

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: P831185

Luminaire Tested: S123DIP-S1165D1025U835-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

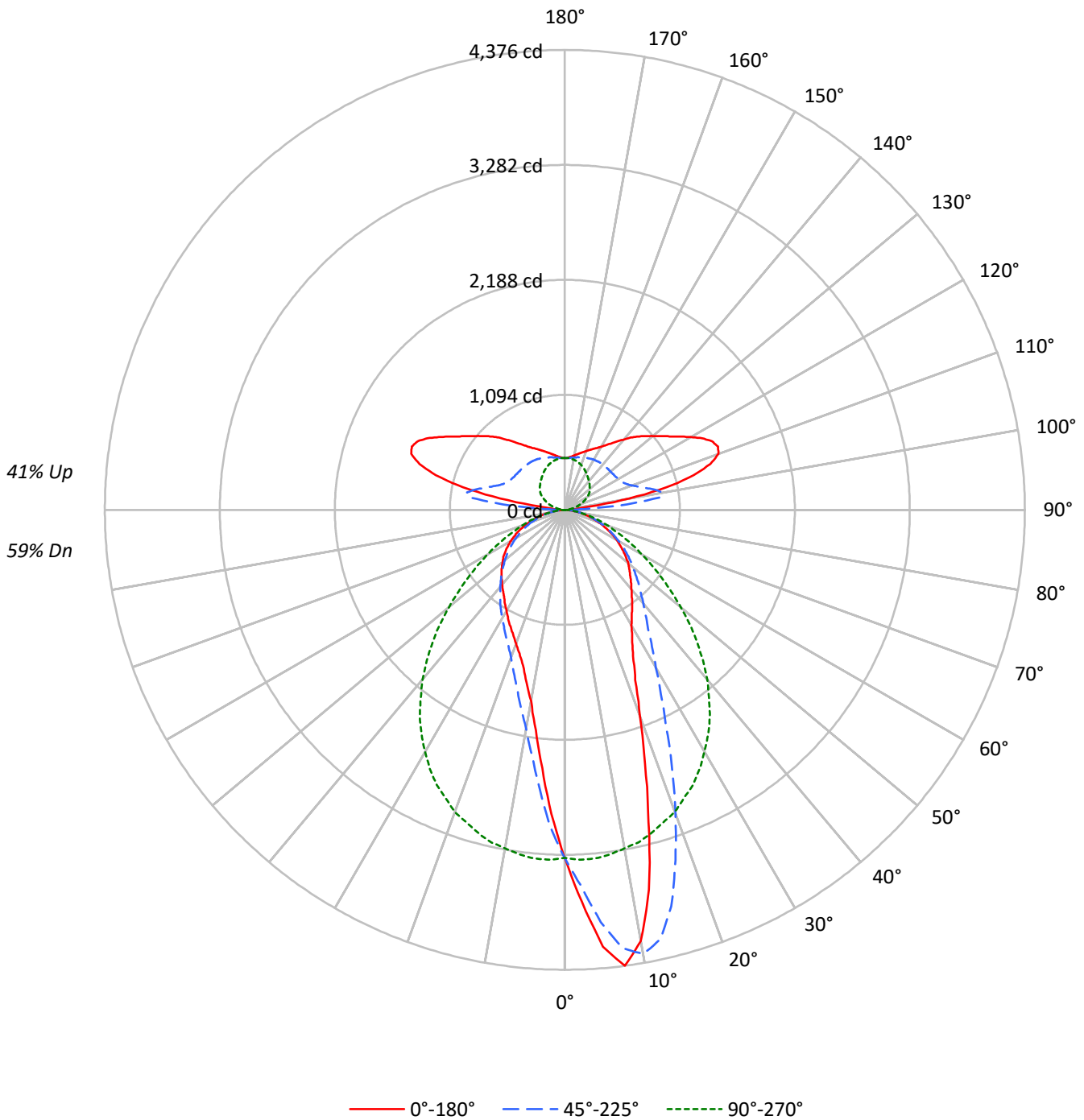
Test Method: LM-79-2019  
Report Number: P831185  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1165D1025U835-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9036.4 lumens  
Efficiency: N/A  
Efficacy: 132.7 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): 68.1  
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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59				
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56	51				
2	92	85	79	74	86	79	74	70	69	66	62	60	57	55	52	50	48	44				
3	84	75	68	63	79	71	64	59	62	57	53	54	50	47	46	44	42	38				
4	78	67	60	54	72	63	56	51	56	50	46	49	45	41	42	39	36	33				
5	72	60	52	47	67	57	50	45	50	45	40	44	40	36	38	35	32	29				
6	66	55	47	41	62	52	44	39	46	40	36	40	36	32	35	32	29	26				
7	62	50	42	37	58	47	40	35	42	36	32	37	32	29	32	29	26	24				
8	58	45	38	33	54	43	36	31	38	33	29	34	30	26	30	27	24	22				
9	54	42	35	30	50	40	33	28	36	30	26	32	27	24	28	24	22	20				
10	50	39	32	27	47	37	30	26	33	28	24	30	25	22	26	23	20	18				

