

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: P831227

Luminaire Tested: S123DIP-S1165D1195U935-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831227  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1165D1195U935-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

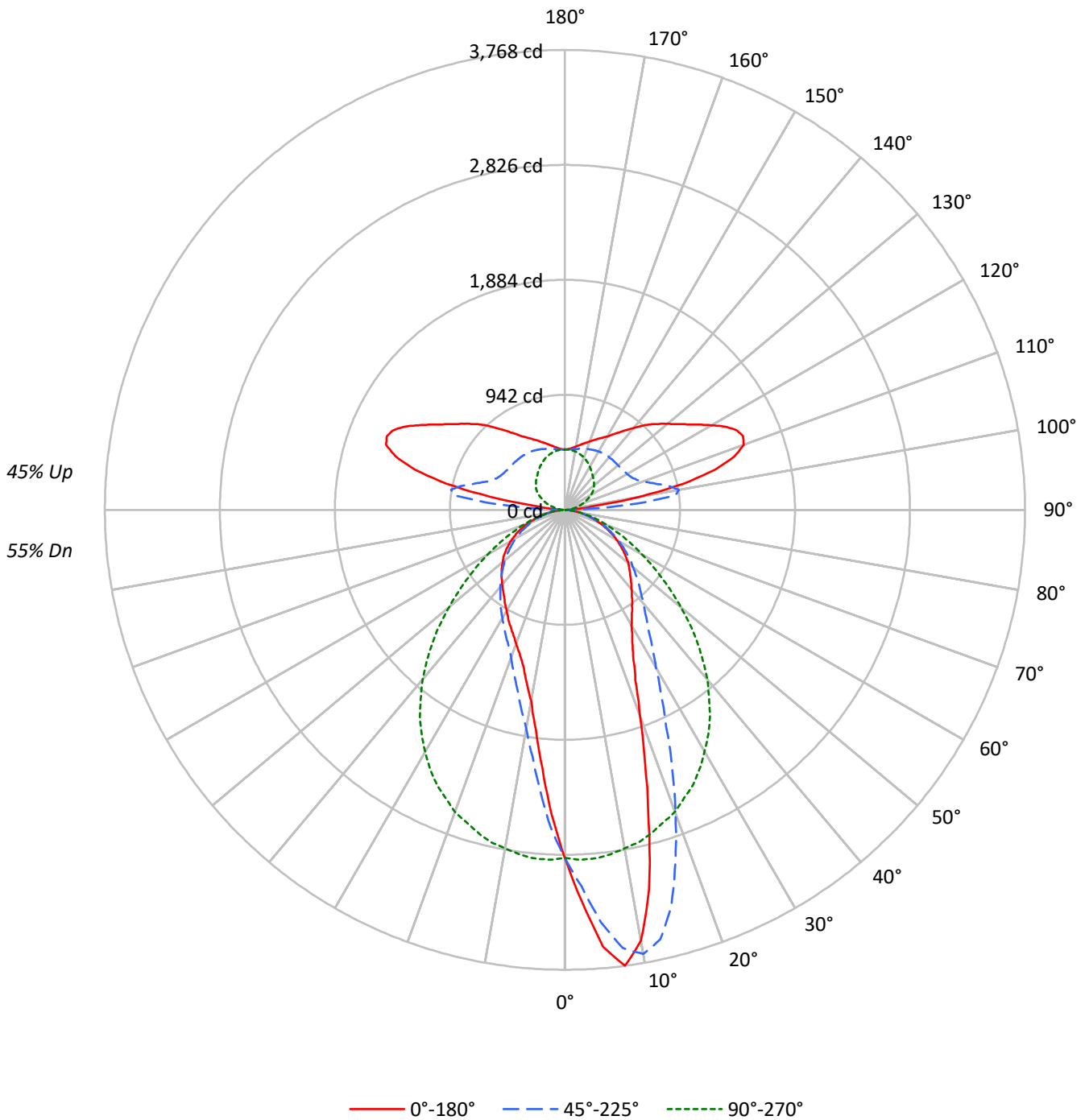
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8304.3 lumens  
Efficiency: N/A  
Efficacy: 113.4 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): 73.2  
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				
RC	80					70					50					30				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55		
1	100	95	92	88	92	89	86	83	76	74	72	65	64	62	55	54	53	48		
2	91	84	78	73	84	78	73	69	68	64	61	58	55	53	49	47	45	41		
3	84	74	67	62	77	70	63	58	60	56	52	52	48	45	44	41	39	35		
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31		
5	71	60	52	46	66	56	49	44	49	43	39	42	38	35	36	33	31	28		
6	66	54	46	40	61	51	44	39	44	39	35	39	34	31	33	30	27	25		
7	61	49	41	36	57	46	39	34	41	35	31	36	31	28	31	27	25	22		
8	57	45	37	32	53	42	35	31	37	32	28	33	28	25	28	25	23	20		
9	53	41	34	29	50	39	32	28	35	29	25	30	26	23	27	23	21	19		
10	50	38	31	26	46	36	30	25	32	27	23	28	24	21	25	21	19	17		

