

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: P831220

Luminaire Tested: S123DIP-S1165D1195U927-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831220
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-S1165D1195U927-4F0-1E-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: -

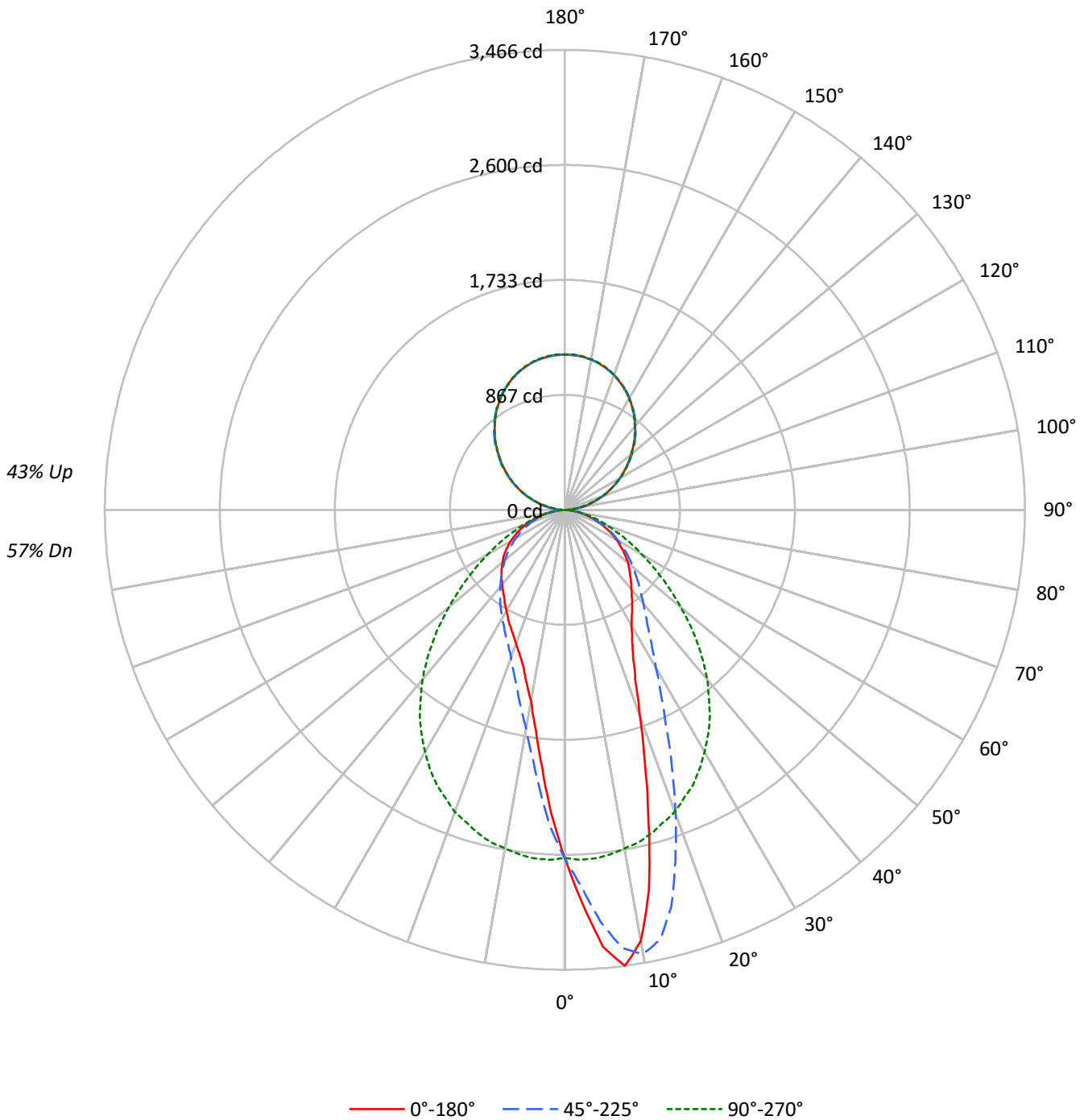
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7467.0 lumens
Efficiency: N/A
Efficacy: 102.0 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				
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	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°	28243	28243	28243	28243	28243
5°	35718	33713	28496	22964	21102
10°	36066	37156	28306	18306	15996
15°	27164	34497	28113	15502	13527
20°	18927	27915	27755	13557	12287
25°	14433	21467	27143	12473	11525
30°	12485	17055	26166	11706	10912
35°	11583	14399	25039	11152	10479
40°	10967	12917	23456	10624	10333
45°	10602	11954	21444	10213	10268
50°	10419	11194	19063	9838	10215
55°	10031	10637	16726	9483	10260
60°	9672	10038	14417	9147	10092
65°	9088	9475	12437	8792	9892
70°	8393	8755	10578	8201	9312
75°	7594	7848	9062	7619	8509
80°	6267	6868	7172	6639	7172
85°	4965	5570	5261	5644	5718

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 24484 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.1	3.3
10°-20°	617.1	8.3
20°-30°	730.7	9.8
30°-40°	734.7	9.8
40°-50°	674.1	9.0
50°-60°	556.4	7.5
60°-70°	393.6	5.3
70°-80°	210.1	2.8
80°-90°	55.8	0.7
90°-100°	75.4	1.0
100°-110°	228.3	3.1
110°-120°	388.6	5.2
120°-130°	511.3	6.8
130°-140°	574.7	7.7
140°-150°	565.0	7.6
150°-160°	475.7	6.4
160°-170°	316.7	4.2
170°-180°	110.9	1.5
0°-30°	1595.9	21.4
0°-40°	2330.6	31.2
0°-60°	3561.0	47.7
0°-90°	4220.5	56.5
90°-120°	692.4	9.3
90°-150°	2343.3	31.4
90°-180°	3247.0	43.5
0°-180°	7467.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2624	2624	2624	2624	2624	
5°	3306	3120	2637	2125	1953	315
15°	2438	3096	2523	1391	1214	673
25°	1215	1808	2285	1050	970	573
35°	882	1096	1906	849	798	554
45°	696	785	1409	671	674	539
55°	534	567	891	505	547	478
65°	357	372	488	345	388	355
75°	183	189	218	183	205	192
85°	40	45	43	46	46	45
90°	28	22	1	22	28	16
95°	72	68	54	68	72	72
105°	219	217	207	217	219	232
115°	392	392	391	392	392	388
125°	566	573	572	573	566	506
135°	742	747	743	747	742	571
145°	901	906	901	906	901	563
155°	1030	1033	1032	1033	1030	475
165°	1120	1121	1124	1121	1120	316
175°	1164	1165	1169	1165	1164	111
180°	1172	1172	1172	1172	1172	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9
2.5°	2957.5	2954.5	2951.4	2936.2	2921.0	2913.7	2906.4	2884.5	2862.5	2838.2	2813.8
5°	3305.7	3314.3	3322.8	3313.0	3303.3	3273.5	3243.6	3204.1	3164.5	3120.1	3075.6
7.5°	3466.5	3471.3	3476.2	3470.1	3464.0	3456.1	3448.2	3412.9	3377.6	3331.9	3286.3
10°	3299.7	3310.6	3321.6	3345.3	3369.1	3395.8	3422.6	3417.8	3412.9	3399.5	3386.1
