

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: P831297

Luminaire Tested: S123DIP-S1165D805U850-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831297
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-5)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D805U850-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 805 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

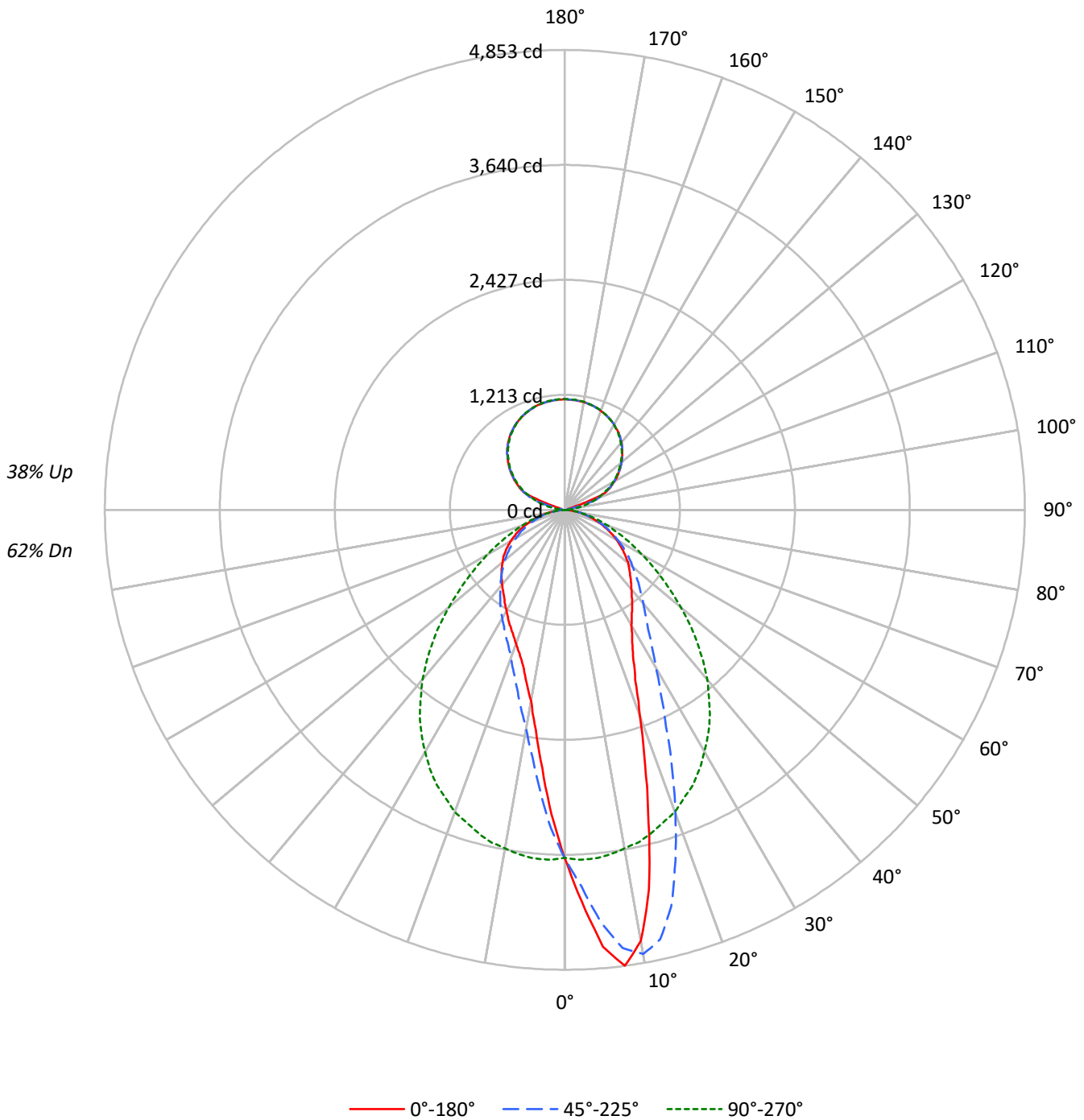
Lumens per Lamp: N/A
Luminaire Lumens: 9464.7 lumens
Efficiency: N/A
Efficacy: 150.7 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 62.8
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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	68	68	68	62				
1	101	97	93	90	95	91	88	85	80	78	76	70	68	67	61	59	58	54				
2	93	86	80	75	87	81	75	71	71	67	64	62	59	57	54	52	50	46				
3	85	76	69	63	80	72	65	60	63	59	54	56	52	49	49	46	44	40				
4	78	68	60	54	73	64	57	52	57	52	47	50	46	43	44	41	38	35				
5	72	61	53	47	68	58	51	45	52	46	41	46	41	38	40	37	34	31				
6	67	55	47	42	63	52	45	40	47	41	37	42	37	34	37	33	31	28				
7	62	50	43	37	58	48	41	36	43	37	33	38	34	30	34	30	28	25				
8	58	46	39	33	55	44	37	32	40	34	30	35	31	27	32	28	25	23				
9	54	42	35	30	51	40	34	29	37	31	27	33	28	25	29	26	23	21				
10	51	39	32	27	48	37	31	27	34	29	25	31	26	23	28	24	21	19				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	39539	39539	39539	39539	39539
5°	50004	47195	39892	32148	29542
10°	50489	52017	39628	25626	22394
15°	38028	48294	39357	21701	18937
20°	26496	39079	38854	18978	17202
25°	20203	30053	37998	17461	16134
30°	17478	23876	36630	16388	15275
35°	16216	20159	35053	15612	14671
40°	15352	18083	32836	14873	14466
45°	14842	16736	30020	14297	14375
50°	14585	15671	26688	13772	14301
55°	14043	14891	23415	13275	14362
60°	13541	14053	20182	12807	14127
65°	12720	13262	17408	12307	13848
70°	11748	12258	14807	11481	13036
75°	10634	10988	12689	10667	11911
80°	8771	9614	10036	9298	10036
85°	6941	7793	7373	7892	8003

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 34276 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	347.3	3.7
10°-20°	863.9	9.1
20°-30°	1022.9	10.8
30°-40°	1028.5	10.9
40°-50°	943.7	10.0
50°-60°	778.9	8.2
60°-70°	551.0	5.8
70°-80°	294.1	3.1
80°-90°	77.0	0.8
90°-100°	41.1	0.4
100°-110°	198.9	2.1
110°-120°	487.5	5.2
120°-130°	618.9	6.5
