

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: P831223

Luminaire Tested: S123DIP-S1165D1195U930-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831223
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1195U930-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

Summary

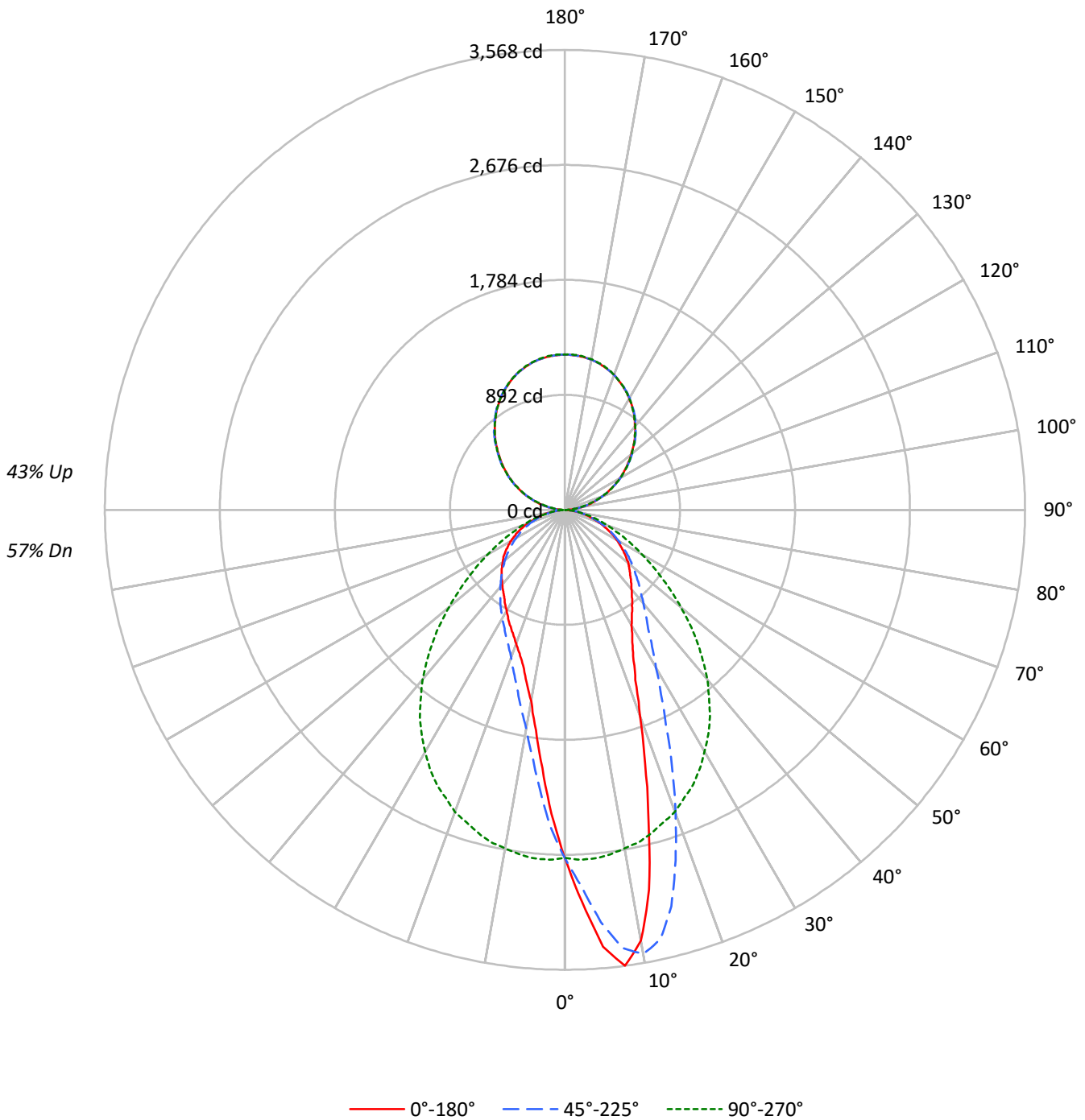
Lumens per Lamp: N/A
Luminaire Lumens: 7684.9 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

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					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	101	101	101	101	87	87	87	74	74	74	62	62	62	57				
1	100	96	92	89	93	89	86	83	77	75	73	66	64	63	56	55	54	49				
2	91	84	78	73	85	79	74	69	68	64	61	59	56	53	50	48	46	42				
3	84	75	68	62	78	70	64	59	61	56	52	53	49	46	45	42	40	36				
4	77	67	59	53	72	63	56	51	55	49	45	47	43	40	41	38	35	32				
5	71	60	52	46	66	56	49	44	49	44	40	43	39	35	37	34	31	28				
6	66	54	46	41	61	51	44	39	45	39	35	39	35	32	34	31	28	25				
7	61	49	42	36	57	46	39	35	41	35	31	36	32	28	31	28	25	23				
8	57	45	38	32	53	43	36	31	38	32	28	33	29	26	29	26	23	21				
9	53	41	34	29	50	39	33	28	35	29	26	31	26	23	27	24	21	19				
10	50	38	31	27	47	36	30	26	32	27	23	29	24	21	25	22	19	18				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	29068	29068	29068	29068	29068
5°	36761	34696	29327	23634	21718
10°	37117	38241	29133	18840	16463
15°	27956	35504	28934	15954	13923
20°	19479	28730	28565	13952	12646
25°	14853	22094	27935	12836	11861
30°	12849	17554	26929	12048	11230
35°	11922	14820	25769	11477	10786
40°	11286	13294	24140	10935	10635
45°	10911	12304	22071	10511	10567
50°	10722	11521	19621	10124	10513
55°	10323	10946	17214	9758	10558
60°	9954	10331	14837	9414	10385
65°	9352	9750	12798	9049	10180
70°	8636	9010	10886	8441	9583
75°	7819	8077	9328	7844	8754
80°	6447	7067	7376	6837	7376
85°	5113	5730	5422	5805	5879