12.5°	2933.2	2946.6	2959.9	3007.4	3054.9	3115.8	3176.7	3229.0	3281.4	3317.9	3354.4
15°	2437.6	2474.7	2511.9	2555.1	2598.3	2687.8	2777.3	2887.5	2997.7	3095.7	3193.7
17.5°	2007.8	2021.8	2035.8	2082.1	2128.3	2241.0	2353.6	2480.8	2608.1	2770.6	2933.2
20°	1652.3	1665.0	1677.8	1738.7	1799.6	1887.9	1976.1	2119.2	2262.3	2437.0	2611.7
22.5°	1388.0	1408.1	1428.2	1462.3	1496.4	1581.0	1665.7	1792.9	1920.1	2113.1	2306.1
25°	1215.2	1229.8	1244.4	1265.1	1285.8	1353.3	1420.9	1525.6	1630.3	1807.5	1984.7
27.5°	1097.0	1103.1	1109.2	1129.9	1150.6	1194.5	1238.3	1328.4	1418.5	1568.9	1719.2
30°	1004.5	1008.8	1013.0	1031.3	1049.6	1079.4	1109.2	1174.4	1239.5	1372.2	1504.9
32.5°	940.0	943.0	946.1	960.1	974.1	995.4	1016.7	1064.2	1111.7	1221.2	1330.8
35°	881.5	883.4	885.2	895.5	905.9	921.7	937.5	973.5	1009.4	1095.8	1182.3
37.5°	830.4	832.8	835.3	841.4	847.4	861.4	875.4	904.1	932.7	999.0	1065.4
40°	780.5	784.7	789.0	793.3	797.5	809.1	820.7	842.6	864.5	919.3	974.1
42.5°	737.9	742.1	746.4	748.2	750.0	756.7	763.4	783.5	803.6	844.4	885.2
45°	696.5	698.3	700.1	701.9	703.8	709.2	714.7	732.4	750.0	785.3	820.7
47.5°	658.7	658.7	658.7	659.9	661.1	666.0	670.9	683.7	696.5	723.9	751.3
50°	622.2	622.2	622.2	620.4	618.5	621.6	624.6	634.4	644.1	668.5	692.8
52.5°	578.4	578.4	578.4	579.0	579.6	579.6	579.6	588.1	596.6	618.5	640.4
55°	534.5	537.0	539.4	537.6	535.7	537.0	538.2	543.7	549.1	566.8	584.4
57.5°	490.7	491.9	493.1	492.5	491.9	492.5	493.1	498.0	502.9	516.3	529.6
60°	449.3	449.3	449.3	448.1	446.9	448.1	449.3	451.7	454.2	466.3	478.5
62.5°	403.0	403.6	404.2	404.8	405.5	404.2	403.0	406.1	409.1	418.2	427.4
65°	356.8	357.4	358.0	359.8	361.6	360.4	359.2	362.2	365.3	372.0	378.7
67.5°	315.4	314.1	312.9	313.5	314.1	316.0	317.8	318.4	319.0	326.3	333.6
70°	266.7	267.9	269.1	268.5	267.9	268.5	269.1	270.9	272.7	278.2	283.7
72.5°	222.8	223.4	224.0	224.0	224.0	225.3	226.5	228.3	230.1	233.2	236.2
75°	182.6	182.6	182.6	183.9	185.1	185.7	186.3	186.3	186.3	188.7	191.2
77.5°	138.8	141.8	144.9	144.3	143.7	144.9	146.1	147.9	149.8	151.0	152.2
80°	101.1	101.1	101.1	101.7	102.3	104.1	105.9	107.1	108.4	110.8	113.2
82.5°	64.5	65.1	65.7	67.6	69.4	70.6	71.8	73.7	75.5	75.5	75.5
85°	40.2	39.0	37.7	39.0	40.2	41.4	42.6	43.2	43.8	45.1	46.3
87.5°	19.5	19.5	19.5	19.5	19.5	20.1	20.7	20.7	20.7	20.7	20.7
90°	27.6	27.2	26.8	26.4	26.0	25.4	24.5	23.7	22.9	22.1	19.4
92.5°	39.6	40.0	40.4	40.8	41.2	41.1	40.5	39.9	39.3	38.7	37.4
95°	71.8	71.8	71.8	71.8	71.8	71.4	70.6	69.7	68.9	68.1	66.5
97.5°	103.1	103.3	103.5	103.7	103.9	103.5	102.5	101.5	100.4	99.4	98.2
100°	139.9	139.5	139.1	138.7	138.3	137.8	137.1	136.5	135.9	135.3	134.3
102.5°	177.6	177.8	178.1	178.3	178.5	178.3	177.6	177.0	176.4	175.8	174.4
105°	219.1	218.7	218.2	217.8	217.4	217.2	217.2	217.2	217.2	217.2	215.4
107.5°	261.4	261.6	261.8	262.0	262.2	262.0	261.4	260.8	260.2	259.6	258.7