130°-140°	661.2	7.0
140°-150°	618.3	6.5
150°-160°	498.7	5.3
160°-170°	321.9	3.4
170°-180°	110.9	1.2
0°-30°	2234.1	23.6
0°-40°	3262.7	34.5
0°-60°	4985.2	52.7
0°-90°	5907.2	62.4
90°-120°	727.6	7.7
90°-150°	2626.0	27.7
90°-180°	3558.0	37.6
0°-180°	9464.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3673	3673	3673	3673	3673	
5°	4628	4368	3692	2975	2734	441
15°	3412	4334	3532	1947	1699	943
25°	1701	2530	3199	1470	1358	803
35°	1234	1534	2668	1188	1116	775
45°	975	1099	1972	939	944	755
55°	748	794	1248	707	765	670
65°	499	521	684	483	544	496
75°	256	264	305	256	286	269
85°	56	63	60	64	65	63
90°	26	21	1	21	26	15
95°	33	27	53	27	33	28
105°	38	190	258	190	38	79
115°	510	498	485	498	510	479
125°	697	694	683	694	697	623
135°	859	859	850	859	859	663
145°	991	989	982	989	991	619
155°	1079	1080	1081	1080	1079	498
165°	1138	1137	1140	1137	1138	321
175°	1163	1164	1167	1164	1163	111
180°	1167	1167	1167	1167	1167	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3
2.5°	4140.3	4136.1	4131.8	4110.5	4089.2	4079.0	4068.7	4038.0	4007.4	3973.3	3939.2
5°	4627.8	4639.7	4651.7	4638.0	4624.4	4582.6	4540.9	4485.5	4430.1	4367.9	4305.7
7.5°	4852.8	4859.6	4866.5	4857.9	4849.4	4838.3	4827.2	4777.8	4728.4	4664.5	4600.5
10°	4619.3	4634.6	4650.0	4683.2	4716.5	4754.0	4791.5	4784.6	4777.8	4759.1	4740.3
12.5°	4106.2	4125.0	4143.7	4210.2	4276.7	4361.9	4447.1	4520.4	4593.7	4644.9	4696.0
15°	3412.5	3464.5	3516.5	3577.0	3637.5	3762.8	3888.0	4042.3	4196.6	4333.8	4471.0
17.5°	2810.8	2830.4	2850.0	2914.8	2979.5	3137.2	3294.9	3473.0	3651.1	3878.7	4106.2
20°	2313.1	2331.0	2348.9	2434.1	2519.3	2642.9	2766.5	2966.7	3167.0	3411.6	3656.2
22.5°	1943.2	1971.3	1999.4	2047.1	2094.9	2213.3	2331.8	2509.9	2688.1	2958.2	3228.4
25°	1701.1	1721.6	1742.0	1771.0	1800.0	1894.6	1989.2	2135.8	2282.4	2530.4	2778.4
27.5°	1535.8	1544.3	1552.8	1581.8	1610.8	1672.2	1733.5	1859.6	1985.8	2196.3	2406.8
30°	1406.2	1412.2	1418.2	1443.7	1469.3	1511.1	1552.8	1644.0	1735.2	1921.0	2106.8
32.5°	1315.9	1320.2	1324.4	1344.0	1363.6	1393.5	1423.3	1489.8	1556.2	1709.7	1863.1
35°	1234.1	1236.6	1239.2	1253.7	1268.2	1290.3	1312.5	1362.8	1413.1	1534.1	1655.1
37.5°	1162.5	1165.9	1169.3	1177.8	1186.4	1206.0	1225.6	1265.6	1305.7	1398.6	1491.5
40°	1092.6	1098.6	1104.5	1110.5	1116.5	1132.7	1148.9	1179.5	1210.2	1286.9	1363.6
