969.3	969.6	969.9	970.2
125°	1034.2	1034.8	1035.3	1035.9
127.5°	1102.1	1101.5	1100.9	1100.3
130°	1163.9	1163.3	1162.8	1162.2
132.5°	1221.4	1220.6	1219.7	1218.9
135°	1279.4	1278.6	1277.7	1276.9
137.5°	1334.0	1333.4	1332.8	1332.3
140°	1382.9	1382.4	1381.8	1381.2
142.5°	1428.9	1428.0	1427.2	1426.3
145°	1472.7	1472.7	1472.7	1472.7
147.5°	1510.5	1509.1	1507.6	1506.2
150°	1547.4	1546.6	1545.7	1544.8
152.5°	1580.1	1578.6	1577.2	1575.8
155°	1609.3	1607.6	1605.8	1604.1
157.5°	1635.5	1633.2	1630.9	1628.6
160°	1657.8	1655.8	1653.8	1651.8
162.5°	1678.8	1677.1	1675.4	1673.7
165°	1696.5	1694.5	1692.4	1690.4
167.5°	1710.2	1707.9	1705.6	1703.3
170°	1721.8	1719.5	1717.2	1714.9
172.5°	1729.1	1726.5	1723.9	1721.4
175°	1734.7	1732.4	1730.1	1727.8
177.5°	1737.7	1734.8	1732.0	1729.1
180°	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831621

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**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	14.21	14.98	15.23	16.00	17.38	16.44	17.21	17.47	18.24	19.62
	3H	15.85	16.54	16.88	17.57	18.97	17.86	18.55	18.90	19.59	20.98
	4H	16.42	17.07	17.47	18.11	19.52	18.31	18.96	19.35	20.00	21.40
	6H	16.79	17.39	17.84	18.43	19.84	18.58	19.18	19.64	20.22	21.64
	8H	16.88	17.45	17.94	18.51	19.92	18.64	19.21	19.70	20.27	21.68
	12H	16.92	17.47	17.99	18.52	19.95	18.66	19.20	19.72	20.25	21.68
4H	2H	14.77	15.42	15.82	16.46	17.87	16.60	17.25	17.65	18.29	19.69
	3H	16.59	17.14	17.65	18.20	19.62	18.21	18.75	19.27	19.82	21.23
	4H	17.29	17.78	18.35	18.84	20.28	18.79	19.29	19.85	20.34	21.78
	6H	17.76	18.18	18.83	19.27	20.70	19.19	19.62	20.26	20.70	22.13
	8H	17.89	18.29	18.97	19.36	20.81	19.30	19.70	20.37	20.77	22.22
	12H	17.96	18.32	19.05	19.40	20.85	19.34	19.70	20.43	20.79	22.24
8H	4H	17.55	17.95	18.62	19.02	20.47	18.89	19.29	19.96	20.36	21.81
	6H	18.13	18.46	19.23	19.58	21.02	19.39	19.71	20.48	20.83	22.27
	8H	18.34	18.63	19.44	19.73	21.19	19.57	19.85	20.67	20.95	22.42
	12H	18.46	18.71	19.57	19.81	21.31	19.66	19.92	20.77	21.01	22.51
12H	4H	17.54	17.90	18.64	18.99	20.44	18.86	19.22	19.95	20.31	21.76
	6H	18.18	18.47	19.29	19.57	21.03	19.40	19.69	20.50	20.79	22.25
	8H	18.41	18.67	19.52	19.76	21.26	19.60	19.85	20.70	20.94	22.45