110°	304.7	305.1	305.5	305.9	306.3	306.1	305.3	304.5	303.6	302.8	302.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	350.7	350.7	350.7	350.7	350.7	350.2	349.1	348.1	347.1	346.1	346.1
115°	392.1	392.3	392.5	392.7	392.9	392.9	392.7	392.5	392.3	392.1	392.5
117.5°	434.4	435.1	435.7	436.3	436.9	437.2	437.2	437.2	437.2	437.2	437.6
120°	479.5	479.9	480.4	480.8	481.2	481.5	481.7	481.9	482.1	482.3	483.3
122.5°	522.8	523.4	524.0	524.6	525.3	525.9	526.5	527.1	527.7	528.3	528.7
125°	566.1	566.9	567.7	568.5	569.3	570.1	571.0	571.8	572.6	573.4	573.8
127.5°	609.3	610.1	611.0	611.8	612.6	613.6	614.8	616.1	617.3	618.5	618.9
130°	651.7	653.1	654.5	656.0	657.4	658.5	659.3	660.1	661.0	661.8	662.4
132.5°	695.8	696.9	697.9	698.9	699.9	701.0	702.0	703.0	704.0	705.0	705.5
135°	741.9	742.3	742.7	743.1	743.5	744.1	744.9	745.7	746.6	747.4	747.6
137.5°	782.4	783.0	783.6	784.2	784.8	785.6	786.7	787.7	788.7	789.7	789.1
140°	821.9	823.4	824.8	826.2	827.7	828.5	828.7	828.9	829.1	829.3	829.1
142.5°	862.4	863.5	864.5	865.5	866.5	867.1	867.3	867.5	867.8	868.0	867.5
145°	901.1	901.9	902.7	903.5	904.4	904.9	905.1	905.3	905.5	905.7	905.1
147.5°	936.1	937.3	938.5	939.7	941.0	941.6	941.6	941.6	941.6	941.6	941.0
150°	969.2	970.4	971.7	972.9	974.1	974.7	974.7	974.7	974.7	974.7	974.3
152.5°	1001.4	1002.4	1003.5	1004.5	1005.5	1005.8	1005.4	1005.0	1004.6	1004.2	1004.0
155°	1030.0	1031.4	1032.8	1034.2	1035.7	1036.0	1035.2	1034.3	1033.5	1032.7	1032.5
157.5°	1056.6	1057.9	1059.1	1060.3	1061.6	1061.8	1060.9	1060.1	1059.3	1058.5	1058.3
160°	1082.4	1083.2	1084.1	1084.9	1085.7	1085.6	1084.6	1083.5	1082.5	1081.5	1081.5
162.5°	1101.7	1103.2	1104.6	1106.0	1107.5	1107.7	1106.7	1105.6	1104.6	1103.6	1103.4
165°	1120.2	1121.6	1123.0	1124.4	1125.9	1126.0	1124.8	1123.5	1122.3	1121.1	1121.1
167.5°	1136.7	1137.9	1139.2	1140.4	1141.6	1141.6	1140.4	1139.2	1137.9	1136.7	1136.5
170°	1148.7	1150.1	1151.5	1153.0	1154.4	1154.4	1153.0	1151.5	1150.1	1148.7	1148.7
172.5°	1157.9	1159.3	1160.8	1162.2	1163.6	1163.7	1162.5	1161.3	1160.0	1158.8	1158.8
175°	1164.3	1165.8	1167.2	1168.6	1170.1	1170.2	1168.9	1167.7	1166.5	1165.3	1165.3
177.5°	1168.0	1169.4	1170.9	1172.3	1173.7	1173.8	1172.6	1171.4	1170.2	1168.9	1168.9
180°	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9
2.5°	2806.5	2799.2	2772.4	2745.7	2715.2	2684.8	2662.3	2639.7	2606.2	2572.8	2545.4
5°	3041.5	3007.4	2950.8	2894.2	2817.5	2740.8	2689.0	2637.3	2567.9	2498.5	2443.1
7.5°	3227.8	3169.4	3090.2	3011.1	2910.6	2810.2	2715.2	2620.2	2514.3	2408.4	2321.9
10°	3346.5	3307.0	3215.6	3124.3	2989.8	2855.2	2722.5	2589.8	2453.4	2317.1	2202.6
12.5°	3358.1	3361.8	3277.7	3193.7	3041.5	2889.3	2728.0	2566.7	2395.0	2223.3	2090.0
15°	3256.4	3319.1	3272.9	3226.6	3073.2	2919.8	2721.3	2522.8	2325.0	2127.1	1973.1
17.5°	3067.7	3202.2	3208.9	3215.6	3062.2	2908.8	2689.0	2469.3	2245.2	2021.2	1859.3
