

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: P831203

Luminaire Tested: S123DIP-S1165D1025U940-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831203
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-S1165D1025U940-4F0-1E-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: -

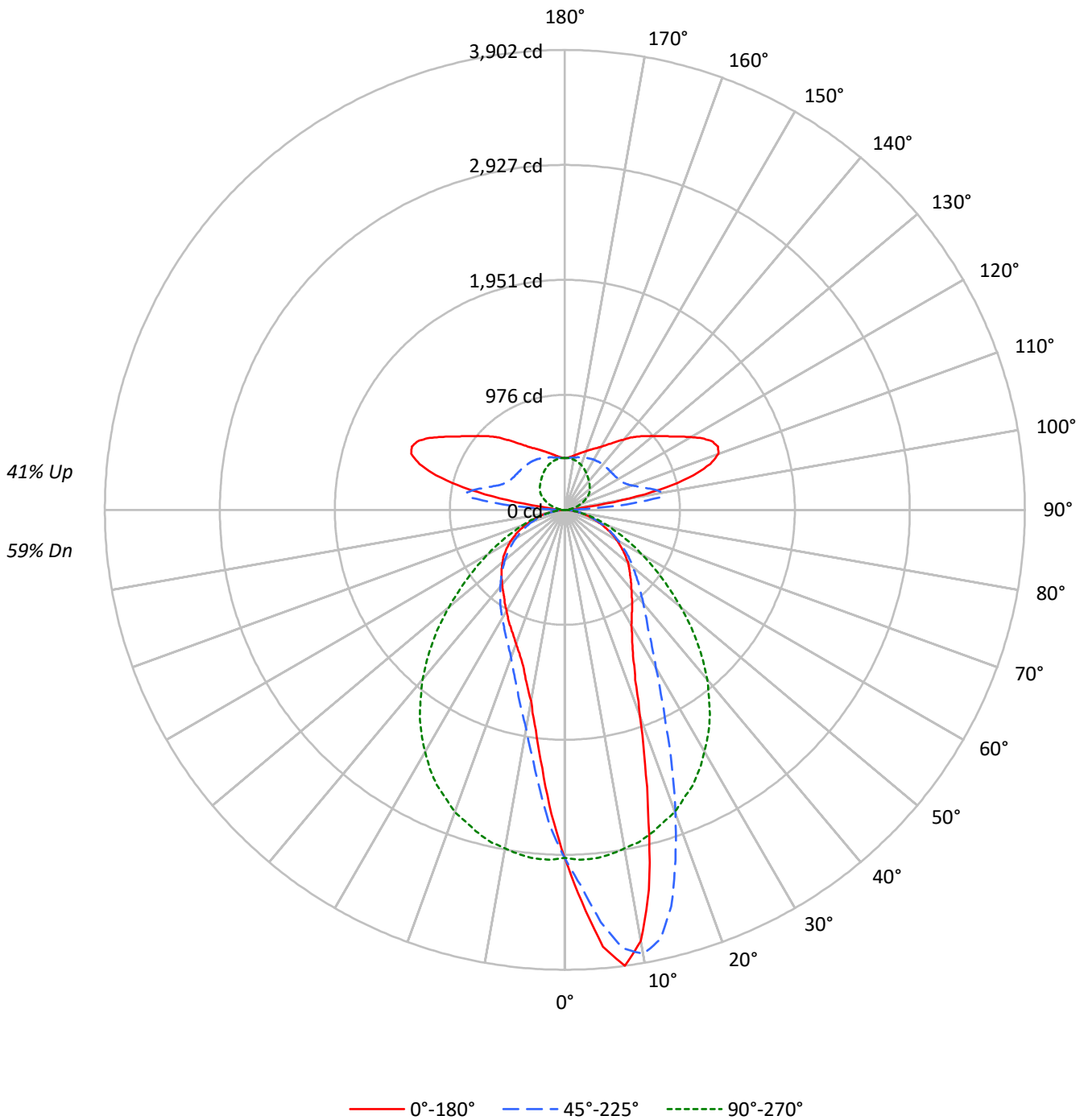
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8057.9 lumens
Efficiency: N/A
Efficacy: 118.3 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				
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	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°	31792	31792	31792	31792	31792
5°	40207	37948	32076	25849	23754
10°	40596	41825	31863	20605	18006
15°	30577	38832	31646	17450	15228
20°	21305	31423	31242	15260	13832
25°	16245	24164	30553	14039	12973
30°	14054	19198	29453	13176	12282
35°	13039	16209	28185	12553	11796
40°	12344	14540	26402	11959	11632
45°	11934	13457	24138	11496	11558
50°	11729	12599	21460	11074	11499
55°	11292	11973	18828	10674	11549
60°	10887	11300	16228	10297	11360
65°	10229	10664	13998	9897	11135
70°	9448	9857	11906	9231	10480
75°	8551	8833	10202	8580	9578
80°	7054	7730	8071	7476	8071
85°	5582	6262	5928	6348	6434