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 25199 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.3	3.3
10°-20°	635.1	8.3
20°-30°	752.0	9.8
30°-40°	756.1	9.8
40°-50°	693.7	9.0
50°-60°	572.6	7.5
60°-70°	405.0	5.3
70°-80°	216.2	2.8
80°-90°	57.4	0.7
90°-100°	77.6	1.0
100°-110°	235.0	3.1
110°-120°	400.0	5.2
120°-130°	526.2	6.8
130°-140°	591.5	7.7
140°-150°	581.5	7.6
150°-160°	489.5	6.4
160°-170°	325.9	4.2
170°-180°	114.1	1.5
0°-30°	1642.5	21.4
0°-40°	2398.6	31.2
0°-60°	3665.0	47.7
0°-90°	4343.6	56.5
90°-120°	712.6	9.3
90°-150°	2411.7	31.4
90°-180°	3341.0	43.5
0°-180°	7684.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2700	2700	2700	2700	2700	
5°	3402	3211	2714	2187	2010	324
15°	2509	3186	2596	1432	1249	693
25°	1251	1860	2352	1081	999	590
35°	907	1128	1961	873	821	570
45°	717	808	1450	690	694	555
55°	550	583	917	520	563	492
65°	367	383	502	355	400	365
75°	188	194	224	189	210	198
85°	41	46	44	47	48	46
90°	28	23	1	23	28	16
95°	74	70	56	70	74	74
105°	226	224	213	224	226	239
115°	404	404	403	404	404	400
125°	583	590	589	590	583	521
135°	764	769	764	769	764	587
145°	927	932	927	932	927	579
155°	1060	1063	1062	1063	1060	488
165°	1153	1154	1157	1154	1153	325
175°	1198	1199	1203	1199	1198	114
180°	1206	1206	1206	1206	1206	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5
2.5°	3043.8	3040.7	3037.6	3021.9	3006.2	2998.7	2991.2	2968.6	2946.1	2921.0	2896.0
5°	3402.2	3411.0	3419.8	3409.7	3399.7	3369.0	3338.3	3297.6	3256.8	3211.1	3165.4
7.5°	3567.6	3572.6	3577.6	3571.4	3565.1	3557.0	3548.8	3512.5	3476.1	3429.2	3382.2
10°	3395.9	3407.2	3418.5	3442.9	3467.4	3494.9	3522.5	3517.5	3512.5	3498.7	3484.9
12.5°	3018.8	3032.5	3046.3	3095.2	3144.1	3206.7	3269.4	3323.3	3377.1	3414.7	3452.3
15°	2508.7	2547.0	2585.2	2629.7	2674.2	2766.3	2858.4	2971.8	3085.2	3186.0	3286.9
17.5°	2066.4	2080.8	2095.2	2142.8	2190.4	2306.4	2422.3	2553.2	2684.2	2851.5	3018.8
20°	1700.5	1713.6	1726.8	1789.5	1852.1	1943.0	2033.8	2181.0	2328.3	2508.1	2687.9
22.5°	1428.6	1449.2	1469.9	1505.0	1540.1	1627.2	1714.3	1845.2	1976.2	2174.8	2373.4
25°	1250.6	1265.6	1280.7	1302.0	1323.3	1392.8	1462.4	1570.2	1677.9	1860.3	2042.6
27.5°	1129.1	1135.3	1141.6	1162.9	1184.2	1229.3	1274.4	1367.1	1459.9	1614.6	1769.4
30°	1033.8	1038.2	1042.6	1061.4	1080.2	1110.9	1141.6	1208.6	1275.7	1412.3	1548.9
32.5°	967.4	970.5	973.7	988.1	1002.5	1024.4	1046.4	1095.2	1144.1	1256.9	1369.7
35°	907.3	909.1	911.0	921.7	932.3	948.6	964.9	1001.9	1038.8	1127.8	1216.8
37.5°	854.6	857.1	859.6	865.9	872.2	886.6	901.0	930.4	959.9	1028.2	1096.5
40°	803.2	807.6	812.0	816.4	820.8	832.7	844.6	867.2	889.7	946.1	1002.5
42.5°	759.4	763.8	768.2	770.0	771.9	778.8	785.7	806.4	827.1	869.0	911.0
45°	716.8	718.7	720.5	722.4	724.3	729.9	735.6	753.7	771.9	808.3	844.6
47.5°	677.9	677.9	677.9	679.2	680.4	685.5	690.5	703.6	716.8	745.0	773.2
50°	640.3	640.3	640.3	638.5	636.6	639.7	642.8	652.9	662.9	688.0	713.0
52.5°	595.2	595.2	595.2	595.9	596.5	596.5	596.5	605.3	614.0	636.6	659.1
55°	550.1	552.6	555.1	553.3	551.4	552.6	553.9	559.5	565.2	583.3	601.5
57.5°	505.0	506.3	507.5	506.9	506.3	506.9	507.5	512.5	517.5	531.3	545.1
60°	462.4	462.4	462.4	461.1	459.9	461.1	462.4	464.9	467.4	479.9	492.5
62.5°	414.8	415.4	416.0	416.7	417.3	416.0	414.8	417.9	421.0	430.4	439.8
65°	367.2	367.8	368.4	370.3	372.2	370.9	369.7	372.8	375.9	382.8	389.7