20°	2810.2	3008.7	3076.8	3145.0	3020.2	2895.4	2659.2	2423.0	2172.2	1921.3	1751.5
22.5°	2547.2	2788.3	2913.1	3037.9	2945.3	2852.8	2601.4	2349.9	2085.1	1820.3	1648.0
25°	2247.7	2510.7	2702.4	2894.2	2837.6	2781.0	2533.2	2285.4	2003.5	1721.7	1545.7
27.5°	1986.5	2253.8	2485.1	2716.4	2704.3	2692.1	2446.1	2200.2	1911.6	1623.0	1453.2
30°	1753.9	2002.9	2261.7	2520.4	2550.2	2580.1	2342.6	2105.2	1816.0	1526.9	1363.1
32.5°	1548.2	1765.5	2043.1	2320.7	2379.2	2437.6	2223.3	2009.0	1722.9	1436.8	1279.1
35°	1379.5	1576.8	1854.4	2132.0	2205.0	2278.1	2091.8	1905.5	1626.7	1347.9	1197.5
37.5°	1230.4	1395.4	1666.3	1937.2	2026.7	2116.2	1949.4	1782.5	1521.4	1260.2	1122.0
40°	1106.8	1239.5	1488.5	1737.5	1841.0	1944.5	1806.9	1669.3	1421.5	1173.8	1046.5
42.5°	1003.3	1121.4	1347.3	1573.1	1672.4	1771.6	1655.3	1539.0	1318.6	1098.3	982.0
45°	915.0	1009.4	1214.5	1419.7	1514.1	1608.4	1508.6	1408.7	1214.5	1020.3	912.0
47.5°	832.2	913.2	1088.5	1263.9	1347.9	1431.9	1354.0	1276.0	1111.7	947.3	849.3
50°	757.9	823.1	976.5	1129.9	1203.0	1276.0	1207.2	1138.4	1003.3	868.1	782.9
52.5°	693.4	746.4	874.8	1003.3	1066.0	1128.7	1069.6	1010.6	903.4	796.3	722.0
55°	629.5	674.5	786.0	897.4	940.0	982.6	936.9	891.3	804.8	718.4	655.7
57.5°	569.8	610.0	701.3	792.6	825.5	858.4	817.0	775.6	710.5	645.3	593.0
60°	511.4	544.3	620.4	696.5	716.5	736.6	703.2	669.7	624.0	578.4	531.5
62.5°	457.2	487.0	543.7	600.3	613.7	627.1	601.5	575.9	541.2	506.5	470.0
65°	401.2	423.7	470.0	516.3	524.8	533.3	510.8	488.3	462.1	435.9	409.1
67.5°	349.4	365.3	403.0	440.8	441.4	442.0	423.7	405.5	390.8	376.2	354.9
70°	298.9	314.1	339.1	364.1	364.7	365.3	350.7	336.1	325.1	314.1	298.3
72.5°	247.2	258.1	277.0	295.9	294.7	293.4	284.3	275.2	266.7	258.1	246.6
75°	200.3	209.4	222.2	235.0	231.3	227.7	222.8	217.9	210.6	203.3	196.0
77.5°	157.7	163.2	170.5	177.8	175.3	172.9	168.6	164.4	158.9	153.4	150.4
80°	115.7	118.1	123.0	127.8	126.6	125.4	120.5	115.7	114.5	113.2	109.0
82.5°	78.5	81.6	82.8	84.0	83.4	82.8	79.1	75.5	74.3	73.1	72.4
85°	46.9	47.5	48.1	48.7	46.9	45.1	43.8	42.6	42.6	42.6	42.0
87.5°	21.3	21.9	21.9	21.9	21.3	20.7	19.5	18.3	18.9	19.5	19.5
90°	16.8	14.1	11.5	9.1	7.1	5.0	3.0	0.9	3.0	5.0	7.1
92.5°	36.2	35.0	33.7	32.5	31.3	30.1	28.8	27.6	28.8	30.1	31.3
95°	64.8	63.2	61.6	60.0	58.6	57.2	55.7	54.3	55.7	57.2	58.6
97.5°	97.0	95.7	94.5	93.4	92.3	91.3	90.3	89.3	90.3	91.3	92.3
100°	133.3	132.2	131.2	130.1	128.9	127.6	126.4	125.2	126.4	127.6	128.9
102.5°	172.9	171.5	170.1	169.1	168.4	167.8	167.2	166.6	167.2	167.8	168.4
105°	213.5	211.7	209.9	208.7	208.3	207.9	207.5	207.1	207.5	207.9	208.3
107.5°	257.9	257.1	256.3	255.8	255.6	255.4	255.2	255.0	255.2	255.4	255.6
110°	302.0	301.6	301.2	300.8	300.4	300.0	299.5	299.1	299.5	300.0	300.4



TEST NUMBER: P831220

CATALOG NUMBER: S123DIP-S1165D1195U927-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	346.1	346.1	346.1	346.0	345.8	345.6	345.4	345.2	345.4	345.6	345.8