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 27560 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.2	3.5
10°-20°	694.7	8.6
20°-30°	822.5	10.2
30°-40°	827.0	10.3
40°-50°	758.8	9.4
50°-60°	626.3	7.8
60°-70°	443.0	5.5
70°-80°	236.5	2.9
80°-90°	62.4	0.8
90°-100°	238.6	3.0
100°-110°	698.6	8.7
110°-120°	682.2	8.5
120°-130°	543.3	6.7
130°-140°	428.6	5.3
140°-150°	319.8	4.0
150°-160°	222.9	2.8
160°-170°	131.0	1.6
170°-180°	42.6	0.5
0°-30°	1796.4	22.3
0°-40°	2623.4	32.6
0°-60°	4008.4	49.7
0°-90°	4750.4	59.0
90°-120°	1619.3	20.1
90°-150°	2911.0	36.1
90°-180°	3308.0	41.1
0°-180°	8057.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2954	2954	2954	2954	2954	
5°	3721	3512	2969	2392	2198	355
15°	2744	3485	2840	1566	1366	758
25°	1368	2035	2572	1182	1092	646
35°	992	1234	2145	955	898	624
45°	784	884	1586	755	759	607
55°	602	638	1003	569	615	538
65°	402	419	550	389	437	399
75°	206	212	245	206	230	216
85°	45	51	48	51	52	50
90°	26	22	2	22	26	17
95°	103	528	30	528	103	168
105°	1132	716	103	716	1132	1130
115°	1377	547	182	547	1377	1343
125°	1086	511	254	511	1086	983
135°	880	504	297	504	880	683
145°	688	498	339	498	688	437
155°	570	482	385	482	570	266
165°	498	461	421	461	498	142
175°	448	442	439	442	448	43
180°	440	440	440	440	440	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6
2.5°	3329.1	3325.7	3322.2	3305.1	3288.0	3279.8	3271.5	3246.9	3222.2	3194.8	3167.4
5°	3721.1	3730.7	3740.3	3729.3	3718.3	3684.8	3651.2	3606.6	3562.1	3512.1	3462.0
7.5°	3902.0	3907.5	3913.0	3906.1	3899.2	3890.3	3881.4	3841.7	3801.9	3750.5	3699.1
10°	3714.2	3726.6	3738.9	3765.6	3792.3	3822.5	3852.6	3847.2	3841.7	3826.6	3811.5
12.5°	3301.7	3316.8	3331.8	3385.3	3438.7	3507.3	3575.8	3634.7	3693.7	3734.8	3775.9
15°	2743.9	2785.7	2827.5	2876.1	2924.8	3025.5	3126.3	3250.3	3374.3	3484.7	3595.0
17.5°	2260.1	2275.8	2291.6	2343.7	2395.7	2522.5	2649.3	2792.5	2935.7	3118.7	3301.7
20°	1859.9	1874.2	1888.6	1957.2	2025.7	2125.1	2224.4	2385.5	2546.5	2743.2	2939.9
22.5°	1562.4	1585.1	1607.7	1646.0	1684.4	1779.7	1874.9	2018.2	2161.4	2378.6	2595.8
25°	1367.8	1384.3	1400.7	1424.0	1447.3	1523.4	1599.4	1717.3	1835.2	2034.6	2234.0
27.5°	1234.9	1241.7	1248.6	1271.9	1295.2	1344.5	1393.9	1495.3	1596.7	1766.0	1935.2
30°	1130.7	1135.5	1140.3	1160.9	1181.4	1215.0	1248.6	1321.9	1395.2	1544.6	1694.0
32.5°	1058.1	1061.5	1064.9	1080.7	1096.4	1120.4	1144.4	1197.9	1251.3	1374.7	1498.0
35°	992.3	994.3	996.4	1008.0	1019.7	1037.5	1055.3	1095.8	1136.2	1233.5	1330.8
37.5°	934.7	937.5	940.2	947.1	953.9	969.7	985.4	1017.6	1049.9	1124.5	1199.2
40°	878.5	883.3	888.1	892.9	897.7	910.7	923.8	948.4	973.1	1034.8	1096.4
42.5°	830.6	835.4	840.2	842.2	844.3	851.8	859.3	882.0	904.6	950.5	996.4
45°	784.0	786.0	788.1	790.1	792.2	798.4	804.5	824.4	844.3	884.0	923.8
47.5°	741.5	741.5	741.5	742.8	744.2	749.7	755.2	769.6	784.0	814.8	845.6
50°	700.4	700.4	700.4	698.3	696.2	699.7	703.1	714.1	725.0	752.4	779.8
52.5°	651.0	651.0	651.0	651.7	652.4	652.4	652.4	662.0	671.6	696.2	720.9
55°	601.7	604.4	607.2	605.1	603.0	604.4	605.8	612.0	618.1	638.0	657.9
57.5°	552.3	553.7	555.1	554.4	553.7	554.4	555.1	560.6	566.0	581.1	596.2
60°	505.7	505.7	505.7	504.4	503.0	504.4	505.7	508.5	511.2	524.9	538.6
62.5°	453.7	454.3	455.0	455.7	456.4	455.0	453.7	457.1	460.5	470.8	481.1
65°	401.6	402.3	402.9	405.0	407.1	405.7	404.3	407.7	411.2	418.7	426.2