67.5°	324.6	323.3	322.1	322.7	323.3	325.2	327.1	327.7	328.3	335.8	343.4
70°	274.4	275.7	276.9	276.3	275.7	276.3	276.9	278.8	280.7	286.3	292.0
72.5°	229.3	229.9	230.6	230.6	230.6	231.8	233.1	235.0	236.8	240.0	243.1
75°	188.0	188.0	188.0	189.2	190.5	191.1	191.7	191.7	191.7	194.2	196.7
77.5°	142.9	146.0	149.1	148.5	147.9	149.1	150.4	152.3	154.1	155.4	156.6
80°	104.0	104.0	104.0	104.6	105.3	107.1	109.0	110.3	111.5	114.0	116.5
82.5°	66.4	67.0	67.7	69.5	71.4	72.7	73.9	75.8	77.7	77.7	77.7
85°	41.4	40.1	38.8	40.1	41.4	42.6	43.9	44.5	45.1	46.4	47.6
87.5°	20.0	20.0	20.0	20.0	20.0	20.7	21.3	21.3	21.3	21.3	21.3
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°	40.7	41.2	41.6	42.0	42.4	42.3	41.7	41.0	40.4	39.8	38.5
95°	73.9	73.9	73.9	73.9	73.9	73.5	72.6	71.8	70.9	70.1	68.4
97.5°	106.1	106.3	106.5	106.7	106.9	106.5	105.5	104.4	103.4	102.3	101.0
100°	144.0	143.6	143.1	142.7	142.3	141.8	141.1	140.5	139.9	139.3	138.2
102.5°	182.8	183.0	183.2	183.5	183.7	183.5	182.8	182.2	181.6	180.9	179.5
105°	225.5	225.0	224.6	224.2	223.8	223.6	223.6	223.6	223.6	223.6	221.7
107.5°	269.0	269.2	269.4	269.7	269.9	269.7	269.0	268.4	267.8	267.1	266.3
110°	313.5	314.0	314.4	314.8	315.2	315.0	314.2	313.3	312.5	311.7	311.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	360.9	360.9	360.9	360.9	360.9	360.4	359.3	358.3	357.2	356.2	356.2
115°	403.5	403.8	404.0	404.2	404.4	404.4	404.2	404.0	403.8	403.5	404.0
117.5°	447.1	447.7	448.4	449.0	449.6	450.0	450.0	450.0	450.0	450.0	450.4
120°	493.5	494.0	494.4	494.8	495.2	495.5	495.7	496.0	496.2	496.4	497.4
122.5°	538.1	538.7	539.3	539.9	540.6	541.2	541.8	542.5	543.1	543.7	544.2
125°	582.6	583.4	584.3	585.1	585.9	586.8	587.6	588.5	589.3	590.2	590.6
127.5°	627.1	627.9	628.8	629.6	630.5	631.5	632.8	634.0	635.3	636.6	637.0
130°	670.7	672.1	673.6	675.1	676.6	677.7	678.6	679.4	680.3	681.1	681.7
132.5°	716.1	717.2	718.2	719.3	720.4	721.4	722.5	723.5	724.6	725.6	726.0
135°	763.5	763.9	764.3	764.8	765.2	765.8	766.7	767.5	768.3	769.2	769.4
137.5°	805.2	805.8	806.5	807.1	807.7	808.6	809.6	810.7	811.7	812.8	812.1
140°	845.9	847.4	848.9	850.3	851.8	852.7	852.9	853.1	853.3	853.5	853.3
142.5°	887.6	888.7	889.7	890.8	891.8	892.4	892.7	892.9	893.1	893.3	892.9
145°	927.4	928.2	929.1	929.9	930.8	931.3	931.5	931.7	931.9	932.1	931.5
147.5°	963.4	964.6	965.9	967.2	968.4	969.1	969.1	969.1	969.1	969.1	968.4
150°	997.5	998.7	1000.0	1001.3	1002.5	1003.2	1003.2	1003.2	1003.2	1003.2	1002.7
152.5°	1030.6	1031.7	1032.7	1033.8	1034.9	1035.2	1034.7	1034.3	1033.9	1033.5	1033.3
155°	1060.0	1061.5	1063.0	1064.4	1065.9	1066.2	1065.4	1064.5	1063.7	1062.8	1062.6
157.5°	1087.5	1088.7	1090.0	1091.3	1092.5	1092.7	1091.9	1091.1	1090.2	1089.4	1089.2
160°	1114.0	1114.8	1115.7	1116.5	1117.4	1117.3	1116.2	1115.2	1114.1	1113.1	1113.1
162.5°	1133.9	1135.4	1136.8	1138.3	1139.8	1140.0	1138.9	1137.9	1136.8	1135.8	1135.6
165°	1152.8	1154.3	1155.8	1157.3	1158.7	1158.8	1157.6	1156.3	1155.1	1153.8	1153.8
167.5°	1169.9	1171.2	1172.4	1173.7	1174.9	1174.9	1173.7	1172.4	1171.2	1169.9	1169.7
170°	1182.2	1183.7	1185.2	1186.6	1188.1	1188.1	1186.6	1185.2	1183.7	1182.2	1182.2
172.5°	1191.7	1193.2	1194.6	1196.1	1197.6	1197.7	1196.4	1195.2	1193.9	1192.6	1192.6
175°	1198.3	1199.8	1201.3	1202.7	1204.2	1204.3	1203.0	1201.8	1200.5	1199.3	1199.3
177.5°	1202.1	1203.6	1205.0	1206.5	1208.0	1208.1	1206.8	1205.6	1204.3	1203.0	1203.0