42.5°	1032.9	1038.9	1044.9	1047.4	1050.0	1059.4	1068.7	1096.9	1125.0	1182.1	1239.2
45°	975.0	977.6	980.1	982.7	985.2	992.9	1000.6	1025.3	1050.0	1099.4	1148.9
47.5°	922.2	922.2	922.2	923.9	925.6	932.4	939.2	957.1	975.0	1013.3	1051.7
50°	871.0	871.0	871.0	868.5	865.9	870.2	874.4	888.1	901.7	935.8	969.9
52.5°	809.7	809.7	809.7	810.5	811.4	811.4	811.4	823.3	835.2	865.9	896.6
55°	748.3	751.7	755.1	752.6	750.0	751.7	753.4	761.1	768.7	793.5	818.2
57.5°	686.9	688.6	690.3	689.5	688.6	689.5	690.3	697.2	704.0	722.7	741.5
60°	629.0	629.0	629.0	627.3	625.6	627.3	629.0	632.4	635.8	652.8	669.9
62.5°	564.2	565.1	565.9	566.8	567.6	565.9	564.2	568.5	572.7	585.5	598.3
65°	499.4	500.3	501.1	503.7	506.2	504.5	502.8	507.1	511.4	520.7	530.1
67.5°	441.5	439.8	438.1	438.9	439.8	442.3	444.9	445.7	446.6	456.8	467.0
70°	373.3	375.0	376.7	375.9	375.0	375.9	376.7	379.3	381.8	389.5	397.2
72.5°	311.9	312.8	313.6	313.6	313.6	315.3	317.0	319.6	322.2	326.4	330.7
75°	255.7	255.7	255.7	257.4	259.1	259.9	260.8	260.8	260.8	264.2	267.6
77.5°	194.3	198.6	202.8	202.0	201.1	202.8	204.5	207.1	209.7	211.4	213.1
80°	141.5	141.5	141.5	142.3	143.2	145.7	148.3	150.0	151.7	155.1	158.5
82.5°	90.3	91.2	92.0	94.6	97.2	98.9	100.6	103.1	105.7	105.7	105.7
85°	56.2	54.5	52.8	54.5	56.2	58.0	59.7	60.5	61.4	63.1	64.8
87.5°	27.3	27.3	27.3	27.3	27.3	28.1	29.0	29.0	29.0	29.0	29.0
90°	26.0	25.6	25.2	24.9	24.5	23.9	23.1	22.3	21.6	20.8	18.3
92.5°	29.5	29.3	29.1	28.9	28.7	27.9	26.6	25.2	23.9	22.5	20.8
95°	32.9	32.9	32.9	32.9	32.9	32.3	30.9	29.6	28.2	26.9	24.8
97.5°	35.5	35.4	35.2	35.0	34.8	33.9	32.4	30.8	29.3	27.7	37.6
100°	36.4	36.2	36.0	35.8	35.6	34.8	33.2	31.7	30.2	28.6	58.7
102.5°	37.3	36.9	36.5	36.1	35.7	38.7	45.1	51.4	57.8	64.2	97.7
105°	38.1	37.8	37.4	37.0	36.6	53.5	87.6	121.7	155.8	189.9	207.2
107.5°	90.2	115.4	140.6	165.9	191.1	218.6	248.3	277.9	307.6	337.3	334.4
110°	238.4	266.0	293.5	321.1	348.6	365.6	371.9	378.3	384.7	391.0	388.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	451.7	452.1	452.5	452.9	453.3	452.6	450.8	449.1	447.4	445.6	443.5
115°	509.8	509.0	508.3	507.5	506.7	505.4	503.4	501.5	499.6	497.7	495.9
117.5°	556.6	556.4	556.2	556.0	555.8	555.0	553.4	551.9	550.4	548.8	547.9
120°	605.2	605.2	605.2	605.2	605.2	604.4	602.9	601.3	599.8	598.2	597.7
122.5°	652.9	652.7	652.5	652.3	652.1	651.5	650.5	649.6	648.6	647.7	646.9