67.5°	355.0	353.6	352.2	352.9	353.6	355.7	357.7	358.4	359.1	367.3	375.5
70°	300.2	301.5	302.9	302.2	301.5	302.2	302.9	305.0	307.0	313.2	319.3
72.5°	250.8	251.5	252.2	252.2	252.2	253.6	254.9	257.0	259.0	262.5	265.9
75°	205.6	205.6	205.6	207.0	208.3	209.0	209.7	209.7	209.7	212.4	215.2
77.5°	156.2	159.7	163.1	162.4	161.7	163.1	164.5	166.5	168.6	169.9	171.3
80°	113.8	113.8	113.8	114.4	115.1	117.2	119.2	120.6	122.0	124.7	127.5
82.5°	72.6	73.3	74.0	76.1	78.1	79.5	80.9	82.9	85.0	85.0	85.0
85°	45.2	43.9	42.5	43.9	45.2	46.6	48.0	48.7	49.3	50.7	52.1
87.5°	21.9	21.9	21.9	21.9	21.9	22.6	23.3	23.3	23.3	23.3	23.3
90°	25.8	26.7	25.8	24.9	25.8	24.0	23.1	22.3	21.4	22.3	19.6
92.5°	47.2	49.0	48.1	51.6	53.4	59.6	68.5	88.1	123.7	165.6	183.4
95°	103.3	106.8	113.0	121.1	138.0	170.0	217.2	320.4	428.1	527.8	470.0
97.5°	211.8	221.6	243.0	276.8	336.5	437.9	555.4	736.1	839.4	811.8	606.1
100°	558.1	557.2	591.9	656.9	746.8	873.2	977.3	1049.4	1018.3	842.9	569.7
102.5°	883.9	909.7	937.3	985.3	1050.3	1118.8	1168.7	1153.6	1027.2	785.1	516.3
105°	1132.2	1136.6	1165.1	1198.9	1239.9	1263.0	1246.1	1157.1	971.1	715.6	474.4
107.5°	1294.2	1304.0	1315.5	1331.6	1336.9	1312.9	1243.5	1103.7	891.0	654.2	444.2
110°	1386.8	1388.5	1390.3	1383.2	1358.3	1296.0	1183.8	1020.0	816.2	603.5	428.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1405.4	1404.6	1395.7	1369.8	1319.1	1234.6	1105.5	937.3	751.2	569.7	419.2
115°	1377.0	1372.5	1354.7	1315.5	1248.8	1151.8	1020.9	866.1	701.4	547.4	418.3
117.5°	1314.7	1308.4	1281.7	1238.1	1168.7	1068.1	947.9	810.9	668.5	532.3	419.2
120°	1232.8	1227.4	1206.1	1156.2	1085.9	996.0	889.2	769.0	643.5	522.5	422.8
122.5°	1156.2	1149.1	1125.1	1081.5	1020.9	939.0	842.0	736.1	623.1	516.3	429.0
125°	1085.9	1079.7	1057.4	1018.3	961.3	890.1	804.6	707.6	606.1	510.9	435.3
127.5°	1025.4	1020.0	999.6	965.7	914.1	848.3	769.9	681.8	590.1	508.2	442.4
130°	975.5	968.4	949.7	917.7	870.5	810.0	737.9	657.8	577.7	505.6	449.5
132.5°	926.6	922.1	906.1	874.1	830.5	773.5	707.6	635.5	566.1	504.7	454.8
135°	880.3	874.1	858.0	831.3	787.7	737.0	679.1	615.9	556.3	503.8	460.2
137.5°	831.3	826.0	812.6	785.1	747.7	702.3	650.7	597.2	547.4	502.0	463.7
140°	779.7	780.6	766.4	741.4	707.6	669.3	626.6	581.2	539.4	501.1	467.3
142.5°	731.7	732.5	720.1	698.7	671.1	639.1	603.5	566.1	532.3	499.3	470.0
145°	688.0	686.3	679.1	660.4	638.2	612.4	583.9	554.5	526.0	497.6	470.9
147.5°	650.7	649.8	642.6	629.3	611.5	592.8	568.8	544.7	519.8	494.9	470.9
150°	618.6	618.6	613.3	603.5	590.1	573.2	554.5	534.1	513.6	491.3	470.9
152.5°	591.9	591.9	589.2	580.3	570.5	557.2	541.2	524.3	506.5	486.9	468.2
155°	570.5	569.7	567.9	560.8	552.7	542.1	528.7	514.5	499.3	481.5	466.4
157.5°	550.1	550.1	548.3	543.0	535.8	526.9	516.3	503.8	491.3	477.1	463.7
160°	530.5	531.4	531.4	526.0	519.8	513.6	504.7	494.9	483.3	471.7	462.0
162.5°	512.7	513.6	513.6	509.1	505.6	500.2	492.2	484.2	475.3	466.4	458.4
165°	497.6	497.6	498.4	494.9	491.3	486.9	480.6	475.3	468.2	461.1	454.8
167.5°	482.4	482.4	483.3	480.6	478.9	475.3	471.7	467.3	461.1	455.7	451.3
170°	469.1	469.1	470.0	468.2	467.3	465.5	462.0	459.3	454.8	450.4	447.7
172.5°	456.6	457.5	459.3	457.5	457.5	456.6	453.9	452.2	448.6	445.9	445.0
175°	447.7	448.6	449.5	448.6	448.6	448.6	446.8	445.9	444.2	442.4	442.4
177.5°	441.5	441.5	443.3	442.4	443.3	443.3	442.4	441.5	440.6	439.7	440.6