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5
2.5°	2888.4	2880.9	2853.3	2825.8	2794.4	2763.1	2739.9	2716.8	2682.3	2647.8	2619.6
5°	3130.3	3095.2	3036.9	2978.7	2899.7	2820.8	2767.5	2714.2	2642.8	2571.4	2514.4
7.5°	3322.0	3261.9	3180.4	3099.0	2995.6	2892.2	2794.4	2696.7	2587.7	2478.7	2389.7
10°	3444.2	3403.5	3309.5	3215.5	3077.0	2938.6	2802.0	2665.4	2525.0	2384.7	2266.9
12.5°	3456.1	3459.9	3373.4	3286.9	3130.3	2973.6	2807.6	2641.6	2464.9	2288.2	2151.0
15°	3351.5	3416.0	3368.4	3320.8	3162.9	3005.0	2800.7	2596.5	2392.8	2189.2	2030.7
17.5°	3157.2	3295.7	3302.6	3309.5	3151.6	2993.7	2767.5	2541.3	2310.7	2080.2	1913.5
20°	2892.2	3096.5	3166.6	3236.8	3108.4	2979.9	2736.8	2493.7	2235.6	1977.4	1802.6
22.5°	2621.5	2869.6	2998.1	3126.5	3031.3	2936.1	2677.3	2418.5	2146.0	1873.4	1696.1
25°	2313.3	2583.9	2781.3	2978.7	2920.4	2862.1	2607.1	2352.1	2062.0	1771.9	1590.8
27.5°	2044.5	2319.5	2557.6	2795.7	2783.2	2770.6	2517.5	2264.4	1967.4	1670.4	1495.6
30°	1805.1	2061.4	2327.7	2594.0	2624.7	2655.4	2411.0	2166.6	1869.0	1571.4	1402.9
32.5°	1593.3	1817.0	2102.7	2388.4	2448.6	2508.7	2288.2	2067.6	1773.2	1478.7	1316.4
35°	1419.8	1622.8	1908.5	2194.2	2269.4	2344.6	2152.9	1961.1	1674.2	1387.2	1232.4
37.5°	1266.3	1436.1	1714.9	1993.7	2085.8	2177.9	2006.2	1834.6	1565.8	1297.0	1154.7
40°	1139.1	1275.7	1531.9	1788.2	1894.7	2001.2	1859.6	1718.0	1463.0	1208.0	1077.1
42.5°	1032.6	1154.1	1386.6	1619.0	1721.2	1823.3	1703.6	1583.9	1357.1	1130.3	1010.6
45°	941.7	1038.8	1250.0	1461.1	1558.3	1655.4	1552.6	1449.9	1250.0	1050.1	938.6
47.5°	856.5	939.8	1120.3	1300.7	1387.2	1473.7	1393.5	1313.3	1144.1	974.9	874.0
50°	780.1	847.1	1005.0	1162.9	1238.1	1313.3	1242.5	1171.7	1032.6	893.5	805.8
52.5°	713.6	768.2	900.4	1032.6	1097.1	1161.6	1100.9	1040.1	929.8	819.5	743.1
55°	647.9	694.2	808.9	923.5	967.4	1011.3	964.3	917.3	828.3	739.3	674.8
57.5°	586.5	627.8	721.8	815.8	849.6	883.4	840.8	798.2	731.2	664.2	610.3
60°	526.3	560.1	638.5	716.8	737.5	758.1	723.7	689.2	642.2	595.2	547.0
62.5°	470.5	501.2	559.5	617.8	631.6	645.4	619.0	592.7	557.0	521.3	483.7
65°	412.9	436.1	483.7	531.3	540.1	548.9	525.7	502.5	475.6	448.6	421.0
67.5°	359.6	375.9	414.8	453.6	454.3	454.9	436.1	417.3	402.3	387.2	365.3
70°	307.6	323.3	349.0	374.7	375.3	375.9	360.9	345.9	334.6	323.3	307.0
72.5°	254.4	265.7	285.1	304.5	303.3	302.0	292.6	283.2	274.4	265.7	253.8
75°	206.1	215.5	228.7	241.9	238.1	234.3	229.3	224.3	216.8	209.3	201.8
77.5°	162.3	167.9	175.4	183.0	180.4	177.9	173.6	169.2	163.5	157.9	154.8
80°	119.0	121.6	126.6	131.6	130.3	129.1	124.1	119.0	117.8	116.5	112.2
82.5°	80.8	84.0	85.2	86.5	85.8	85.2	81.5	77.7	76.4	75.2	74.6
85°	48.2	48.9	49.5	50.1	48.2	46.4	45.1	43.9	43.9	43.9	43.2
87.5°	21.9	22.6	22.6	22.6	21.9	21.3	20.0	18.8	19.4	20.0	20.0
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°	37.3	36.0	34.7	33.5	32.2	30.9	29.7	28.4	29.7	30.9	32.2
95°	66.7	65.0	63.4	61.8	60.3	58.8	57.4	55.9	57.4	58.8	60.3
97.5°	99.8	98.5	97.3	96.1	95.0	94.0	92.9	91.9	92.9	94.0	95.0
100°	137.1	136.1	135.0	133.9	132.6	131.4	130.1	128.8	130.1	131.4	132.6
102.5°	178.0	176.5	175.0	174.0	173.4	172.7	172.1	171.5	172.1	172.7	173.4
105°	219.8	217.9	216.0	214.8	214.4	214.0	213.6	213.1	213.6	214.0	214.4
107.5°	265.4	264.6	263.8	263.2	263.0	262.8	262.6	262.4	262.6	262.8	263.0
110°	310.8	310.4	310.0	309.6	309.1	308.7	308.3	307.9	308.3	308.7	309.1