115°	392.9	393.3	393.7	393.6	393.0	392.4	391.8	391.2	391.8	392.4	393.0
117.5°	438.0	438.4	438.8	438.9	438.7	438.5	438.3	438.1	438.3	438.5	438.7
120°	484.3	485.4	486.4	486.3	485.1	483.8	482.6	481.4	482.6	483.8	485.1
122.5°	529.1	529.5	530.0	529.8	528.9	528.1	527.3	526.5	527.3	528.1	528.9
125°	574.2	574.6	575.1	575.0	574.3	573.7	573.1	572.5	573.1	573.7	574.3
127.5°	619.3	619.7	620.2	619.7	618.5	617.3	616.1	614.8	616.1	617.3	618.5
130°	663.0	663.6	664.2	663.7	662.1	660.5	658.8	657.2	658.8	660.5	662.1
132.5°	705.9	706.3	706.7	706.1	704.4	702.8	701.2	699.5	701.2	702.8	704.4
135°	747.8	748.0	748.2	747.7	746.5	745.2	744.0	742.8	744.0	745.2	746.5
137.5°	788.5	787.9	787.3	786.4	785.4	784.4	783.4	782.4	783.4	784.4	785.4
140°	828.9	828.7	828.5	827.9	826.8	825.8	824.8	823.8	824.8	825.8	826.8
142.5°	867.1	866.7	866.3	865.6	864.6	863.6	862.5	861.5	862.5	863.6	864.6
145°	904.5	903.9	903.2	902.7	902.3	901.9	901.5	901.1	901.5	901.9	902.3
147.5°	940.4	939.7	939.1	938.4	937.6	936.8	936.0	935.1	936.0	936.8	937.6
150°	973.9	973.5	973.1	972.7	972.3	971.9	971.5	971.0	971.5	971.9	972.3
152.5°	1003.8	1003.6	1003.4	1003.0	1002.3	1001.7	1001.1	1000.5	1001.1	1001.7	1002.3
155°	1032.3	1032.1	1031.9	1031.8	1031.8	1031.8	1031.8	1031.8	1031.8	1031.8	1031.8
157.5°	1058.1	1057.9	1057.7	1057.7	1057.9	1058.1	1058.3	1058.5	1058.3	1058.1	1057.9
160°	1081.5	1081.5	1081.5	1081.7	1082.1	1082.5	1082.9	1083.3	1082.9	1082.5	1082.1
162.5°	1103.2	1103.0	1102.8	1103.0	1103.6	1104.2	1104.8	1105.4	1104.8	1104.2	1103.6
165°	1121.1	1121.1	1121.1	1121.4	1122.0	1122.6	1123.2	1123.8	1123.2	1122.6	1122.0
167.5°	1136.3	1136.1	1135.9	1136.2	1137.0	1137.8	1138.7	1139.5	1138.7	1137.8	1137.0
170°	1148.7	1148.7	1148.7	1149.1	1149.9	1150.7	1151.5	1152.4	1151.5	1150.7	1149.9
172.5°	1158.8	1158.8	1158.8	1159.2	1160.0	1160.9	1161.7	1162.5	1161.7	1160.9	1160.0
175°	1165.3	1165.3	1165.3	1165.7	1166.5	1167.3	1168.1	1168.9	1168.1	1167.3	1166.5
177.5°	1168.9	1168.9	1168.9	1169.3	1170.2	1171.0	1171.8	1172.6	1171.8	1171.0	1170.2
180°	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9	2623.9
2.5°	2518.0	2494.2	2470.5	2452.2	2434.0	2402.9	2371.9	2364.6	2357.2	2346.9	2336.5
5°	2387.7	2329.2	2270.8	2218.4	2166.1	2125.3	2084.5	2057.7	2030.9	2011.5	1992.0
7.5°	2235.5	2147.8	2060.2	1998.1	1936.0	1876.9	1817.9	1799.0	1780.1	1754.5	1729.0
10°	2088.2	1991.4	1894.6	1813.6	1732.6	1674.8	1617.0	1593.8	1570.7	1538.4	1506.2
12.5°	1956.7	1850.7	1744.8	1663.2	1581.6	1525.6	1469.6	1436.1	1402.7	1384.4	1366.1
15°	1819.1	1705.8	1592.6	1517.1	1441.6	1391.1	1340.6	1311.3	1282.1	1264.5	1246.8
17.5°	1697.3	1585.3	1473.3	1400.8	1328.4	1282.1	1235.8	1210.3	1184.7	1171.3	1157.9
20°	1581.6	1472.1	1362.5	1291.9	1221.2	1183.5	1145.7	1129.3	1112.9	1101.9	1091.0
22.5°	1475.7	1368.0	1260.2	1199.9	1139.7	1109.2	1078.8	1067.2	1055.6	1046.5	1037.4