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6
2.5°	3159.1	3150.9	3120.8	3090.6	3056.4	3022.1	2996.7	2971.4	2933.7	2896.0	2865.2
5°	3423.7	3385.3	3321.6	3257.8	3171.5	3085.1	3026.9	2968.6	2890.5	2812.4	2750.0
7.5°	3633.4	3567.6	3478.5	3389.4	3276.3	3163.3	3056.4	2949.4	2830.2	2711.0	2613.7
10°	3767.0	3722.4	3619.7	3516.9	3365.4	3214.0	3064.6	2915.2	2761.7	2608.2	2479.3
12.5°	3780.0	3784.1	3689.6	3595.0	3423.7	3252.3	3070.7	2889.1	2695.9	2502.6	2352.6
15°	3665.6	3736.2	3684.1	3632.0	3459.3	3286.6	3063.2	2839.8	2617.1	2394.4	2221.0
17.5°	3453.1	3604.6	3612.1	3619.7	3447.0	3274.3	3026.9	2779.5	2527.3	2275.1	2092.8
20°	3163.3	3386.7	3463.4	3540.2	3399.7	3259.2	2993.3	2727.4	2445.1	2162.7	1971.6
22.5°	2867.2	3138.6	3279.1	3419.6	3315.4	3211.2	2928.2	2645.2	2347.1	2049.0	1855.1
25°	2530.1	2826.1	3042.0	3257.8	3194.1	3130.4	2851.5	2572.5	2255.3	1938.0	1739.9
27.5°	2236.1	2536.9	2797.3	3057.7	3044.0	3030.3	2753.5	2476.6	2151.8	1827.0	1635.8
30°	1974.3	2254.6	2545.8	2837.1	2870.6	2904.2	2637.0	2369.7	2044.2	1718.7	1534.3
32.5°	1742.7	1987.3	2299.8	2612.3	2678.1	2743.9	2502.6	2261.4	1939.3	1617.3	1439.8
35°	1552.8	1774.9	2087.4	2399.9	2482.1	2564.3	2354.6	2144.9	1831.1	1517.2	1347.9
37.5°	1385.0	1570.7	1875.6	2180.6	2281.3	2382.0	2194.3	2006.5	1712.5	1418.5	1263.0
40°	1245.8	1395.2	1675.5	1955.8	2072.3	2188.8	2033.9	1879.0	1600.1	1321.2	1178.0
42.5°	1129.3	1262.3	1516.5	1770.8	1882.5	1994.2	1863.3	1732.4	1484.3	1236.2	1105.4
45°	1030.0	1136.2	1367.1	1598.1	1704.3	1810.5	1698.1	1585.7	1367.1	1148.5	1026.6
47.5°	936.8	1027.9	1225.3	1422.6	1517.2	1611.8	1524.1	1436.3	1251.3	1066.3	956.0
50°	853.2	926.5	1099.2	1271.9	1354.1	1436.3	1358.9	1281.5	1129.3	977.2	881.3
52.5°	780.5	840.2	984.7	1129.3	1199.9	1270.5	1204.0	1137.6	1017.0	896.3	812.7
55°	708.6	759.3	884.7	1010.1	1058.1	1106.0	1054.6	1003.3	905.9	808.6	738.0
57.5°	641.4	686.7	789.4	892.2	929.2	966.2	919.6	873.0	799.7	726.4	667.5
60°	575.6	612.6	698.3	784.0	806.6	829.2	791.5	753.8	702.4	651.0	598.3
62.5°	514.6	548.2	612.0	675.7	690.8	705.8	677.1	648.3	609.2	570.2	529.0
65°	451.6	477.0	529.0	581.1	590.7	600.3	575.0	549.6	520.1	490.7	460.5
67.5°	393.4	411.2	453.7	496.1	496.8	497.5	477.0	456.4	440.0	423.5	399.5
70°	336.5	353.6	381.7	409.8	410.5	411.2	394.7	378.3	365.9	353.6	335.8
72.5°	278.2	290.6	311.8	333.0	331.7	330.3	320.0	309.7	300.2	290.6	277.5
75°	225.5	235.7	250.1	264.5	260.4	256.3	250.8	245.3	237.1	228.9	220.7
77.5°	177.5	183.7	191.9	200.1	197.4	194.6	189.8	185.0	178.9	172.7	169.3
80°	130.2	132.9	138.4	143.9	142.5	141.2	135.7	130.2	128.8	127.5	122.7
82.5°	88.4	91.8	93.2	94.6	93.9	93.2	89.1	85.0	83.6	82.2	81.5
85°	52.8	53.5	54.1	54.8	52.8	50.7	49.3	48.0	48.0	48.0	47.3
87.5°	24.0	24.7	24.7	24.7	24.0	23.3	21.9	20.6	21.2	21.9	21.9
90°	16.9	14.2	11.6	9.8	8.0	5.3	3.6	1.8	3.6	5.3	8.0
92.5°	137.1	89.9	61.4	45.4	36.5	28.5	19.6	13.4	19.6	28.5	36.5
95°	324.0	191.4	115.7	81.0	57.9	42.7	32.9	30.3	32.9	42.7	57.9
97.5°	360.5	206.5	131.7	93.5	70.3	57.0	49.0	48.1	49.0	57.0	70.3
100°	335.6	203.8	141.5	106.8	85.4	73.0	66.8	65.9	66.8	73.0	85.4
102.5°	314.2	207.4	153.1	121.9	103.3	91.7	86.3	84.6	86.3	91.7	103.3
105°	306.2	214.5	166.4	138.9	121.9	111.3	105.9	103.3	105.9	111.3	121.9
107.5°	304.4	226.1	183.4	157.5	141.5	130.8	125.5	122.8	125.5	130.8	141.5
110°	308.9	241.2	201.2	176.2	161.1	151.3	146.9	144.2	146.9	151.3	161.1