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

	0°	45°	90°	135°	180°
0°	35652	35652	35652	35652	35652
5°	45089	42557	35971	28988	26639
10°	45527	46904	35732	23107	20193
15°	34290	43547	35489	19568	17076
20°	23891	35238	35035	17113	15511
25°	18218	27099	34264	15745	14549
30°	15760	21530	33030	14777	13774
35°	14623	18177	31608	14077	13228
40°	13843	16305	29609	13412	13045
45°	13384	15092	27070	12892	12962
50°	13152	14130	24065	12419	12894
55°	12662	13427	21114	11971	12951
60°	12211	12673	18200	11548	12738
65°	11469	11961	15697	11097	12488
70°	10593	11053	13350	10351	11755
75°	9590	9906	11441	9619	10738
80°	7910	8672	9050	8387	9050
85°	6262	7027	6644	7114	7213

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 30908 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	313.1	3.5
10°-20°	779.0	8.6
20°-30°	922.4	10.2
30°-40°	927.4	10.3
40°-50°	850.9	9.4
50°-60°	702.3	7.8
60°-70°	496.8	5.5
70°-80°	265.2	2.9
80°-90°	70.0	0.8
90°-100°	267.6	3.0
100°-110°	783.4	8.7
110°-120°	765.0	8.5
120°-130°	609.2	6.7
130°-140°	480.7	5.3
140°-150°	358.6	4.0
150°-160°	250.0	2.8
160°-170°	146.9	1.6
170°-180°	47.8	0.5
0°-30°	2014.6	22.3
0°-40°	2942.0	32.6
0°-60°	4495.2	49.7
0°-90°	5327.2	59.0
90°-120°	1816.0	20.1
90°-150°	3264.5	36.1
90°-180°	3709.0	41.0
0°-180°	9036.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3312	3312	3312	3312	3312	
5°	4173	3939	3329	2683	2465	398
15°	3077	3908	3185	1756	1532	850
25°	1534	2282	2885	1326	1225	724
35°	1113	1383	2405	1071	1007	699
45°	879	991	1778	847	852	681
55°	675	716	1125	638	690	604
65°	450	470	616	436	490	447
75°	231	238	275	231	258	242
85°	51	57	54	58	58	57
90°	29	25	2	25	29	19
95°	116	592	34	592	116	188
105°	1270	802	116	802	1270	1267
115°	1544	614	205	614	1544	1506
125°	1218	573	284	573	1218	1102
135°	987	565	333	565	987	766
145°	772	558	380	558	772	490
155°	640	540	432	540	640	298
165°	558	517	472	517	558	159
175°	502	496	492	496	502	49
180°	493	493	493	493	493	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2
2.5°	3733.4	3729.5	3725.7	3706.5	3687.3	3678.0	3668.8	3641.2	3613.5	3582.8	3552.0
5°	4173.0	4183.7	4194.5	4182.2	4169.9	4132.2	4094.6	4044.6	3994.7	3938.6	3882.5
7.5°	4375.8	4382.0	4388.1	4380.5	4372.8	4362.8	4352.8	4308.2	4263.6	4206.0	4148.4
10°	4165.3	4179.1	4192.9	4222.9	4252.9	4286.7	4320.5	4314.4	4308.2	4291.3	4274.4
12.5°	3702.6	3719.5	3736.5	3796.4	3856.3	3933.2	4010.0	4076.1	4142.2	4188.3	4234.4
15°	3077.1	3124.0	3170.8	3225.4	3280.0	3392.9	3505.9	3645.0	3784.1	3907.8	4031.6
17.5°	2534.5	2552.2	2569.9	2628.3	2686.7	2828.9	2971.0	3131.6	3292.3	3497.5	3702.6
20°	2085.7	2101.9	2118.0	2194.8	2271.7	2383.1	2494.6	2675.2	2855.8	3076.3	3296.9
22.5°	1752.2	1777.5	1802.9	1845.9	1889.0	1995.8	2102.6	2263.2	2423.9	2667.5	2911.1
25°	1533.9	1552.4	1570.8	1596.9	1623.1	1708.4	1793.7	1925.9	2058.0	2281.7	2505.3
27.5°	1384.8	1392.5	1400.2	1426.3	1452.5	1507.8	1563.1	1676.9	1790.6	1980.4	2170.2
30°	1268.0	1273.4	1278.8	1301.8	1324.9	1362.6	1400.2	1482.4	1564.7	1732.2	1899.7
32.5°	1186.6	1190.4	1194.3	1211.9	1229.6	1256.5	1283.4	1343.3	1403.3	1541.6	1679.9
35°	1112.8	1115.1	1117.4	1130.5	1143.5	1163.5	1183.5	1228.8	1274.2	1383.3	1492.4
37.5°	1048.2	1051.3	1054.4	1062.1	1069.8	1087.4	1105.1	1141.2	1177.3	1261.1	1344.9
40°	985.2	990.6	996.0	1001.4	1006.7	1021.3	1035.9	1063.6	1091.3	1160.4	1229.6
42.5°	931.4	936.8	942.2	944.5	946.8	955.2	963.7	989.1	1014.4	1065.9	1117.4
45°	879.2	881.5	883.8	886.1	888.4	895.3	902.2	924.5	946.8	991.4	1035.9
47.5°	831.5	831.5	831.5	833.1	834.6	840.7	846.9	863.0	879.2	913.7	948.3
50°	785.4	785.4	785.4	783.1	780.8	784.6	788.5	800.8	813.1	843.8	874.6