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

	0°	45°	90°	135°	180°
0°	30697	30697	30697	30697	30697
5°	38821	36641	30972	24959	22936
10°	39198	40384	30766	19896	17386
15°	29524	37494	30556	16848	14703
20°	20570	30340	30166	14734	13355
25°	15686	23332	29500	13556	12526
30°	13570	18537	28439	12722	11859
35°	12590	15650	27215	12121	11390
40°	11920	14039	25493	11547	11231
45°	11523	12994	23307	11100	11160
50°	11323	12166	20719	10692	11102
55°	10903	11560	18179	10306	11151
60°	10512	10910	15668	9944	10968
65°	9875	10297	13517	9556	10753
70°	9120	9517	11493	8913	10121
75°	8255	8530	9852	8284	9245
80°	6806	7463	7792	7221	7792
85°	5397	6052	5718	6126	6212

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 26612 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	269.6	3.2
10°-20°	670.7	8.1
20°-30°	794.2	9.6
30°-40°	798.5	9.6
40°-50°	732.6	8.8
50°-60°	604.7	7.3
60°-70°	427.7	5.2
70°-80°	228.3	2.7
80°-90°	60.7	0.7
90°-100°	268.2	3.2
100°-110°	785.1	9.5
110°-120°	766.7	9.2
120°-130°	610.6	7.4
130°-140°	481.7	5.8
140°-150°	359.4	4.3
150°-160°	250.6	3.0
160°-170°	147.2	1.8
170°-180°	47.9	0.6
0°-30°	1734.5	20.9
0°-40°	2533.1	30.5
0°-60°	3870.4	46.6
0°-90°	4587.1	55.2
90°-120°	1819.9	21.9
90°-150°	3271.6	39.4
90°-180°	3717.0	44.8
0°-180°	8304.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2852	2852	2852	2852	2852	
5°	3593	3391	2866	2310	2123	342
15°	2649	3365	2742	1512	1319	732
25°	1321	1964	2484	1141	1055	623
35°	958	1191	2071	922	867	602
45°	757	854	1531	729	733	586
55°	581	616	969	549	594	520
65°	388	404	531	375	422	385
75°	198	205	237	199	222	209
85°	44	49	46	50	50	49
90°	29	25	2	25	29	18
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	