TEST NUMBER: P831203

CATALOG NUMBER: S123DIP-S1165D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	317.8	256.3	219.9	195.8	180.7	170.9	166.4	163.8	166.4	170.9	180.7
115°	327.6	273.3	239.4	215.4	200.3	191.4	186.0	182.5	186.0	191.4	200.3
117.5°	340.0	291.1	257.2	235.0	218.1	210.1	205.6	201.2	205.6	210.1	218.1
120°	354.3	308.0	275.9	253.7	236.8	227.9	223.4	220.7	223.4	227.9	236.8
122.5°	367.6	325.8	294.6	270.6	254.6	244.8	240.3	237.7	240.3	244.8	254.6
125°	381.8	342.7	311.5	287.5	270.6	260.8	255.5	253.7	255.5	260.8	270.6
127.5°	393.4	357.8	327.6	303.5	284.8	275.0	268.8	266.1	268.8	275.0	284.8
130°	405.0	371.2	341.8	317.8	299.1	288.4	280.4	277.7	280.4	288.4	299.1
132.5°	415.7	382.7	354.3	331.1	312.4	299.1	290.2	286.6	290.2	299.1	312.4
135°	424.6	394.3	366.7	342.7	324.0	310.6	300.8	297.3	300.8	310.6	324.0
137.5°	431.7	402.3	375.6	353.4	334.7	320.4	310.6	307.1	310.6	320.4	334.7
140°	437.0	410.3	384.5	362.3	344.5	330.2	321.3	316.9	321.3	330.2	344.5
142.5°	442.4	416.6	391.6	371.2	353.4	340.9	331.1	327.6	331.1	340.9	353.4
145°	445.9	421.9	398.8	378.3	363.2	349.8	341.8	339.1	341.8	349.8	363.2
147.5°	448.6	426.4	405.0	387.2	372.1	360.5	352.5	350.7	352.5	360.5	372.1
150°	449.5	430.8	410.3	394.3	381.8	370.3	363.2	362.3	363.2	370.3	381.8
152.5°	451.3	433.5	416.6	401.4	390.7	381.0	373.8	373.8	373.8	381.0	390.7
155°	451.3	437.0	421.9	409.4	399.6	390.7	385.4	385.4	385.4	390.7	399.6
157.5°	452.2	438.8	426.4	416.6	407.7	399.6	395.2	394.3	395.2	399.6	407.7
160°	452.2	441.5	430.8	421.9	415.7	408.5	405.0	405.0	405.0	408.5	415.7
162.5°	451.3	442.4	433.5	426.4	421.0	415.7	413.0	413.0	413.0	415.7	421.0
165°	449.5	443.3	436.1	429.9	426.4	421.9	420.1	421.0	420.1	421.9	426.4
167.5°	448.6	443.3	437.9	433.5	430.8	427.2	426.4	427.2	426.4	427.2	430.8
170°	445.9	442.4	437.9	436.1	434.4	431.7	430.8	432.6	430.8	431.7	434.4
172.5°	445.0	442.4	438.8	437.9	437.0	435.3	435.3	436.1	435.3	435.3	437.0
175°	443.3	441.5	439.7	438.8	438.8	437.0	437.9	438.8	437.9	437.0	438.8
177.5°	442.4	440.6	439.7	439.7	439.7	438.8	439.7	440.6	439.7	438.8	439.7
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