52.5°	730.1	730.1	730.1	730.8	731.6	731.6	731.6	742.4	753.1	780.8	808.5
55°	674.7	677.8	680.9	678.6	676.3	677.8	679.4	686.3	693.2	715.5	737.8
57.5°	619.4	620.9	622.5	621.7	620.9	621.7	622.5	628.6	634.8	651.7	668.6
60°	567.2	567.2	567.2	565.6	564.1	565.6	567.2	570.2	573.3	588.7	604.0
62.5°	508.7	509.5	510.3	511.1	511.8	510.3	508.7	512.6	516.4	528.0	539.5
65°	450.3	451.1	451.9	454.2	456.5	455.0	453.4	457.3	461.1	469.6	478.0
67.5°	398.1	396.5	395.0	395.8	396.5	398.9	401.2	401.9	402.7	411.9	421.1
70°	336.6	338.1	339.7	338.9	338.1	338.9	339.7	342.0	344.3	351.2	358.1
72.5°	281.3	282.0	282.8	282.8	282.8	284.3	285.9	288.2	290.5	294.3	298.2
75°	230.6	230.6	230.6	232.1	233.6	234.4	235.2	235.2	235.2	238.2	241.3
77.5°	175.2	179.1	182.9	182.1	181.4	182.9	184.4	186.7	189.1	190.6	192.1
80°	127.6	127.6	127.6	128.3	129.1	131.4	133.7	135.3	136.8	139.9	142.9
82.5°	81.5	82.2	83.0	85.3	87.6	89.1	90.7	93.0	95.3	95.3	95.3
85°	50.7	49.2	47.6	49.2	50.7	52.3	53.8	54.6	55.3	56.9	58.4
87.5°	24.6	24.6	24.6	24.6	24.6	25.4	26.1	26.1	26.1	26.1	26.1
90°	28.9	29.9	28.9	27.9	28.9	27.0	26.0	25.0	24.0	25.0	22.0
92.5°	52.9	54.9	53.9	57.9	59.9	66.9	76.9	98.8	138.7	185.7	205.6
95°	115.8	119.8	126.8	135.8	154.7	190.7	243.6	359.3	480.1	591.9	527.0
97.5°	237.6	248.5	272.5	310.4	377.3	491.1	622.9	825.5	941.3	910.3	679.8
100°	625.9	624.9	663.8	736.7	837.5	979.2	1096.0	1176.9	1141.9	945.3	638.8
102.5°	991.2	1020.1	1051.1	1105.0	1177.9	1254.7	1310.6	1293.6	1151.9	880.4	578.9
105°	1269.7	1274.7	1306.6	1344.5	1390.5	1416.4	1397.5	1297.6	1089.0	802.5	532.0
107.5°	1451.4	1462.3	1475.3	1493.3	1499.3	1472.3	1394.5	1237.7	999.2	733.7	498.1
110°	1555.2	1557.2	1559.2	1551.2	1523.2	1453.3	1327.6	1143.9	915.3	676.8	480.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1576.1	1575.1	1565.1	1536.2	1479.3	1384.5	1239.7	1051.1	842.5	638.8	470.1
115°	1544.2	1539.2	1519.2	1475.3	1400.4	1291.6	1144.9	971.2	786.6	613.9	469.1
117.5°	1474.3	1467.3	1437.4	1388.5	1310.6	1197.8	1063.1	909.3	749.6	596.9	470.1
120°	1382.5	1376.5	1352.5	1296.6	1217.8	1117.0	997.2	862.4	721.7	585.9	474.1
122.5°	1296.6	1288.6	1261.7	1212.8	1144.9	1053.1	944.3	825.5	698.7	578.9	481.1
125°	1217.8	1210.8	1185.8	1141.9	1078.0	998.2	902.4	793.6	679.8	573.0	488.1
127.5°	1149.9	1143.9	1121.0	1083.0	1025.1	951.3	863.4	764.6	661.8	570.0	496.1
130°	1094.0	1086.0	1065.1	1029.1	976.2	908.3	827.5	737.7	647.8	567.0	504.1
132.5°	1039.1	1034.1	1016.1	980.2	931.3	867.4	793.6	712.7	634.8	566.0	510.1
135°	987.2	980.2	962.2	932.3	883.4	826.5	761.6	690.7	623.9	565.0	516.1
137.5°	932.3	926.3	911.3	880.4	838.5	787.6	729.7	669.8	613.9	563.0	520.1
140°	874.4	875.4	859.4	831.5	793.6	750.6	702.7	651.8	604.9	562.0	524.0
142.5°	820.5	821.5	807.5	783.6	752.6	716.7	676.8	634.8	596.9	560.0	527.0
145°	771.6	769.6	761.6	740.6	715.7	686.7	654.8	621.9	589.9	558.0	528.0
147.5°	729.7	728.7	720.7	705.7	685.7	664.8	637.8	610.9	582.9	555.0	528.0
150°	693.7	693.7	687.7	676.8	661.8	642.8	621.9	598.9	575.9	551.0	528.0
152.5°	663.8	663.8	660.8	650.8	639.8	624.9	606.9	587.9	568.0	546.0	525.0
155°	639.8	638.8	636.8	628.9	619.9	607.9	592.9	576.9	560.0	540.0	523.0
157.5°	616.9	616.9	614.9	608.9	600.9	590.9	578.9	565.0	551.0	535.0	520.1
160°	594.9	595.9	595.9	589.9	582.9	575.9	566.0	555.0	542.0	529.0	518.1
162.5°	575.0	575.9	575.9	571.0	567.0	561.0	552.0	543.0	533.0	523.0	514.1
165°	558.0	558.0	559.0	555.0	551.0	546.0	539.0	533.0	525.0	517.1	510.1
167.5°	541.0	541.0	542.0	539.0	537.0	533.0	529.0	524.0	517.1	511.1	506.1
170°	526.0	526.0	527.0	525.0	524.0	522.0	518.1	515.1	510.1	505.1	502.1