125°	697.1	696.7	696.3	695.9	695.5	695.1	694.8	694.4	694.0	693.6	692.8
127.5°	740.4	740.8	741.2	741.6	742.0	741.9	741.3	740.7	740.1	739.6	738.6
130°	782.0	782.4	782.8	783.2	783.6	783.4	782.6	781.9	781.1	780.3	779.5
132.5°	820.2	820.8	821.3	821.9	822.5	822.4	821.6	820.9	820.1	819.3	818.7
135°	859.2	859.8	860.4	860.9	861.5	861.5	860.9	860.4	859.8	859.2	858.4
137.5°	896.5	896.9	897.3	897.6	898.0	897.7	896.8	895.8	894.9	893.9	893.5
140°	929.4	929.8	930.2	930.6	931.0	930.8	930.0	929.2	928.5	927.7	927.1
142.5°	959.8	960.4	960.9	961.5	962.1	962.1	961.5	960.9	960.4	959.8	959.2
145°	991.0	991.0	991.0	991.0	991.0	990.8	990.4	990.0	989.6	989.3	988.9
147.5°	1013.5	1014.5	1015.5	1016.4	1017.4	1017.7	1017.3	1016.9	1016.5	1016.1	1015.8
150°	1039.5	1040.1	1040.7	1041.3	1041.9	1042.0	1041.6	1041.2	1040.8	1040.4	1040.0
152.5°	1060.4	1061.3	1062.3	1063.2	1064.2	1064.3	1063.5	1062.8	1062.0	1061.2	1061.0
155°	1079.4	1080.6	1081.7	1082.9	1084.1	1084.1	1083.2	1082.2	1081.3	1080.3	1080.1
157.5°	1095.9	1097.4	1099.0	1100.5	1102.1	1102.3	1101.1	1099.9	1098.8	1097.6	1097.8
160°	1111.5	1112.9	1114.2	1115.6	1116.9	1117.0	1115.8	1114.7	1113.5	1112.4	1112.6
162.5°	1126.2	1127.4	1128.6	1129.7	1130.9	1130.8	1129.4	1128.1	1126.7	1125.4	1125.6
165°	1137.5	1138.9	1140.2	1141.6	1142.9	1142.8	1141.3	1139.7	1138.2	1136.7	1136.8
167.5°	1146.2	1147.7	1149.3	1150.8	1152.4	1152.4	1150.8	1149.3	1147.7	1146.2	1146.2
170°	1154.0	1155.5	1157.1	1158.6	1160.2	1160.2	1158.6	1157.1	1155.5	1154.0	1154.0
172.5°	1158.3	1160.1	1161.8	1163.5	1165.3	1165.4	1163.8	1162.3	1160.7	1159.2	1159.0
175°	1162.7	1164.2	1165.7	1167.3	1168.8	1168.9	1167.6	1166.2	1164.9	1163.5	1163.3
177.5°	1163.5	1165.5	1167.4	1169.3	1171.2	1171.4	1169.9	1168.3	1166.8	1165.3	1165.1
180°	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3
2.5°	3929.0	3918.7	3881.2	3843.7	3801.1	3758.5	3727.0	3695.4	3648.6	3601.7	3563.3
5°	4257.9	4210.2	4130.9	4051.7	3944.3	3836.9	3764.5	3692.0	3594.9	3497.7	3420.2
7.5°	4518.7	4436.9	4326.1	4215.3	4074.7	3934.1	3801.1	3668.2	3519.9	3371.6	3250.6
10°	4684.9	4629.5	4501.7	4373.8	4185.5	3997.1	3811.3	3625.6	3434.6	3243.7	3083.5
12.5°	4701.1	4706.2	4588.6	4471.0	4257.9	4044.9	3819.0	3593.2	3352.8	3112.5	2925.8
15°	4558.8	4646.6	4581.8	4517.0	4302.3	4087.5	3809.6	3531.8	3254.8	2977.8	2762.2
17.5°	4294.6	4482.9	4492.3	4501.7	4286.9	4072.1	3764.5	3456.8	3143.2	2829.5	2602.8