25°	1369.8	1273.6	1177.4	1126.3	1075.1	1050.2	1025.2	1013.6	1002.1	992.9	983.8
27.5°	1283.3	1191.4	1099.5	1055.6	1011.8	992.3	972.9	963.7	954.6	946.1	937.5
30°	1199.3	1117.1	1034.9	997.2	959.5	941.8	924.1	915.0	905.9	898.0	890.1
32.5°	1121.4	1050.8	980.2	945.5	910.8	896.1	881.5	870.6	859.6	853.5	847.4
35°	1047.1	983.8	920.5	891.9	863.3	848.7	834.0	824.9	815.8	810.9	806.0
37.5°	983.8	927.2	870.6	843.2	815.8	801.8	787.8	779.9	771.9	770.1	768.3
40°	919.3	870.6	821.9	795.1	768.3	756.1	743.9	739.1	734.2	733.0	731.8
42.5°	865.7	818.2	770.7	746.4	722.0	711.7	701.3	698.9	696.5	698.3	700.1
45°	803.6	764.0	724.5	701.9	679.4	670.9	662.4	660.5	658.7	662.4	666.0
47.5°	751.3	714.7	678.2	656.9	635.6	629.5	623.4	622.8	622.2	627.1	631.9
50°	697.7	662.4	627.1	610.0	593.0	587.5	582.0	583.8	585.7	593.6	601.5
52.5°	647.8	614.9	582.0	566.2	550.3	546.7	543.0	547.3	551.6	560.1	568.6
55°	593.0	563.1	533.3	521.1	509.0	505.3	501.6	510.2	518.7	526.6	534.5
57.5°	540.6	514.4	488.3	477.3	466.3	465.7	465.1	473.0	480.9	489.5	498.0
60°	484.6	462.7	440.8	432.2	423.7	424.9	426.2	435.3	444.4	451.1	457.8
62.5°	433.5	415.2	396.9	389.0	381.1	384.1	387.2	396.3	405.5	413.4	421.3
65°	382.3	367.1	351.9	346.4	340.9	345.2	349.4	357.4	365.3	370.8	376.2
67.5°	333.6	320.8	308.0	303.8	299.5	303.8	308.0	316.0	323.9	329.4	334.8
70°	282.5	272.1	261.8	258.7	255.7	260.6	265.4	272.1	278.8	284.3	289.8
72.5°	235.0	227.1	219.2	218.6	217.9	222.2	226.5	233.2	239.9	243.5	247.2
75°	188.7	184.5	180.2	179.6	179.0	183.2	187.5	191.2	194.8	197.9	200.9
77.5°	147.3	143.7	140.0	140.6	141.2	144.3	147.3	151.0	154.6	156.5	158.3
80°	104.7	103.5	102.3	103.5	104.7	107.1	109.6	112.0	114.5	115.7	116.9
82.5°	71.8	70.6	69.4	71.2	73.1	74.9	76.7	78.5	80.4	81.0	81.6
85°	41.4	43.2	45.1	45.1	45.1	45.7	46.3	46.9	47.5	46.9	46.3
87.5°	19.5	20.1	20.7	20.7	20.7	21.3	21.9	21.9	21.9	21.3	20.7
90°	9.1	11.5	14.1	16.8	19.4	22.1	22.9	23.7	24.5	25.4	26.0
92.5°	32.5	33.7	35.0	36.2	37.4	38.7	39.3	39.9	40.5	41.1	41.2
95°	60.0	61.6	63.2	64.8	66.5	68.1	68.9	69.7	70.6	71.4	71.8
97.5°	93.4	94.5	95.7	97.0	98.2	99.4	100.4	101.5	102.5	103.5	103.9
100°	130.1	131.2	132.2	133.3	134.3	135.3	135.9	136.5	137.1	137.8	138.3
102.5°	169.1	170.1	171.5	172.9	174.4	175.8	176.4	177.0	177.6	178.3	178.5
105°	208.7	209.9	211.7	213.5	215.4	217.2	217.2	217.2	217.2	217.2	217.4
107.5°	255.8	256.3	257.1	257.9	258.7	259.6	260.2	260.8	261.4	262.0	262.2
110°	300.8	301.2	301.6	302.0	302.4	302.8	303.6	304.5	305.3	306.1	306.3



TEST NUMBER: P831220

CATALOG NUMBER: S123DIP-S1165D1195U927-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	346.0	346.1	346.1	346.1	346.1	346.1	347.1	348.1	349.1	350.2	350.7
115°	393.6	393.7	393.3	392.9	392.5	392.1	392.3	392.5	392.7	392.9	392.9
117.5°	438.9	438.8	438.4	438.0	437.6	437.2	437.2	437.2	437.2	437.2	436.9
120°	486.3	486.4	485.4	484.3	483.3	482.3	482.1	481.9	481.7	481.5	481.2