172.5°	512.1	513.1	515.1	513.1	513.1	512.1	509.1	507.1	503.1	500.1	499.1
175°	502.1	503.1	504.1	503.1	503.1	503.1	501.1	500.1	498.1	496.1	496.1
177.5°	495.1	495.1	497.1	496.1	497.1	497.1	496.1	495.1	494.1	493.1	494.1
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2
2.5°	3542.8	3533.6	3499.8	3465.9	3427.5	3389.1	3360.7	3332.2	3290.0	3247.7	3213.1
5°	3839.4	3796.4	3724.9	3653.5	3556.6	3459.8	3394.5	3329.1	3241.5	3153.9	3084.0
7.5°	4074.6	4000.8	3900.9	3801.0	3674.2	3547.4	3427.5	3307.6	3173.9	3040.2	2931.1
10°	4224.5	4174.5	4059.2	3944.0	3774.1	3604.3	3436.7	3269.2	3097.1	2924.9	2780.4
12.5°	4239.1	4243.7	4137.6	4031.6	3839.4	3647.3	3443.7	3240.0	3023.3	2806.6	2638.3
15°	4110.7	4189.9	4131.5	4073.1	3879.4	3685.7	3435.2	3184.7	2934.9	2685.1	2490.7
17.5°	3872.5	4042.3	4050.8	4059.2	3865.6	3671.9	3394.5	3117.0	2834.2	2551.4	2347.0
20°	3547.4	3797.9	3884.0	3970.1	3812.5	3655.0	3356.8	3058.6	2742.0	2425.4	2211.0
22.5°	3215.4	3519.7	3677.3	3834.8	3718.0	3601.2	3283.8	2966.4	2632.1	2297.8	2080.3
25°	2837.3	3169.3	3411.4	3653.5	3582.0	3510.5	3197.7	2885.0	2529.1	2173.3	1951.2
27.5°	2507.6	2845.0	3137.0	3429.1	3413.7	3398.3	3087.8	2777.4	2413.1	2048.8	1834.4
30°	2214.1	2528.4	2855.0	3181.6	3219.3	3256.9	2957.2	2657.5	2292.4	1927.4	1720.7
32.5°	1954.3	2228.7	2579.1	2929.5	3003.3	3077.1	2806.6	2536.1	2174.9	1813.7	1614.6
35°	1741.4	1990.4	2340.9	2691.3	2783.5	2875.7	2640.6	2405.4	2053.4	1701.5	1511.6
37.5°	1553.1	1761.4	2103.4	2445.4	2558.3	2671.3	2460.7	2250.2	1920.5	1590.8	1416.3
40°	1397.1	1564.7	1879.0	2193.3	2323.9	2454.6	2280.9	2107.2	1794.5	1481.7	1321.1
42.5°	1266.5	1415.6	1700.7	1985.8	2111.1	2236.3	2089.6	1942.8	1664.6	1386.4	1239.6
45°	1155.1	1274.2	1533.2	1792.1	1911.3	2030.4	1904.3	1778.3	1533.2	1288.0	1151.2
47.5°	1050.5	1152.8	1374.1	1595.4	1701.5	1807.5	1709.1	1610.8	1403.3	1195.8	1072.1
50°	956.8	1039.0	1232.7	1426.3	1518.6	1610.8	1523.9	1437.1	1266.5	1095.9	988.3
52.5°	875.3	942.2	1104.3	1266.5	1345.6	1424.8	1350.3	1275.7	1140.5	1005.2	911.4
55°	794.6	851.5	992.1	1132.8	1186.6	1240.4	1182.7	1125.1	1016.0	906.8	827.7
57.5°	719.3	770.0	885.3	1000.6	1042.1	1083.6	1031.3	979.1	896.8	814.6	748.5
60°	645.5	687.0	783.1	879.2	904.5	929.9	887.6	845.4	787.7	730.1	670.9
62.5°	577.1	614.8	686.3	757.7	774.6	791.6	759.3	727.0	683.2	639.4	593.3
65°	506.4	534.9	593.3	651.7	662.4	673.2	644.8	616.3	583.3	550.2	516.4
67.5°	441.1	461.1	508.7	556.4	557.2	557.9	534.9	511.8	493.4	474.9	448.0
70°	377.3	396.5	428.1	459.6	460.3	461.1	442.7	424.2	410.4	396.5	376.6
72.5°	312.0	325.8	349.7	373.5	372.0	370.4	358.9	347.4	336.6	325.8	311.2
75°	252.8	264.4	280.5	296.6	292.0	287.4	281.3	275.1	265.9	256.7	247.5
77.5°	199.0	206.0	215.2	224.4	221.3	218.3	212.9	207.5	200.6	193.7	189.8
80°	146.0	149.1	155.2	161.4	159.8	158.3	152.2	146.0	144.5	142.9	137.6
82.5°	99.1	103.0	104.5	106.1	105.3	104.5	99.9	95.3	93.8	92.2	91.5
85°	59.2	59.9	60.7	61.5	59.2	56.9	55.3	53.8	53.8	53.8	53.0
87.5°	26.9	27.7	27.7	27.7	26.9	26.1	24.6	23.1	23.8	24.6	24.6
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°	153.7	100.8	68.9	50.9	40.9	31.9	22.0	15.0	22.0	31.9	40.9
95°	363.3	214.6	129.8	90.8	64.9	47.9	36.9	33.9	36.9	47.9	64.9
97.5°	404.3	231.6	147.7	104.8	78.9	63.9	54.9	53.9	54.9	63.9	78.9
100°	376.3	228.6	158.7	119.8	95.8	81.9	74.9	73.9	74.9	81.9	95.8
102.5°	352.4	232.6	171.7	136.8	115.8	102.8	96.8	94.8	96.8	102.8	115.8
105°	343.4	240.6	186.7	155.7	136.8	124.8	118.8	115.8	118.8	124.8	136.8
107.5°	341.4	253.5	205.6	176.7	158.7	146.7	140.7	137.7	140.7	146.7	158.7
110°	346.4	270.5	225.6	197.6	180.7	169.7	164.7	161.7	164.7	169.7	180.7