TEST NUMBER: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8
2.5°	3214.4	3211.1	3207.8	3191.3	3174.7	3166.8	3158.9	3135.0	3111.2	3084.7	3058.3
5°	3592.9	3602.2	3611.4	3600.9	3590.3	3557.8	3525.4	3482.4	3439.4	3391.1	3342.8
7.5°	3767.6	3772.9	3778.2	3771.6	3764.9	3756.3	3747.7	3709.4	3671.0	3621.4	3571.7
10°	3586.3	3598.2	3610.1	3635.9	3661.7	3690.8	3720.0	3714.7	3709.4	3694.8	3680.3
12.5°	3188.0	3202.5	3217.1	3268.7	3320.3	3386.5	3452.6	3509.5	3566.4	3606.1	3645.8
15°	2649.4	2689.7	2730.1	2777.1	2824.0	2921.3	3018.6	3138.3	3258.1	3364.6	3471.2
17.5°	2182.2	2197.4	2212.7	2262.9	2313.2	2435.6	2558.0	2696.3	2834.6	3011.3	3188.0
20°	1795.8	1809.7	1823.6	1889.8	1955.9	2051.9	2147.8	2303.3	2458.8	2648.7	2838.6
22.5°	1508.6	1530.5	1552.3	1589.4	1626.4	1718.4	1810.4	1948.6	2086.9	2296.7	2506.4
25°	1320.7	1336.6	1352.5	1375.0	1397.5	1470.9	1544.4	1658.2	1772.0	1964.5	2157.1
27.5°	1192.3	1199.0	1205.6	1228.1	1250.6	1298.2	1345.9	1443.8	1541.7	1705.1	1868.6
30°	1091.8	1096.4	1101.0	1120.9	1140.7	1173.2	1205.6	1276.4	1347.2	1491.4	1635.7
32.5°	1021.6	1024.9	1028.2	1043.5	1058.7	1081.8	1105.0	1156.6	1208.2	1327.3	1446.4
35°	958.1	960.1	962.1	973.3	984.6	1001.8	1019.0	1058.0	1097.1	1191.0	1285.0
37.5°	902.5	905.2	907.8	914.4	921.1	936.3	951.5	982.6	1013.7	1085.8	1157.9
40°	848.3	852.9	857.5	862.2	866.8	879.4	891.9	915.8	939.6	999.1	1058.7
42.5°	802.0	806.6	811.2	813.2	815.2	822.5	829.7	851.6	873.4	917.7	962.1
45°	757.0	758.9	760.9	762.9	764.9	770.9	776.8	796.0	815.2	853.6	891.9
47.5°	715.9	715.9	715.9	717.3	718.6	723.9	729.2	743.1	757.0	786.7	816.5
50°	676.2	676.2	676.2	674.3	672.3	675.6	678.9	689.5	700.1	726.5	753.0
52.5°	628.6	628.6	628.6	629.3	629.9	629.9	629.9	639.2	648.4	672.3	696.1
55°	581.0	583.6	586.2	584.3	582.3	583.6	584.9	590.9	596.8	616.0	635.2
57.5°	533.3	534.6	536.0	535.3	534.6	535.3	536.0	541.3	546.5	561.1	575.7
60°	488.3	488.3	488.3	487.0	485.7	487.0	488.3	491.0	493.6	506.8	520.1
62.5°	438.0	438.7	439.4	440.0	440.7	439.4	438.0	441.3	444.6	454.6	464.5
65°	387.7	388.4	389.1	391.1	393.0	391.7	390.4	393.7	397.0	404.3	411.6
67.5°	342.7	341.4	340.1	340.8	341.4	343.4	345.4	346.1	346.7	354.7	362.6
70°	289.8	291.1	292.5	291.8	291.1	291.8	292.5	294.4	296.4	302.4	308.3
72.5°	242.2	242.8	243.5	243.5	243.5	244.8	246.1	248.1	250.1	253.4	256.7
75°	198.5	198.5	198.5	199.8	201.2	201.8	202.5	202.5	202.5	205.1	207.8
77.5°	150.9	154.2	157.5	156.8	156.2	157.5	158.8	160.8	162.8	164.1	165.4
80°	109.8	109.8	109.8	110.5	111.2	113.1	115.1	116.5	117.8	120.4	123.1
82.5°	70.1	70.8	71.5	73.4	75.4	76.8	78.1	80.1	82.0	82.0	82.0
85°	43.7	42.3	41.0	42.3	43.7	45.0	46.3	47.0	47.6	49.0	50.3
87.5°	21.2	21.2	21.2	21.2	21.2	21.8	22.5	22.5	22.5	22.5	22.5
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