TEST NUMBER: P831223

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	356.2	356.2	356.2	356.1	355.9	355.7	355.4	355.2	355.4	355.7	355.9
115°	404.4	404.8	405.2	405.1	404.5	403.9	403.2	402.6	403.2	403.9	404.5
117.5°	450.8	451.2	451.6	451.7	451.5	451.3	451.1	450.9	451.1	451.3	451.5
120°	498.5	499.5	500.6	500.5	499.2	498.0	496.7	495.4	496.7	498.0	499.2
122.5°	544.6	545.0	545.4	545.2	544.4	543.5	542.7	541.8	542.7	543.5	544.4
125°	591.0	591.4	591.8	591.7	591.1	590.5	589.8	589.2	589.8	590.5	591.1
127.5°	637.4	637.8	638.3	637.8	636.6	635.3	634.0	632.8	634.0	635.3	636.6
130°	682.4	683.0	683.6	683.1	681.4	679.7	678.0	676.4	678.0	679.7	681.4
132.5°	726.5	726.9	727.3	726.7	725.0	723.3	721.6	719.9	721.6	723.3	725.0
135°	769.6	769.8	770.0	769.5	768.2	767.0	765.7	764.5	765.7	767.0	768.2
137.5°	811.5	810.9	810.2	809.4	808.3	807.3	806.2	805.2	806.2	807.3	808.3
140°	853.1	852.9	852.7	852.0	851.0	849.9	848.9	847.8	848.9	849.9	851.0
142.5°	892.4	892.0	891.6	890.9	889.8	888.8	887.7	886.7	887.7	888.8	889.8
145°	930.9	930.2	929.6	929.1	928.7	928.2	927.8	927.4	927.8	928.2	928.7
147.5°	967.8	967.2	966.5	965.8	965.0	964.1	963.3	962.4	963.3	964.1	965.0
150°	1002.3	1001.9	1001.5	1001.1	1000.6	1000.2	999.8	999.4	999.8	1000.2	1000.6
152.5°	1033.1	1032.9	1032.6	1032.2	1031.6	1031.0	1030.3	1029.7	1030.3	1031.0	1031.6
155°	1062.4	1062.2	1062.0	1061.9	1061.9	1061.9	1061.9	1061.9	1061.9	1061.9	1061.9
157.5°	1089.0	1088.7	1088.5	1088.5	1088.7	1089.0	1089.2	1089.4	1089.2	1089.0	1088.7
160°	1113.1	1113.1	1113.1	1113.3	1113.7	1114.1	1114.5	1114.9	1114.5	1114.1	1113.7
162.5°	1135.4	1135.2	1134.9	1135.2	1135.8	1136.4	1137.1	1137.7	1137.1	1136.4	1135.8
165°	1153.8	1153.8	1153.8	1154.1	1154.7	1155.4	1156.0	1156.6	1156.0	1155.4	1154.7
167.5°	1169.5	1169.3	1169.0	1169.4	1170.2	1171.0	1171.9	1172.7	1171.9	1171.0	1170.2
170°	1182.2	1182.2	1182.2	1182.6	1183.5	1184.3	1185.2	1186.0	1185.2	1184.3	1183.5
172.5°	1192.6	1192.6	1192.6	1193.0	1193.9	1194.7	1195.6	1196.4	1195.6	1194.7	1193.9
175°	1199.3	1199.3	1199.3	1199.7	1200.5	1201.4	1202.2	1203.0	1202.2	1201.4	1200.5
177.5°	1203.0	1203.0	1203.0	1203.5	1204.3	1205.2	1206.0	1206.8	1206.0	1205.2	1204.3
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9