TEST NUMBER: P831185

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	356.3	287.5	246.6	219.6	202.6	191.7	186.7	183.7	186.7	191.7	202.6
115°	367.3	306.4	268.5	241.6	224.6	214.6	208.6	204.6	208.6	214.6	224.6
117.5°	381.3	326.4	288.5	263.5	244.6	235.6	230.6	225.6	230.6	235.6	244.6
120°	397.3	345.4	309.4	284.5	265.5	255.5	250.5	247.5	250.5	255.5	265.5
122.5°	412.2	365.3	330.4	303.4	285.5	274.5	269.5	266.5	269.5	274.5	285.5
125°	428.2	384.3	349.4	322.4	303.4	292.5	286.5	284.5	286.5	292.5	303.4
127.5°	441.2	401.3	367.3	340.4	319.4	308.4	301.5	298.5	301.5	308.4	319.4
130°	454.2	416.2	383.3	356.3	335.4	323.4	314.4	311.4	314.4	323.4	335.4
132.5°	466.1	429.2	397.3	371.3	350.4	335.4	325.4	321.4	325.4	335.4	350.4
135°	476.1	442.2	411.2	384.3	363.3	348.4	337.4	333.4	337.4	348.4	363.3
137.5°	484.1	451.2	421.2	396.3	375.3	359.3	348.4	344.4	348.4	359.3	375.3
140°	490.1	460.2	431.2	406.3	386.3	370.3	360.3	355.4	360.3	370.3	386.3
142.5°	496.1	467.1	439.2	416.2	396.3	382.3	371.3	367.3	371.3	382.3	396.3
145°	500.1	473.1	447.2	424.2	407.3	392.3	383.3	380.3	383.3	392.3	407.3
147.5°	503.1	478.1	454.2	434.2	417.2	404.3	395.3	393.3	395.3	404.3	417.2
150°	504.1	483.1	460.2	442.2	428.2	415.2	407.3	406.3	407.3	415.2	428.2
152.5°	506.1	486.1	467.1	450.2	438.2	427.2	419.2	419.2	419.2	427.2	438.2
155°	506.1	490.1	473.1	459.2	448.2	438.2	432.2	432.2	432.2	438.2	448.2
157.5°	507.1	492.1	478.1	467.1	457.2	448.2	443.2	442.2	443.2	448.2	457.2
160°	507.1	495.1	483.1	473.1	466.1	458.2	454.2	454.2	454.2	458.2	466.1
162.5°	506.1	496.1	486.1	478.1	472.1	466.1	463.2	463.2	463.2	466.1	472.1
165°	504.1	497.1	489.1	482.1	478.1	473.1	471.1	472.1	471.1	473.1	478.1
167.5°	503.1	497.1	491.1	486.1	483.1	479.1	478.1	479.1	478.1	479.1	483.1
170°	500.1	496.1	491.1	489.1	487.1	484.1	483.1	485.1	483.1	484.1	487.1
172.5°	499.1	496.1	492.1	491.1	490.1	488.1	488.1	489.1	488.1	488.1	490.1
175°	497.1	495.1	493.1	492.1	492.1	490.1	491.1	492.1	491.1	490.1	492.1
177.5°	496.1	494.1	493.1	493.1	493.1	492.1	493.1	494.1	493.1	492.1	493.1
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