TEST NUMBER: P831203

CATALOG NUMBER: S123DIP-S1165D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6	2953.6
2.5°	2834.3	2807.6	2780.9	2760.3	2739.8	2704.8	2669.9	2661.6	2653.4	2641.8	2630.1
5°	2687.7	2621.9	2556.1	2497.2	2438.2	2392.3	2346.4	2316.2	2286.1	2264.2	2242.2
7.5°	2516.4	2417.7	2319.0	2249.1	2179.2	2112.7	2046.2	2025.0	2003.8	1975.0	1946.2
10°	2350.5	2241.6	2132.6	2041.5	1950.3	1885.2	1820.1	1794.1	1768.0	1731.7	1695.4
12.5°	2202.5	2083.3	1964.0	1872.2	1780.4	1717.3	1654.3	1616.6	1578.9	1558.3	1537.8
15°	2047.6	1920.2	1792.7	1707.7	1622.7	1565.9	1509.0	1476.1	1443.2	1423.3	1403.5
17.5°	1910.6	1784.5	1658.4	1576.8	1495.3	1443.2	1391.1	1362.3	1333.6	1318.5	1303.4
20°	1780.4	1657.0	1533.7	1454.2	1374.7	1332.2	1289.7	1271.2	1252.7	1240.4	1228.0
22.5°	1661.1	1539.8	1418.5	1350.7	1282.8	1248.6	1214.3	1201.3	1188.3	1178.0	1167.7
25°	1541.9	1433.6	1325.3	1267.8	1210.2	1182.1	1154.0	1141.0	1128.0	1117.7	1107.4
27.5°	1444.6	1341.1	1237.6	1188.3	1138.9	1117.0	1095.1	1084.8	1074.5	1064.9	1055.3
30°	1350.0	1257.5	1165.0	1122.5	1080.0	1060.1	1040.3	1030.0	1019.7	1010.8	1001.9
32.5°	1262.3	1182.8	1103.3	1064.2	1025.2	1008.7	992.3	980.0	967.6	960.8	953.9
35°	1178.7	1107.4	1036.1	1003.9	971.7	955.3	938.8	928.6	918.3	912.8	907.3
37.5°	1107.4	1043.7	980.0	949.1	918.3	902.5	886.8	877.8	868.9	866.9	864.8
40°	1034.8	980.0	925.1	895.0	864.8	851.1	837.4	831.9	826.4	825.1	823.7
42.5°	974.5	921.0	867.6	840.2	812.7	801.1	789.4	786.7	784.0	786.0	788.1
45°	904.6	860.0	815.5	790.1	764.8	755.2	745.6	743.5	741.5	745.6	749.7
47.5°	845.6	804.5	763.4	739.4	715.4	708.6	701.7	701.0	700.4	705.8	711.3
50°	785.3	745.6	705.8	686.7	667.5	661.3	655.1	657.2	659.2	668.1	677.1
52.5°	729.1	692.1	655.1	637.3	619.5	615.4	611.3	616.1	620.9	630.5	640.1
55°	667.5	633.9	600.3	586.6	572.9	568.8	564.7	574.3	583.9	592.8	601.7
57.5°	608.5	579.1	549.6	537.3	524.9	524.2	523.6	532.5	541.4	551.0	560.6
60°	545.5	520.8	496.1	486.5	477.0	478.3	479.7	490.0	500.3	507.8	515.3
62.5°	487.9	467.4	446.8	437.9	429.0	432.4	435.8	446.1	456.4	465.3	474.2
65°	430.4	413.2	396.1	389.9	383.8	388.6	393.4	402.3	411.2	417.3	423.5
67.5°	375.5	361.1	346.8	342.0	337.2	342.0	346.8	355.7	364.6	370.7	376.9
70°	318.0	306.3	294.7	291.2	287.8	293.3	298.8	306.3	313.9	320.0	326.2
72.5°	264.5	255.6	246.7	246.0	245.3	250.1	254.9	262.5	270.0	274.1	278.2
75°	212.4	207.6	202.8	202.2	201.5	206.3	211.1	215.2	219.3	222.7	226.1
77.5°	165.8	161.7	157.6	158.3	159.0	162.4	165.8	169.9	174.1	176.1	178.2
80°	117.9	116.5	115.1	116.5	117.9	120.6	123.4	126.1	128.8	130.2	131.6
82.5°	80.9	79.5	78.1	80.2	82.2	84.3	86.3	88.4	90.5	91.1	91.8
85°	46.6	48.7	50.7	50.7	50.7	51.4	52.1	52.8	53.5	52.8	52.1
87.5°	21.9	22.6	23.3	23.3	23.3	24.0	24.7	24.7	24.7	24.0	23.3
90°	9.8	11.6	14.2	16.9	19.6	22.3	21.4	22.3	23.1	24.0	25.8
92.5°	45.4	61.4	89.9	137.1	183.4	165.6	123.7	88.1	68.5	59.6	53.4
95°	81.0	115.7	191.4	324.0	470.0	527.8	428.1	320.4	217.2	170.0	138.0
97.5°	93.5	131.7	206.5	360.5	606.1	811.8	839.4	736.1	555.4	437.9	336.5
100°	106.8	141.5	203.8	335.6	569.7	842.9	1018.3	1049.4	977.3	873.2	746.8
102.5°	121.9	153.1	207.4	314.2	516.3	785.1	1027.2	1153.6	1168.7	1118.8	1050.3
105°	138.9	166.4	214.5	306.2	474.4	715.6	971.1	1157.1	1246.1	1263.0	1239.9
107.5°	157.5	183.4	226.1	304.4	444.2	654.2	891.0	1103.7	1243.5	1312.9	1336.9
110°	176.2	201.2	241.2	308.9	428.1	603.5	816.2	1020.0	1183.8	1296.0	1358.3