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CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5	2700.5
2.5°	2591.4	2567.0	2542.6	2523.8	2505.0	2473.0	2441.1	2433.6	2426.0	2415.4	2404.7
5°	2457.4	2397.2	2337.1	2283.2	2229.3	2187.3	2145.3	2117.8	2090.2	2070.1	2050.1
7.5°	2300.7	2210.5	2120.3	2056.4	1992.5	1931.7	1870.9	1851.5	1832.1	1805.7	1779.4
10°	2149.1	2049.5	1949.8	1866.5	1783.2	1723.7	1664.1	1640.3	1616.5	1583.3	1550.1
12.5°	2013.8	1904.7	1795.7	1711.8	1627.8	1570.2	1512.5	1478.1	1443.6	1424.8	1406.0
15°	1872.2	1755.6	1639.1	1561.4	1483.7	1431.7	1379.7	1349.6	1319.5	1301.4	1283.2
17.5°	1746.8	1631.6	1516.3	1441.7	1367.1	1319.5	1271.9	1245.6	1219.3	1205.5	1191.7
20°	1627.8	1515.0	1402.2	1329.6	1256.9	1218.0	1179.2	1162.3	1145.3	1134.1	1122.8
22.5°	1518.8	1407.9	1297.0	1234.9	1172.9	1141.6	1110.3	1098.4	1086.5	1077.1	1067.7
25°	1409.8	1310.8	1211.8	1159.1	1106.5	1080.8	1055.1	1043.2	1031.3	1021.9	1012.5
27.5°	1320.8	1226.2	1131.6	1086.5	1041.3	1021.3	1001.2	991.8	982.4	973.7	964.9
30°	1234.3	1149.7	1065.1	1026.3	987.5	969.3	951.1	941.7	932.3	924.2	916.0
32.5°	1154.1	1081.4	1008.8	973.0	937.3	922.3	907.3	896.0	884.7	878.4	872.2
35°	1077.7	1012.5	947.4	917.9	888.5	873.4	858.4	849.0	839.6	834.6	829.6
37.5°	1012.5	954.2	896.0	867.8	839.6	825.2	810.8	802.6	794.5	792.6	790.7
40°	946.1	896.0	845.9	818.3	790.7	778.2	765.7	760.6	755.6	754.4	753.1
42.5°	891.0	842.1	793.2	768.2	743.1	732.4	721.8	719.3	716.8	718.7	720.5
45°	827.1	786.3	745.6	722.4	699.2	690.5	681.7	679.8	677.9	681.7	685.5
47.5°	773.2	735.6	698.0	676.1	654.1	647.9	641.6	641.0	640.3	645.4	650.4
50°	718.0	681.7	645.4	627.8	610.3	604.6	599.0	600.9	602.7	610.9	619.0
52.5°	666.7	632.8	599.0	582.7	566.4	562.6	558.9	563.3	567.7	576.4	585.2
55°	610.3	579.6	548.9	536.3	523.8	520.0	516.3	525.1	533.8	542.0	550.1
57.5°	556.4	529.4	502.5	491.2	479.9	479.3	478.7	486.8	495.0	503.8	512.5
60°	498.7	476.2	453.6	444.9	436.1	437.3	438.6	448.0	457.4	464.3	471.2
62.5°	446.1	427.3	408.5	400.4	392.2	395.4	398.5	407.9	417.3	425.4	433.6
65°	393.5	377.8	362.2	356.5	350.9	355.3	359.6	367.8	375.9	381.6	387.2
67.5°	343.4	330.2	317.0	312.7	308.3	312.7	317.0	325.2	333.3	339.0	344.6
70°	290.7	280.1	269.4	266.3	263.2	268.2	273.2	280.1	287.0	292.6	298.2
72.5°	241.9	233.7	225.6	224.9	224.3	228.7	233.1	240.0	246.9	250.6	254.4
75°	194.2	189.8	185.5	184.8	184.2	188.6	193.0	196.7	200.5	203.6	206.8
77.5°	151.6	147.9	144.1	144.7	145.4	148.5	151.6	155.4	159.1	161.0	162.9
80°	107.8	106.5	105.3	106.5	107.8	110.3	112.8	115.3	117.8	119.0	120.3
82.5°	73.9	72.7	71.4	73.3	75.2	77.1	78.9	80.8	82.7	83.3	84.0
85°	42.6	44.5	46.4	46.4	46.4	47.0	47.6	48.2	48.9	48.2	47.6
87.5°	20.0	20.7	21.3	21.3	21.3	21.9	22.6	22.6	22.6	21.9	21.3
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°	33.5	34.7	36.0	37.3	38.5	39.8	40.4	41.0	41.7	42.3	42.4
95°	61.8	63.4	65.0	66.7	68.4	70.1	70.9	71.8	72.6	73.5	73.9
97.5°	96.1	97.3	98.5	99.8	101.0	102.3	103.4	104.4	105.5	106.5	106.9
100°	133.9	135.0	136.1	137.1	138.2	139.3	139.9	140.5	141.1	141.8	142.3
102.5°	174.0	175.0	176.5	178.0	179.5	180.9	181.6	182.2	182.8	183.5	183.7
105°	214.8	216.0	217.9	219.8	221.7	223.6	223.6	223.6	223.6	223.6	223.8
107.5°	263.2	263.8	264.6	265.4	266.3	267.1	267.8	268.4	269.0	269.7	269.9
110°	309.6	310.0	310.4	310.8	311.2	311.7	312.5	313.3	314.2	315.0	315.2