TEST NUMBER: P831185

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2	3312.2
2.5°	3178.5	3148.6	3118.6	3095.5	3072.5	3033.3	2994.1	2984.9	2975.6	2962.6	2949.5
5°	3014.1	2940.3	2866.5	2800.4	2734.3	2682.8	2631.4	2597.5	2563.7	2539.1	2514.5
7.5°	2821.9	2711.3	2600.6	2522.2	2443.8	2369.3	2294.7	2270.9	2247.1	2214.8	2182.5
10°	2636.0	2513.8	2391.6	2289.4	2187.2	2114.1	2041.1	2011.9	1982.7	1942.0	1901.3
12.5°	2470.0	2336.2	2202.5	2099.5	1996.6	1925.9	1855.2	1812.9	1770.6	1747.6	1724.5
15°	2296.3	2153.3	2010.4	1915.1	1819.8	1756.0	1692.2	1655.4	1618.5	1596.2	1573.9
17.5°	2142.6	2001.2	1859.8	1768.3	1676.9	1618.5	1560.1	1527.8	1495.5	1478.6	1461.7
20°	1996.6	1858.2	1719.9	1630.8	1541.6	1494.0	1446.3	1425.6	1404.8	1391.0	1377.2
22.5°	1862.8	1726.8	1590.8	1514.7	1438.6	1400.2	1361.8	1347.2	1332.6	1321.1	1309.5
25°	1729.1	1607.7	1486.3	1421.7	1357.2	1325.7	1294.2	1279.6	1265.0	1253.4	1241.9
27.5°	1620.0	1504.0	1387.9	1332.6	1277.2	1252.7	1228.1	1216.5	1205.0	1194.3	1183.5
30°	1513.9	1410.2	1306.5	1258.8	1211.2	1188.9	1166.6	1155.1	1143.5	1133.5	1123.5
32.5°	1415.6	1326.4	1237.3	1193.5	1149.7	1131.2	1112.8	1099.0	1085.1	1077.4	1069.8
35°	1321.8	1241.9	1162.0	1125.9	1089.7	1071.3	1052.8	1041.3	1029.8	1023.6	1017.5
37.5°	1241.9	1170.4	1099.0	1064.4	1029.8	1012.1	994.4	984.5	974.5	972.2	969.8
40°	1160.4	1099.0	1037.5	1003.7	969.8	954.5	939.1	933.0	926.8	925.3	923.7
42.5°	1092.8	1032.9	972.9	942.2	911.4	898.4	885.3	882.2	879.2	881.5	883.8
45°	1014.4	964.5	914.5	886.1	857.6	846.9	836.1	833.8	831.5	836.1	840.7
47.5°	948.3	902.2	856.1	829.2	802.3	794.6	786.9	786.2	785.4	791.6	797.7
50°	880.7	836.1	791.6	770.0	748.5	741.6	734.7	737.0	739.3	749.3	759.3
52.5°	817.7	776.2	734.7	714.7	694.7	690.1	685.5	690.9	696.3	707.0	717.8
55°	748.5	710.9	673.2	657.8	642.5	637.9	633.2	644.0	654.8	664.8	674.7
57.5°	682.4	649.4	616.3	602.5	588.7	587.9	587.1	597.1	607.1	617.9	628.6
60°	611.7	584.1	556.4	545.6	534.9	536.4	538.0	549.5	561.0	569.5	577.9
62.5°	547.2	524.1	501.1	491.1	481.1	484.9	488.8	500.3	511.8	521.8	531.8
65°	482.6	463.4	444.2	437.3	430.4	435.7	441.1	451.1	461.1	468.0	474.9
67.5°	421.1	405.0	388.9	383.5	378.1	383.5	388.9	398.9	408.8	415.8	422.7
70°	356.6	343.5	330.5	326.6	322.8	328.9	335.1	343.5	352.0	358.9	365.8
72.5°	296.6	286.7	276.7	275.9	275.1	280.5	285.9	294.3	302.8	307.4	312.0
75°	238.2	232.9	227.5	226.7	225.9	231.3	236.7	241.3	245.9	249.8	253.6
77.5°	186.0	181.4	176.8	177.5	178.3	182.1	186.0	190.6	195.2	197.5	199.8
80°	132.2	130.6	129.1	130.6	132.2	135.3	138.3	141.4	144.5	146.0	147.6
82.5°	90.7	89.1	87.6	89.9	92.2	94.5	96.8	99.1	101.4	102.2	103.0
85°	52.3	54.6	56.9	56.9	56.9	57.6	58.4	59.2	59.9	59.2	58.4
87.5°	24.6	25.4	26.1	26.1	26.1	26.9	27.7	27.7	27.7	26.9	26.1
90°	11.0	13.0	16.0	19.0	22.0	25.0	24.0	25.0	26.0	27.0	28.9
92.5°	50.9	68.9	100.8	153.7	205.6	185.7	138.7	98.8	76.9	66.9	59.9
95°	90.8	129.8	214.6	363.3	527.0	591.9	480.1	359.3	243.6	190.7	154.7
97.5°	104.8	147.7	231.6	404.3	679.8	910.3	941.3	825.5	622.9	491.1	377.3
100°	119.8	158.7	228.6	376.3	638.8	945.3	1141.9	1176.9	1096.0	979.2	837.5
102.5°	136.8	171.7	232.6	352.4	578.9	880.4	1151.9	1293.6	1310.6	1254.7	1177.9
105°	155.7	186.7	240.6	343.4	532.0	802.5	1089.0	1297.6	1397.5	1416.4	1390.5
107.5°	176.7	205.6	253.5	341.4	498.1	733.7	999.2	1237.7	1394.5	1472.3	1499.3
110°	197.6	225.6	270.5	346.4	480.1	676.8	915.3	1143.9	1327.6	1453.3	1523.2