TEST NUMBER: P831203

CATALOG NUMBER: S123DIP-S1165D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	195.8	219.9	256.3	317.8	419.2	569.7	751.2	937.3	1105.5	1234.6	1319.1
115°	215.4	239.4	273.3	327.6	418.3	547.4	701.4	866.1	1020.9	1151.8	1248.8
117.5°	235.0	257.2	291.1	340.0	419.2	532.3	668.5	810.9	947.9	1068.1	1168.7
120°	253.7	275.9	308.0	354.3	422.8	522.5	643.5	769.0	889.2	996.0	1085.9
122.5°	270.6	294.6	325.8	367.6	429.0	516.3	623.1	736.1	842.0	939.0	1020.9
125°	287.5	311.5	342.7	381.8	435.3	510.9	606.1	707.6	804.6	890.1	961.3
127.5°	303.5	327.6	357.8	393.4	442.4	508.2	590.1	681.8	769.9	848.3	914.1
130°	317.8	341.8	371.2	405.0	449.5	505.6	577.7	657.8	737.9	810.0	870.5
132.5°	331.1	354.3	382.7	415.7	454.8	504.7	566.1	635.5	707.6	773.5	830.5
135°	342.7	366.7	394.3	424.6	460.2	503.8	556.3	615.9	679.1	737.0	787.7
137.5°	353.4	375.6	402.3	431.7	463.7	502.0	547.4	597.2	650.7	702.3	747.7
140°	362.3	384.5	410.3	437.0	467.3	501.1	539.4	581.2	626.6	669.3	707.6
142.5°	371.2	391.6	416.6	442.4	470.0	499.3	532.3	566.1	603.5	639.1	671.1
145°	378.3	398.8	421.9	445.9	470.9	497.6	526.0	554.5	583.9	612.4	638.2
147.5°	387.2	405.0	426.4	448.6	470.9	494.9	519.8	544.7	568.8	592.8	611.5
150°	394.3	410.3	430.8	449.5	470.9	491.3	513.6	534.1	554.5	573.2	590.1
152.5°	401.4	416.6	433.5	451.3	468.2	486.9	506.5	524.3	541.2	557.2	570.5
155°	409.4	421.9	437.0	451.3	466.4	481.5	499.3	514.5	528.7	542.1	552.7
157.5°	416.6	426.4	438.8	452.2	463.7	477.1	491.3	503.8	516.3	526.9	535.8
160°	421.9	430.8	441.5	452.2	462.0	471.7	483.3	494.9	504.7	513.6	519.8
162.5°	426.4	433.5	442.4	451.3	458.4	466.4	475.3	484.2	492.2	500.2	505.6
165°	429.9	436.1	443.3	449.5	454.8	461.1	468.2	475.3	480.6	486.9	491.3
167.5°	433.5	437.9	443.3	448.6	451.3	455.7	461.1	467.3	471.7	475.3	478.9
170°	436.1	437.9	442.4	445.9	447.7	450.4	454.8	459.3	462.0	465.5	467.3
172.5°	437.9	438.8	442.4	445.0	445.0	445.9	448.6	452.2	453.9	456.6	457.5
175°	438.8	439.7	441.5	443.3	442.4	442.4	444.2	445.9	446.8	448.6	448.6
177.5°	439.7	439.7	440.6	442.4	440.6	439.7	440.6	441.5	442.4	443.3	443.3
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