122.5°	529.8	530.0	529.5	529.1	528.7	528.3	527.7	527.1	526.5	525.9	525.3
125°	575.0	575.1	574.6	574.2	573.8	573.4	572.6	571.8	571.0	570.1	569.3
127.5°	619.7	620.2	619.7	619.3	618.9	618.5	617.3	616.1	614.8	613.6	612.6
130°	663.7	664.2	663.6	663.0	662.4	661.8	661.0	660.1	659.3	658.5	657.4
132.5°	706.1	706.7	706.3	705.9	705.5	705.0	704.0	703.0	702.0	701.0	699.9
135°	747.7	748.2	748.0	747.8	747.6	747.4	746.6	745.7	744.9	744.1	743.5
137.5°	786.4	787.3	787.9	788.5	789.1	789.7	788.7	787.7	786.7	785.6	784.8
140°	827.9	828.5	828.7	828.9	829.1	829.3	829.1	828.9	828.7	828.5	827.7
142.5°	865.6	866.3	866.7	867.1	867.5	868.0	867.8	867.5	867.3	867.1	866.5
145°	902.7	903.2	903.9	904.5	905.1	905.7	905.5	905.3	905.1	904.9	904.4
147.5°	938.4	939.1	939.7	940.4	941.0	941.6	941.6	941.6	941.6	941.6	941.0
150°	972.7	973.1	973.5	973.9	974.3	974.7	974.7	974.7	974.7	974.7	974.1
152.5°	1003.0	1003.4	1003.6	1003.8	1004.0	1004.2	1004.6	1005.0	1005.4	1005.8	1005.5
155°	1031.8	1031.9	1032.1	1032.3	1032.5	1032.7	1033.5	1034.3	1035.2	1036.0	1035.7
157.5°	1057.7	1057.7	1057.9	1058.1	1058.3	1058.5	1059.3	1060.1	1060.9	1061.8	1061.6
160°	1081.7	1081.5	1081.5	1081.5	1081.5	1081.5	1082.5	1083.5	1084.6	1085.6	1085.7
162.5°	1103.0	1102.8	1103.0	1103.2	1103.4	1103.6	1104.6	1105.6	1106.7	1107.7	1107.5
165°	1121.4	1121.1	1121.1	1121.1	1121.1	1121.1	1122.3	1123.5	1124.8	1126.0	1125.9
167.5°	1136.2	1135.9	1136.1	1136.3	1136.5	1136.7	1137.9	1139.2	1140.4	1141.6	1141.6
170°	1149.1	1148.7	1148.7	1148.7	1148.7	1148.7	1150.1	1151.5	1153.0	1154.4	1154.4
172.5°	1159.2	1158.8	1158.8	1158.8	1158.8	1158.8	1160.0	1161.3	1162.5	1163.7	1163.6
175°	1165.7	1165.3	1165.3	1165.3	1165.3	1165.3	1166.5	1167.7	1168.9	1170.2	1170.1
177.5°	1169.3	1168.9	1168.9	1168.9	1168.9	1168.9	1170.2	1171.4	1172.6	1173.8	1173.7
180°	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7	1171.7



TEST NUMBER: P831220

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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2623.9	2623.9	2623.9	2623.9
2.5°	2332.3	2328.0	2311.0	2293.9
5°	1977.4	1962.7	1957.9	1953.0
7.5°	1727.8	1726.5	1701.0	1675.4
10°	1508.0	1509.8	1486.7	1463.5
12.5°	1350.9	1335.7	1333.9	1332.0
15°	1232.8	1218.8	1216.4	1213.9
17.5°	1149.4	1140.9	1138.4	1136.0
20°	1086.1	1081.2	1077.0	1072.7
22.5°	1031.3	1025.2	1021.6	1017.9
25°	978.3	972.9	971.6	970.4
27.5°	930.8	924.1	924.1	924.1
30°	885.8	881.5	879.7	877.9
32.5°	843.8	840.1	840.1	840.1
35°	804.2	802.4	800.0	797.5
37.5°	768.3	768.3	767.1	765.9
40°	733.6	735.4	735.4	735.4
42.5°	701.9	703.8	703.8	703.8
45°	669.1	672.1	673.3	674.5
47.5°	636.8	641.7	642.9	644.1
50°	605.1	608.8	609.4	610.0
52.5°	572.9	577.1	580.2	583.2
55°	538.8	543.0	544.9	546.7
57.5°	502.3	506.5	507.1	507.7
60°	462.1	466.3	467.6	468.8
62.5°	423.7	426.2	427.4	428.6
65°	379.9	383.5	386.0	388.4
67.5°	337.9	340.9	340.9	340.9