TEST NUMBER: P831185

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	219.6	246.6	287.5	356.3	470.1	638.8	842.5	1051.1	1239.7	1384.5	1479.3
115°	241.6	268.5	306.4	367.3	469.1	613.9	786.6	971.2	1144.9	1291.6	1400.4
117.5°	263.5	288.5	326.4	381.3	470.1	596.9	749.6	909.3	1063.1	1197.8	1310.6
120°	284.5	309.4	345.4	397.3	474.1	585.9	721.7	862.4	997.2	1117.0	1217.8
122.5°	303.4	330.4	365.3	412.2	481.1	578.9	698.7	825.5	944.3	1053.1	1144.9
125°	322.4	349.4	384.3	428.2	488.1	573.0	679.8	793.6	902.4	998.2	1078.0
127.5°	340.4	367.3	401.3	441.2	496.1	570.0	661.8	764.6	863.4	951.3	1025.1
130°	356.3	383.3	416.2	454.2	504.1	567.0	647.8	737.7	827.5	908.3	976.2
132.5°	371.3	397.3	429.2	466.1	510.1	566.0	634.8	712.7	793.6	867.4	931.3
135°	384.3	411.2	442.2	476.1	516.1	565.0	623.9	690.7	761.6	826.5	883.4
137.5°	396.3	421.2	451.2	484.1	520.1	563.0	613.9	669.8	729.7	787.6	838.5
140°	406.3	431.2	460.2	490.1	524.0	562.0	604.9	651.8	702.7	750.6	793.6
142.5°	416.2	439.2	467.1	496.1	527.0	560.0	596.9	634.8	676.8	716.7	752.6
145°	424.2	447.2	473.1	500.1	528.0	558.0	589.9	621.9	654.8	686.7	715.7
147.5°	434.2	454.2	478.1	503.1	528.0	555.0	582.9	610.9	637.8	664.8	685.7
150°	442.2	460.2	483.1	504.1	528.0	551.0	575.9	598.9	621.9	642.8	661.8
152.5°	450.2	467.1	486.1	506.1	525.0	546.0	568.0	587.9	606.9	624.9	639.8
155°	459.2	473.1	490.1	506.1	523.0	540.0	560.0	576.9	592.9	607.9	619.9
157.5°	467.1	478.1	492.1	507.1	520.1	535.0	551.0	565.0	578.9	590.9	600.9
160°	473.1	483.1	495.1	507.1	518.1	529.0	542.0	555.0	566.0	575.9	582.9
162.5°	478.1	486.1	496.1	506.1	514.1	523.0	533.0	543.0	552.0	561.0	567.0
165°	482.1	489.1	497.1	504.1	510.1	517.1	525.0	533.0	539.0	546.0	551.0
167.5°	486.1	491.1	497.1	503.1	506.1	511.1	517.1	524.0	529.0	533.0	537.0
170°	489.1	491.1	496.1	500.1	502.1	505.1	510.1	515.1	518.1	522.0	524.0
172.5°	491.1	492.1	496.1	499.1	499.1	500.1	503.1	507.1	509.1	512.1	513.1
175°	492.1	493.1	495.1	497.1	496.1	496.1	498.1	500.1	501.1	503.1	503.1
177.5°	493.1	493.1	494.1	496.1	494.1	493.1	494.1	495.1	496.1	497.1	497.1
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