TEST NUMBER: P831203

CATALOG NUMBER: S123DIP-S1165D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2953.6	2953.6	2953.6	2953.6
2.5°	2625.3	2620.5	2601.3	2582.1
5°	2225.8	2209.3	2203.9	2198.4
7.5°	1944.8	1943.5	1914.7	1885.9
10°	1697.4	1699.5	1673.5	1647.4
12.5°	1520.6	1503.5	1501.5	1499.4
15°	1387.7	1371.9	1369.2	1366.5
17.5°	1293.8	1284.2	1281.5	1278.7
20°	1222.5	1217.1	1212.3	1207.5
22.5°	1160.9	1154.0	1149.9	1145.8
25°	1101.2	1095.1	1093.7	1092.3
27.5°	1047.8	1040.3	1040.3	1040.3
30°	997.1	992.3	990.2	988.2
32.5°	949.8	945.7	945.7	945.7
35°	905.3	903.2	900.5	897.7
37.5°	864.8	864.8	863.5	862.1
40°	825.8	827.8	827.8	827.8
42.5°	790.1	792.2	792.2	792.2
45°	753.1	756.6	757.9	759.3
47.5°	716.8	722.3	723.7	725.0
50°	681.2	685.3	686.0	686.7
52.5°	644.8	649.6	653.1	656.5
55°	606.5	611.3	613.3	615.4
57.5°	565.4	570.2	570.8	571.5
60°	520.1	524.9	526.3	527.7
62.5°	477.0	479.7	481.1	482.4
65°	427.6	431.7	434.5	437.2
67.5°	380.3	383.8	383.8	383.8
70°	327.6	328.9	331.0	333.0
72.5°	278.9	279.6	279.6	279.6
75°	227.5	228.9	229.6	230.3
77.5°	178.9	179.5	179.5	179.5
80°	130.9	130.2	130.2	130.2
82.5°	89.8	87.7	87.7	87.7
85°	51.4	50.7	51.4	52.1
87.5°	23.3	23.3	23.3	23.3
90°	24.9	25.8	26.7	25.8
92.5°	51.6	48.1	49.0	47.2
95°	121.1	113.0	106.8	103.3
97.5°	276.8	243.0	221.6	211.8
100°	656.9	591.9	557.2	558.1
102.5°	985.3	937.3	909.7	883.9
105°	1198.9	1165.1	1136.6	1132.2
107.5°	1331.6	1315.5	1304.0	1294.2
110°	1383.2	1390.3	1388.5	1386.8



TEST NUMBER: P831203

CATALOG NUMBER: S123DIP-S1165D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1369.8	1395.7	1404.6	1405.4
115°	1315.5	1354.7	1372.5	1377.0
117.5°	1238.1	1281.7	1308.4	1314.7
120°	1156.2	1206.1	1227.4	1232.8
122.5°	1081.5	1125.1	1149.1	1156.2
125°	1018.3	1057.4	1079.7	1085.9
127.5°	965.7	999.6	1020.0	1025.4
130°	917.7	949.7	968.4	975.5
132.5°	874.1	906.1	922.1	926.6
135°	831.3	858.0	874.1	880.3
137.5°	785.1	812.6	826.0	831.3
140°	741.4	766.4	780.6	779.7
142.5°	698.7	720.1	732.5	731.7
145°	660.4	679.1	686.3	688.0
147.5°	629.3	642.6	649.8	650.7
150°	603.5	613.3	618.6	618.6
152.5°	580.3	589.2	591.9	591.9
155°	560.8	567.9	569.7	570.5
157.5°	543.0	548.3	550.1	550.1
160°	526.0	531.4	531.4	530.5
162.5°	509.1	513.6	513.6	512.7
165°	494.9	498.4	497.6	497.6
167.5°	480.6	483.3	482.4	482.4
170°	468.2	470.0	469.1	469.1
172.5°	457.5	459.3	457.5	456.6
175°	448.6	449.5	448.6	447.7
177.5°	442.4	443.3	441.5	441.5
180°	439.7	439.7	439.7	439.7



TEST NUMBER: P831203

CATALOG NUMBER: S123DIP-S1165D1025U940-4F0-1E-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	16.38	17.29	17.27	18.19	19.33	18.62	19.52	19.51	20.42	21.56
	3H	18.03	18.84	18.93	19.75	20.92	20.05	20.86	20.95	21.77	22.93
	4H	18.61	19.38	19.53	20.29	21.47	20.50	21.27	21.41	22.18	23.36
	6H	18.99	19.69	19.91	20.61	21.80	20.78	21.48	21.70	22.40	23.59
	8H	19.08	19.75	20.02	20.69	21.88	20.84	21.51	21.77	22.45	23.64
	12H	19.13	19.77	20.07	20.70	21.91	20.86	21.50	21.80	22.43	23.64
4H	2H	16.96	17.73	17.88	18.64	19.82	18.79	19.55	19.71	20.47	21.64
	3H	18.80	19.43	19.72	20.38	21.57	20.41	21.05	21.34	21.99	23.18
	4H	19.50	20.08	20.43	21.02	22.23	21.00	21.58	21.94	22.52	23.73
	6H	19.97	20.47	20.93	21.44	22.65	21.40	21.90	22.36	22.87	24.08
	8H	20.11	20.58	21.06	21.54	22.77	21.52	21.98	22.47	22.94	24.17
	12H	20.18	20.60	21.15	21.58	22.81	21.56	21.98	22.54	22.96	24.19
8H	4H	19.77	20.23	20.72	21.19	22.42	21.11	21.57	22.06	22.53	23.76
	6H	20.36	20.74	21.33	21.74	22.97	21.61	21.99	22.59	22.99	24.22
	8H	20.56	20.90	21.55	21.89	23.14	21.79	22.13	22.78	23.12	24.36
	12H	20.69	20.99	21.68	21.97	23.26	21.89	22.19	22.88	23.17	24.47
12H	4H	19.77	20.19	20.74	21.16	22.40	21.08	21.50	22.05	22.48	23.71
	6H	20.41	20.75	21.39	21.74	22.98	21.62	21.96	22.61	22.95	24.20
	8H	20.64	20.94	21.63	21.92	23.22	21.83	22.12	22.82	23.11	24.40