TEST NUMBER: P831223

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	356.1	356.2	356.2	356.2	356.2	356.2	357.2	358.3	359.3	360.4	360.9
115°	405.1	405.2	404.8	404.4	404.0	403.5	403.8	404.0	404.2	404.4	404.4
117.5°	451.7	451.6	451.2	450.8	450.4	450.0	450.0	450.0	450.0	450.0	449.6
120°	500.5	500.6	499.5	498.5	497.4	496.4	496.2	496.0	495.7	495.5	495.2
122.5°	545.2	545.4	545.0	544.6	544.2	543.7	543.1	542.5	541.8	541.2	540.6
125°	591.7	591.8	591.4	591.0	590.6	590.2	589.3	588.5	587.6	586.8	585.9
127.5°	637.8	638.3	637.8	637.4	637.0	636.6	635.3	634.0	632.8	631.5	630.5
130°	683.1	683.6	683.0	682.4	681.7	681.1	680.3	679.4	678.6	677.7	676.6
132.5°	726.7	727.3	726.9	726.5	726.0	725.6	724.6	723.5	722.5	721.4	720.4
135°	769.5	770.0	769.8	769.6	769.4	769.2	768.3	767.5	766.7	765.8	765.2
137.5°	809.4	810.2	810.9	811.5	812.1	812.8	811.7	810.7	809.6	808.6	807.7
140°	852.0	852.7	852.9	853.1	853.3	853.5	853.3	853.1	852.9	852.7	851.8
142.5°	890.9	891.6	892.0	892.4	892.9	893.3	893.1	892.9	892.7	892.4	891.8
145°	929.1	929.6	930.2	930.9	931.5	932.1	931.9	931.7	931.5	931.3	930.8
147.5°	965.8	966.5	967.2	967.8	968.4	969.1	969.1	969.1	969.1	969.1	968.4
150°	1001.1	1001.5	1001.9	1002.3	1002.7	1003.2	1003.2	1003.2	1003.2	1003.2	1002.5
152.5°	1032.2	1032.6	1032.9	1033.1	1033.3	1033.5	1033.9	1034.3	1034.7	1035.2	1034.9
155°	1061.9	1062.0	1062.2	1062.4	1062.6	1062.8	1063.7	1064.5	1065.4	1066.2	1065.9
157.5°	1088.5	1088.5	1088.7	1089.0	1089.2	1089.4	1090.2	1091.1	1091.9	1092.7	1092.5
160°	1113.3	1113.1	1113.1	1113.1	1113.1	1113.1	1114.1	1115.2	1116.2	1117.3	1117.4
162.5°	1135.2	1134.9	1135.2	1135.4	1135.6	1135.8	1136.8	1137.9	1138.9	1140.0	1139.8
165°	1154.1	1153.8	1153.8	1153.8	1153.8	1153.8	1155.1	1156.3	1157.6	1158.8	1158.7
167.5°	1169.4	1169.0	1169.3	1169.5	1169.7	1169.9	1171.2	1172.4	1173.7	1174.9	1174.9
170°	1182.6	1182.2	1182.2	1182.2	1182.2	1182.2	1183.7	1185.2	1186.6	1188.1	1188.1
172.5°	1193.0	1192.6	1192.6	1192.6	1192.6	1192.6	1193.9	1195.2	1196.4	1197.7	1197.6
175°	1199.7	1199.3	1199.3	1199.3	1199.3	1199.3	1200.5	1201.8	1203.0	1204.3	1204.2
177.5°	1203.5	1203.0	1203.0	1203.0	1203.0	1203.0	1204.3	1205.6	1206.8	1208.1	1208.0
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9