TEST NUMBER: P831185

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	3312.2	3312.2	3312.2	3312.2
2.5°	2944.1	2938.8	2917.2	2895.7
5°	2496.1	2477.6	2471.5	2465.4
7.5°	2181.0	2179.5	2147.2	2114.9
10°	1903.6	1905.9	1876.7	1847.5
12.5°	1705.3	1686.1	1683.8	1681.5
15°	1556.2	1538.5	1535.5	1532.4
17.5°	1450.9	1440.2	1437.1	1434.0
20°	1371.0	1364.9	1359.5	1354.1
22.5°	1301.8	1294.2	1289.5	1284.9
25°	1235.0	1228.1	1226.5	1225.0
27.5°	1175.0	1166.6	1166.6	1166.6
30°	1118.2	1112.8	1110.5	1108.2
32.5°	1065.1	1060.5	1060.5	1060.5
35°	1015.2	1012.9	1009.8	1006.7
37.5°	969.8	969.8	968.3	966.8
40°	926.0	928.4	928.4	928.4
42.5°	886.1	888.4	888.4	888.4
45°	844.6	848.4	850.0	851.5
47.5°	803.9	810.0	811.5	813.1
50°	763.9	768.5	769.3	770.0
52.5°	723.2	728.5	732.4	736.2
55°	680.1	685.5	687.8	690.1
57.5°	634.0	639.4	640.2	640.9
60°	583.3	588.7	590.2	591.7
62.5°	534.9	538.0	539.5	541.0
65°	479.5	484.2	487.2	490.3
67.5°	426.5	430.4	430.4	430.4
70°	367.3	368.9	371.2	373.5
72.5°	312.8	313.5	313.5	313.5
75°	255.1	256.7	257.4	258.2
77.5°	200.6	201.3	201.3	201.3
80°	146.8	146.0	146.0	146.0
82.5°	100.7	98.4	98.4	98.4
85°	57.6	56.9	57.6	58.4
87.5°	26.1	26.1	26.1	26.1
90°	27.9	28.9	29.9	28.9
92.5°	57.9	53.9	54.9	52.9
95°	135.8	126.8	119.8	115.8
97.5°	310.4	272.5	248.5	237.6
100°	736.7	663.8	624.9	625.9
102.5°	1105.0	1051.1	1020.1	991.2
105°	1344.5	1306.6	1274.7	1269.7
107.5°	1493.3	1475.3	1462.3	1451.4
110°	1551.2	1559.2	1557.2	1555.2



TEST NUMBER: P831185

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	1536.2	1565.1	1575.1	1576.1
115°	1475.3	1519.2	1539.2	1544.2
117.5°	1388.5	1437.4	1467.3	1474.3
120°	1296.6	1352.5	1376.5	1382.5
122.5°	1212.8	1261.7	1288.6	1296.6
125°	1141.9	1185.8	1210.8	1217.8
127.5°	1083.0	1121.0	1143.9	1149.9
130°	1029.1	1065.1	1086.0	1094.0
132.5°	980.2	1016.1	1034.1	1039.1
135°	932.3	962.2	980.2	987.2
137.5°	880.4	911.3	926.3	932.3
140°	831.5	859.4	875.4	874.4
142.5°	783.6	807.5	821.5	820.5
145°	740.6	761.6	769.6	771.6
147.5°	705.7	720.7	728.7	729.7
150°	676.8	687.7	693.7	693.7
152.5°	650.8	660.8	663.8	663.8
155°	628.9	636.8	638.8	639.8
157.5°	608.9	614.9	616.9	616.9
160°	589.9	595.9	595.9	594.9
162.5°	571.0	575.9	575.9	575.0
165°	555.0	559.0	558.0	558.0
167.5°	539.0	542.0	541.0	541.0
170°	525.0	527.0	526.0	526.0
172.5°	513.1	515.1	513.1	512.1
175°	503.1	504.1	503.1	502.1
177.5°	496.1	497.1	495.1	495.1
180°	493.1	493.1	493.1	493.1



TEST NUMBER: P831185

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-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	16.78	17.69	17.67	18.59	19.73	19.02	19.92	19.90	20.82	21.96
	3H	18.43	19.24	19.33	20.15	21.32	20.45	21.26	21.34	22.16	23.33
	4H	19.01	19.78	19.92	20.69	21.87	20.90	21.66	21.81	22.58	23.75
	6H	19.39	20.09	20.31	21.01	22.20	21.18	21.88	22.10	22.80	23.99
	8H	19.48	20.15	20.41	21.09	22.28	21.24	21.91	22.17	22.85	24.03
	12H	19.53	20.17	20.47	21.10	22.31	21.26	21.90	22.20	22.83	24.04
4H	2H	17.36	18.13	18.28	19.04	20.22	19.19	19.95	20.11	20.87	22.04
	3H	19.20	19.83	20.12	20.78	21.97	20.81	21.45	21.74	22.39	23.58
	4H	19.90	20.47	20.83	21.42	22.63	21.40	21.98	22.33	22.92	24.13
	6H	20.37	20.87	21.32	21.84	23.05	21.80	22.30	22.75	23.27	24.48
	8H	20.51	20.98	21.46	21.93	23.16	21.92	22.38	22.87	23.34	24.57
	12H	20.58	21.00	21.55	21.97	23.21	21.96	22.38	22.93	23.36	24.59
8H	4H	20.16	20.63	21.12	21.59	22.82	21.50	21.97	22.46	22.93	24.16
	6H	20.75	21.14	21.73	22.14	23.37	22.01	22.39	22.99	23.39	24.62
	8H	20.96	21.30	21.95	22.29	23.54	22.19	22.53	23.18	23.52	24.76
	12H	21.09	21.39	22.08	22.37	23.66	22.29	22.59	23.28	23.57	24.87
12H	4H	20.17	20.59	21.14	21.56	22.80	21.48	21.90	22.45	22.88	24.11
	6H	20.81	21.14	21.79	22.13	23.38	22.02	22.36	23.01	23.35	24.60
	8H	21.04	21.34	22.03	22.32	23.62	22.22	22.52	23.21	23.50	24.80