TEST NUMBER: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G4

**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



TEST NUMBER: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8
2.5°	3050.3	3042.4	3013.3	2984.2	2951.1	2918.0	2893.5	2869.0	2832.6	2796.3	2766.5
5°	3305.7	3268.7	3207.2	3145.6	3062.2	2978.9	2922.6	2866.4	2791.0	2715.5	2655.3
7.5°	3508.2	3444.7	3358.7	3272.7	3163.5	3054.3	2951.1	2847.9	2732.7	2617.6	2523.6
10°	3637.2	3594.2	3495.0	3395.7	3249.5	3103.3	2959.0	2814.8	2666.6	2518.3	2394.0
12.5°	3649.8	3653.8	3562.5	3471.2	3305.7	3140.3	2965.0	2789.6	2603.0	2416.4	2271.5
15°	3539.3	3607.5	3557.2	3506.9	3340.2	3173.4	2957.7	2742.0	2526.9	2311.9	2144.5
17.5°	3334.2	3480.4	3487.7	3495.0	3328.2	3161.5	2922.6	2683.8	2440.3	2196.8	2020.8
20°	3054.3	3270.0	3344.1	3418.2	3282.6	3146.9	2890.2	2633.5	2360.9	2088.3	1903.6
22.5°	2768.5	3030.5	3166.1	3301.8	3201.2	3100.6	2827.4	2554.1	2266.2	1978.4	1791.2
25°	2442.9	2728.8	2937.2	3145.6	3084.1	3022.5	2753.2	2483.9	2177.6	1871.2	1680.0
27.5°	2159.1	2449.5	2701.0	2952.4	2939.2	2925.9	2658.6	2391.3	2077.7	1764.0	1579.4
30°	1906.3	2176.9	2458.1	2739.3	2771.8	2804.2	2546.1	2288.1	1973.8	1659.5	1481.5
32.5°	1682.6	1918.9	2220.6	2522.3	2585.8	2649.4	2416.4	2183.5	1872.5	1561.6	1390.2
35°	1499.4	1713.7	2015.5	2317.2	2396.6	2476.0	2273.5	2071.1	1768.0	1465.0	1301.5
37.5°	1337.3	1516.6	1811.0	2105.5	2202.7	2300.0	2118.7	1937.4	1653.5	1369.7	1219.5
40°	1202.9	1347.2	1617.8	1888.4	2000.9	2113.4	1963.9	1814.3	1545.0	1275.7	1137.4
42.5°	1090.4	1218.8	1464.3	1709.8	1817.6	1925.5	1799.1	1672.7	1433.2	1193.7	1067.3
45°	994.5	1097.1	1320.0	1543.0	1645.6	1748.2	1639.6	1531.1	1320.0	1109.0	991.2
47.5°	904.5	992.5	1183.1	1373.6	1465.0	1556.3	1471.6	1386.9	1208.2	1029.6	923.0
50°	823.8	894.6	1061.3	1228.1	1307.5	1386.9	1312.1	1237.3	1090.4	943.6	850.9
52.5°	753.7	811.2	950.8	1090.4	1158.6	1226.8	1162.6	1098.4	981.9	865.5	784.8
55°	684.2	733.1	854.2	975.3	1021.6	1067.9	1018.3	968.7	874.7	780.8	712.6
57.5°	619.3	663.0	762.3	861.5	897.2	933.0	888.0	843.0	772.2	701.4	644.5
60°	555.8	591.5	674.3	757.0	778.8	800.6	764.2	727.8	678.2	628.6	577.6
62.5°	496.9	529.3	590.9	652.4	667.0	681.5	653.7	625.9	588.2	550.5	510.8
65°	436.0	460.5	510.8	561.1	570.4	579.6	555.1	530.7	502.2	473.8	444.6
67.5°	379.8	397.0	438.0	479.1	479.7	480.4	460.5	440.7	424.8	408.9	385.8
70°	324.9	341.4	368.6	395.7	396.3	397.0	381.1	365.2	353.3	341.4	324.2
72.5°	268.6	280.6	301.1	321.6	320.3	318.9	309.0	299.1	289.8	280.6	268.0
75°	217.7	227.6	241.5	255.4	251.4	247.5	242.2	236.9	228.9	221.0	213.1
77.5°	171.4	177.3	185.3	193.2	190.6	187.9	183.3	178.7	172.7	166.7	163.4
80°	125.7	128.4	133.7	139.0	137.6	136.3	131.0	125.7	124.4	123.1	118.4
82.5°	85.4	88.7	90.0	91.3	90.6	90.0	86.0	82.0	80.7	79.4	78.7
85°	50.9	51.6	52.3	52.9	50.9	49.0	47.6	46.3	46.3	46.3	45.7
87.5°	23.2	23.8	23.8	23.8	23.2	22.5	21.2	19.9	20.5	21.2	21.2
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: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-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: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8
2.5°	2736.7	2710.9	2685.1	2665.2	2645.4	2611.6	2577.9	2570.0	2562.0	2550.8	2539.5
5°	2595.1	2531.6	2468.1	2411.2	2354.3	2309.9	2265.6	2236.5	2207.4	2186.2	2165.0
7.5°	2429.7	2334.4	2239.1	2171.6	2104.1	2040.0	1975.8	1955.3	1934.7	1907.0	1879.2
10°	2269.6	2164.3	2059.1	1971.1	1883.1	1820.3	1757.4	1732.3	1707.1	1672.1	1637.0
12.5°	2126.6	2011.5	1896.4	1807.7	1719.0	1658.2	1597.3	1560.9	1524.5	1504.7	1484.8
15°	1977.1	1854.0	1731.0	1648.9	1566.9	1511.9	1457.0	1425.3	1393.5	1374.3	1355.1