70°	291.0	292.2	294.0	295.9
72.5°	247.8	248.4	248.4	248.4
75°	202.1	203.3	203.9	204.6
77.5°	158.9	159.5	159.5	159.5
80°	116.3	115.7	115.7	115.7
82.5°	79.8	77.9	77.9	77.9
85°	45.7	45.1	45.7	46.3
87.5°	20.7	20.7	20.7	20.7
90°	26.4	26.8	27.2	27.6
92.5°	40.8	40.4	40.0	39.6
95°	71.8	71.8	71.8	71.8
97.5°	103.7	103.5	103.3	103.1
100°	138.7	139.1	139.5	139.9
102.5°	178.3	178.1	177.8	177.6
105°	217.8	218.2	218.7	219.1
107.5°	262.0	261.8	261.6	261.4
110°	305.9	305.5	305.1	304.7



TEST NUMBER: P831220

CATALOG NUMBER: S123DIP-S1165D1195U927-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	350.7	350.7	350.7	350.7
115°	392.7	392.5	392.3	392.1
117.5°	436.3	435.7	435.1	434.4
120°	480.8	480.4	479.9	479.5
122.5°	524.6	524.0	523.4	522.8
125°	568.5	567.7	566.9	566.1
127.5°	611.8	611.0	610.1	609.3
130°	656.0	654.5	653.1	651.7
132.5°	698.9	697.9	696.9	695.8
135°	743.1	742.7	742.3	741.9
137.5°	784.2	783.6	783.0	782.4
140°	826.2	824.8	823.4	821.9
142.5°	865.5	864.5	863.5	862.4
145°	903.5	902.7	901.9	901.1
147.5°	939.7	938.5	937.3	936.1
150°	972.9	971.7	970.4	969.2
152.5°	1004.5	1003.5	1002.4	1001.4
155°	1034.2	1032.8	1031.4	1030.0
157.5°	1060.3	1059.1	1057.9	1056.6
160°	1084.9	1084.1	1083.2	1082.4
162.5°	1106.0	1104.6	1103.2	1101.7
165°	1124.4	1123.0	1121.6	1120.2
167.5°	1140.4	1139.2	1137.9	1136.7
170°	1153.0	1151.5	1150.1	1148.7
172.5°	1162.2	1160.8	1159.3	1157.9
175°	1168.6	1167.2	1165.8	1164.3
177.5°	1172.3	1170.9	1169.4	1168.0
180°	1171.7	1171.7	1171.7	1171.7



TEST NUMBER: P831220

CATALOG NUMBER: S123DIP-S1165D1195U927-4F0-1E-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	15.76	16.65	16.67	17.57	18.74	18.00	18.88	18.91	19.80	20.98
	3H	17.41	18.20	18.33	19.13	20.33	19.43	20.22	20.35	21.15	22.35
	4H	17.99	18.74	18.93	19.67	20.88	19.88	20.62	20.81	21.56	22.77
	6H	18.36	19.05	19.31	19.99	21.22	20.15	20.84	21.10	21.78	23.01
	8H	18.46	19.11	19.41	20.07	21.29	20.22	20.87	21.17	21.83	23.05
	12H	18.51	19.13	19.46	20.08	21.33	20.24	20.86	21.19	21.81	23.06
4H	2H	16.34	17.09	17.28	18.02	19.23	18.17	18.91	19.11	19.85	21.06
	3H	18.17	18.79	19.12	19.76	20.98	19.79	20.41	20.74	21.37	22.60
	4H	18.87	19.44	19.83	20.40	21.65	20.37	20.94	21.33	21.90	23.15
	6H	19.35	19.83	20.32	20.82	22.07	20.78	21.26	21.75	22.25	23.50
	8H	19.48	19.94	20.46	20.92	22.18	20.89	21.34	21.86	22.32	23.59
	12H	19.55	19.96	20.54	20.96	22.23	20.94	21.34	21.93	22.34	23.61
8H	4H	19.14	19.59	20.11	20.57	21.83	20.48	20.93	21.45	21.91	23.17
	6H	19.73	20.10	20.73	21.12	22.39	20.98	21.36	21.98	22.38	23.64
	8H	19.94	20.27	20.94	21.27	22.56	21.16	21.49	22.17	22.50	23.78
	12H	20.06	20.35	21.07	21.35	22.68	21.26	21.56	22.27	22.56	23.88
12H	4H	19.14	19.55	20.13	20.54	21.81	20.45	20.86	21.45	21.86	23.13
	6H	19.78	20.11	20.79	21.12	22.40	21.00	21.33	22.00	22.33	23.62
	8H	20.01	20.31	21.02	21.31	22.63	21.20	21.49	22.21	22.49	23.82