TEST NUMBER: P831223

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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2700.5	2700.5	2700.5	2700.5
2.5°	2400.3	2396.0	2378.4	2360.9
5°	2035.1	2020.0	2015.0	2010.0
7.5°	1778.2	1776.9	1750.6	1724.3
10°	1552.0	1553.9	1530.1	1506.2
12.5°	1390.3	1374.7	1372.8	1370.9
15°	1268.8	1254.4	1251.9	1249.4
17.5°	1182.9	1174.2	1171.7	1169.2
20°	1117.8	1112.8	1108.4	1104.0
22.5°	1061.4	1055.1	1051.4	1047.6
25°	1006.9	1001.2	1000.0	998.7
27.5°	958.0	951.1	951.1	951.1
30°	911.6	907.3	905.4	903.5
32.5°	868.4	864.7	864.7	864.7
35°	827.7	825.8	823.3	820.8
37.5°	790.7	790.7	789.5	788.2
40°	755.0	756.9	756.9	756.9
42.5°	722.4	724.3	724.3	724.3
45°	688.6	691.7	693.0	694.2
47.5°	655.4	660.4	661.6	662.9
50°	622.8	626.6	627.2	627.8
52.5°	589.6	594.0	597.1	600.2
55°	554.5	558.9	560.8	562.6
57.5°	516.9	521.3	521.9	522.5
60°	475.6	479.9	481.2	482.4
62.5°	436.1	438.6	439.8	441.1
65°	391.0	394.7	397.2	399.7
67.5°	347.7	350.9	350.9	350.9
70°	299.5	300.7	302.6	304.5
72.5°	255.0	255.6	255.6	255.6
75°	208.0	209.3	209.9	210.5
77.5°	163.5	164.2	164.2	164.2
80°	119.7	119.0	119.0	119.0
82.5°	82.1	80.2	80.2	80.2
85°	47.0	46.4	47.0	47.6
87.5°	21.3	21.3	21.3	21.3
90°	27.2	27.6	28.0	28.4
92.5°	42.0	41.6	41.2	40.7
95°	73.9	73.9	73.9	73.9
97.5°	106.7	106.5	106.3	106.1
100°	142.7	143.1	143.6	144.0
102.5°	183.5	183.2	183.0	182.8
105°	224.2	224.6	225.0	225.5
107.5°	269.7	269.4	269.2	269.0
110°	314.8	314.4	314.0	313.5



TEST NUMBER: P831223

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	360.9	360.9	360.9	360.9
115°	404.2	404.0	403.8	403.5
117.5°	449.0	448.4	447.7	447.1
120°	494.8	494.4	494.0	493.5
122.5°	539.9	539.3	538.7	538.1
125°	585.1	584.3	583.4	582.6
127.5°	629.6	628.8	627.9	627.1
130°	675.1	673.6	672.1	670.7
132.5°	719.3	718.2	717.2	716.1
135°	764.8	764.3	763.9	763.5
137.5°	807.1	806.5	805.8	805.2
140°	850.3	848.9	847.4	845.9
142.5°	890.8	889.7	888.7	887.6
145°	929.9	929.1	928.2	927.4
147.5°	967.2	965.9	964.6	963.4
150°	1001.3	1000.0	998.7	997.5
152.5°	1033.8	1032.7	1031.7	1030.6
155°	1064.4	1063.0	1061.5	1060.0
157.5°	1091.3	1090.0	1088.7	1087.5
160°	1116.5	1115.7	1114.8	1114.0
162.5°	1138.3	1136.8	1135.4	1133.9
165°	1157.3	1155.8	1154.3	1152.8
167.5°	1173.7	1172.4	1171.2	1169.9
170°	1186.6	1185.2	1183.7	1182.2
172.5°	1196.1	1194.6	1193.2	1191.7
175°	1202.7	1201.3	1199.8	1198.3
177.5°	1206.5	1205.0	1203.6	1202.1
180°	1205.9	1205.9	1205.9	1205.9



TEST NUMBER: P831223

CATALOG NUMBER: S123DIP-S1165D1195U930-4F0-1E-UDD-G1

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	15.86	16.74	16.77	17.67	18.84	18.10	18.98	19.01	19.90	21.08
	3H	17.51	18.30	18.43	19.23	20.43	19.53	20.32	20.45	21.25	22.45
	4H	18.09	18.84	19.03	19.77	20.98	19.98	20.72	20.91	21.66	22.87
	6H	18.46	19.15	19.41	20.09	21.31	20.25	20.94	21.20	21.88	23.11
	8H	18.56	19.21	19.51	20.17	21.39	20.32	20.97	21.27	21.93	23.15
	12H	18.61	19.23	19.56	20.18	21.43	20.34	20.96	21.29	21.91	23.16
4H	2H	16.44	17.19	17.38	18.12	19.33	18.27	19.01	19.21	19.95	21.16
	3H	18.27	18.89	19.22	19.86	21.08	19.89	20.51	20.84	21.47	22.70
	4H	18.97	19.54	19.93	20.50	21.75	20.47	21.04	21.43	22.00	23.25
	6H	19.45	19.93	20.42	20.92	22.17	20.88	21.36	21.85	22.35	23.60
	8H	19.58	20.04	20.56	21.02	22.28	20.99	21.44	21.96	22.42	23.69
	12H	19.65	20.06	20.64	21.06	22.32	21.04	21.44	22.03	22.44	23.71
8H	4H	19.24	19.69	20.21	20.67	21.93	20.58	21.03	21.55	22.01	23.28
	6H	19.83	20.20	20.83	21.22	22.48	21.08	21.46	22.08	22.48	23.74
	8H	20.04	20.37	21.04	21.37	22.65	21.26	21.59	22.27	22.60	23.88
	12H	20.16	20.45	21.17	21.45	22.78	21.36	21.66	22.37	22.66	23.98
12H	4H	19.24	19.65	20.23	20.64	21.91	20.55	20.96	21.55	21.96	23.23
	6H	19.88	20.21	20.88	21.22	22.50	21.10	21.43	22.10	22.43	23.72
	8H	20.11	20.40	21.12	21.40	22.73	21.30	21.59	22.31	22.59	23.92