17.5°	1844.8	1723.0	1601.3	1522.5	1443.8	1393.5	1343.2	1315.4	1287.6	1273.1	1258.5
20°	1719.0	1599.9	1480.8	1404.1	1327.3	1286.3	1245.3	1227.4	1209.5	1197.6	1185.7
22.5°	1603.9	1486.8	1369.7	1304.2	1238.7	1205.6	1172.5	1159.9	1147.4	1137.4	1127.5
25°	1488.8	1384.2	1279.7	1224.1	1168.5	1141.4	1114.3	1101.7	1089.1	1079.2	1069.3
27.5°	1394.8	1294.9	1195.0	1147.4	1099.7	1078.5	1057.4	1047.4	1037.5	1028.2	1019.0
30°	1303.5	1214.2	1124.9	1083.8	1042.8	1023.6	1004.4	994.5	984.6	976.0	967.4
32.5°	1218.8	1142.1	1065.3	1027.6	989.9	974.0	958.1	946.2	934.3	927.7	921.1
35°	1138.1	1069.3	1000.5	969.4	938.3	922.4	906.5	896.6	886.6	881.4	876.1
37.5°	1069.3	1007.7	946.2	916.4	886.6	871.4	856.2	847.6	839.0	837.0	835.0
40°	999.1	946.2	893.3	864.2	835.0	821.8	808.6	803.3	798.0	796.7	795.3
42.5°	940.9	889.3	837.7	811.2	784.8	773.5	762.3	759.6	757.0	758.9	760.9
45°	873.4	830.4	787.4	762.9	738.4	729.2	719.9	717.9	715.9	719.9	723.9
47.5°	816.5	776.8	737.1	714.0	690.8	684.2	677.6	676.9	676.2	681.5	686.8
50°	758.3	719.9	681.5	663.0	644.5	638.5	632.6	634.5	636.5	645.1	653.7
52.5°	704.0	668.3	632.6	615.4	598.2	594.2	590.2	594.8	599.5	608.7	618.0
55°	644.5	612.1	579.6	566.4	553.2	549.2	545.2	554.5	563.7	572.4	581.0
57.5°	587.6	559.1	530.7	518.8	506.8	506.2	505.5	514.1	522.7	532.0	541.3
60°	526.7	502.9	479.1	469.8	460.5	461.9	463.2	473.1	483.0	490.3	497.6
62.5°	471.1	451.3	431.4	422.8	414.2	417.5	420.8	430.8	440.7	449.3	457.9
65°	415.5	399.0	382.5	376.5	370.5	375.2	379.8	388.4	397.0	403.0	408.9
67.5°	362.6	348.7	334.8	330.2	325.5	330.2	334.8	343.4	352.0	358.0	363.9
70°	307.0	295.8	284.5	281.2	277.9	283.2	288.5	295.8	303.0	309.0	315.0
72.5°	255.4	246.8	238.2	237.5	236.9	241.5	246.1	253.4	260.7	264.7	268.6
75°	205.1	200.5	195.9	195.2	194.5	199.2	203.8	207.8	211.7	215.0	218.4
77.5°	160.1	156.2	152.2	152.8	153.5	156.8	160.1	164.1	168.1	170.1	172.0
80°	113.8	112.5	111.2	112.5	113.8	116.5	119.1	121.7	124.4	125.7	127.0
82.5°	78.1	76.8	75.4	77.4	79.4	81.4	83.4	85.4	87.3	88.0	88.7
85°	45.0	47.0	49.0	49.0	49.0	49.6	50.3	50.9	51.6	50.9	50.3
87.5°	21.2	21.8	22.5	22.5	22.5	23.2	23.8	23.8	23.8	23.2	22.5
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: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-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: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2851.8	2851.8	2851.8	2851.8
2.5°	2534.9	2530.3	2511.7	2493.2
5°	2149.1	2133.3	2128.0	2122.7
7.5°	1877.8	1876.5	1848.7	1820.9
10°	1639.0	1641.0	1615.8	1590.7
12.5°	1468.3	1451.7	1449.7	1447.8
15°	1339.9	1324.7	1322.0	1319.4
17.5°	1249.2	1240.0	1237.3	1234.7
20°	1180.4	1175.1	1170.5	1165.9
22.5°	1120.9	1114.3	1110.3	1106.3
25°	1063.3	1057.4	1056.0	1054.7
27.5°	1011.7	1004.4	1004.4	1004.4
30°	962.7	958.1	956.1	954.1
32.5°	917.1	913.1	913.1	913.1
35°	874.1	872.1	869.4	866.8
37.5°	835.0	835.0	833.7	832.4
40°	797.3	799.3	799.3	799.3
42.5°	762.9	764.9	764.9	764.9
45°	727.2	730.5	731.8	733.1
47.5°	692.1	697.4	698.7	700.1
50°	657.7	661.7	662.3	663.0
52.5°	622.6	627.3	630.6	633.9
55°	585.6	590.2	592.2	594.2
57.5°	545.9	550.5	551.2	551.8
60°	502.2	506.8	508.2	509.5
62.5°	460.5	463.2	464.5	465.8
65°	412.9	416.9	419.5	422.2
67.5°	367.2	370.5	370.5	370.5
70°	316.3	317.6	319.6	321.6
72.5°	269.3	270.0	270.0	270.0
75°	219.7	221.0	221.7	222.3
77.5°	172.7	173.4	173.4	173.4
80°	126.4	125.7	125.7	125.7
82.5°	86.7	84.7	84.7	84.7
85°	49.6	49.0	49.6	50.3
87.5°	22.5	22.5	22.5	22.5
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: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-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: P831227

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-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	15.94	16.81	16.86	17.74	18.94	18.18	19.05	19.10	19.98	21.18
	3H	17.59	18.37	18.52	19.31	20.53	19.60	20.38	20.53	21.32	22.54
	4H	18.17	18.90	19.11	19.85	21.08	20.05	20.79	21.00	21.73	22.97
	6H	18.54	19.21	19.49	20.17	21.41	20.33	21.01	21.29	21.96	23.20
	8H	18.63	19.28	19.60	20.25	21.49	20.39	21.04	21.36	22.00	23.25
	12H	18.68	19.29	19.65	20.25	21.52	20.41	21.02	21.38	21.99	23.25
4H	2H	16.52	17.25	17.47	18.20	19.43	18.34	19.08	19.29	20.02	21.25
	3H	18.35	18.96	19.31	19.94	21.18	19.96	20.57	20.92	21.55	22.79
	4H	19.05	19.60	20.01	20.57	21.84	20.55	21.10	21.51	22.07	23.34
	6H	19.52	20.00	20.50	21.00	22.26	20.95	21.43	21.93	22.43	23.69
	8H	19.66	20.11	20.64	21.09	22.38	21.06	21.51	22.05	22.50	23.78
	12H	19.72	20.13	20.73	21.13	22.42	21.11	21.51	22.11	22.52	23.80
8H	4H	19.31	19.76	20.29	20.75	22.03	20.65	21.10	21.64	22.09	23.37
	6H	19.90	20.27	20.91	21.30	22.58	21.15	21.53	22.16	22.55	23.83
	8H	20.11	20.43	21.13	21.45	22.75	21.33	21.66	22.35	22.68	23.98
	12H	20.23	20.52	21.25	21.53	22.87	21.44	21.72	22.46	22.73	24.08
12H	4H	19.31	19.72	20.31	20.72	22.01	20.63	21.03	21.63	22.04	23.32
	6H	19.95	20.28	20.97	21.29	22.59	21.17	21.50	22.19	22.51	23.81
	8H	20.19	20.47	21.21	21.48	22.83	21.37	21.66	22.39	22.67	24.01