20°	3934.1	4211.9	4307.4	4402.8	4228.1	4053.4	3722.7	3392.0	3040.9	2689.8	2452.0
22.5°	3565.9	3903.4	4078.1	4252.8	4123.3	3993.7	3641.7	3289.8	2919.0	2548.3	2307.1
25°	3146.6	3514.8	3783.2	4051.7	3972.4	3893.2	3546.3	3199.4	2804.8	2410.2	2163.9
27.5°	2781.0	3155.1	3479.0	3802.8	3785.8	3768.7	3424.4	3080.1	2676.1	2272.1	2034.4
30°	2455.4	2804.0	3166.2	3528.4	3570.2	3611.9	3279.5	2947.1	2542.3	2137.5	1908.2
32.5°	2167.3	2471.6	2860.2	3248.8	3330.7	3412.5	3112.5	2812.5	2411.9	2011.4	1790.6
35°	1931.2	2207.4	2596.0	2984.6	3086.9	3189.2	2928.4	2667.6	2277.3	1886.9	1676.4
37.5°	1722.4	1953.4	2332.7	2711.9	2837.2	2962.5	2729.0	2495.4	2129.8	1764.2	1570.7
40°	1549.4	1735.2	2083.8	2432.4	2577.3	2722.1	2529.5	2336.9	1990.0	1643.2	1465.0
42.5°	1404.5	1569.9	1886.1	2202.3	2341.2	2480.1	2317.3	2154.5	1846.0	1537.5	1374.7
45°	1281.0	1413.1	1700.3	1987.5	2119.6	2251.7	2111.9	1972.1	1700.3	1428.4	1276.7
47.5°	1165.1	1278.4	1523.9	1769.3	1886.9	2004.5	1895.4	1786.4	1556.2	1326.1	1188.9
50°	1061.1	1152.3	1367.0	1581.8	1684.1	1786.4	1690.0	1593.7	1404.5	1215.3	1096.0
52.5°	970.7	1044.9	1224.7	1404.5	1492.3	1580.1	1497.4	1414.8	1264.8	1114.8	1010.8
55°	881.2	944.3	1100.3	1256.2	1315.9	1375.6	1311.6	1247.7	1126.7	1005.7	917.9
57.5°	797.7	854.0	981.8	1109.7	1155.7	1201.7	1143.7	1085.8	994.6	903.4	830.1
60°	715.9	761.9	868.5	975.0	1003.1	1031.2	984.4	937.5	873.6	809.7	744.0
62.5°	640.1	681.8	761.1	840.3	859.1	877.8	842.0	806.2	757.7	709.1	658.0
65°	561.6	593.2	658.0	722.7	734.7	746.6	715.1	683.5	646.9	610.2	572.7
67.5°	489.2	511.4	564.2	617.0	617.9	618.7	593.2	567.6	547.2	526.7	496.9
70°	418.5	439.8	474.7	509.7	510.5	511.4	490.9	470.5	455.1	439.8	417.6
72.5°	346.0	361.4	387.8	414.2	412.5	410.8	398.0	385.2	373.3	361.4	345.2
75°	280.4	293.2	311.1	329.0	323.9	318.7	311.9	305.1	294.9	284.7	274.4
77.5°	220.7	228.4	238.6	248.9	245.5	242.0	236.1	230.1	222.4	214.8	210.5
80°	161.9	165.3	172.2	179.0	177.3	175.6	168.7	161.9	160.2	158.5	152.6
82.5°	109.9	114.2	115.9	117.6	116.8	115.9	110.8	105.7	104.0	102.3	101.4
85°	65.6	66.5	67.3	68.2	65.6	63.1	61.4	59.7	59.7	59.7	58.8
87.5°	29.8	30.7	30.7	30.7	29.8	29.0	27.3	25.6	26.4	27.3	27.3
90°	15.8	13.3	10.8	8.6	6.6	4.7	2.8	0.9	2.8	4.7	6.6
92.5°	19.1	17.3	15.6	15.3	16.5	17.6	18.8	19.9	18.8	17.6	16.5
95°	22.6	20.5	18.4	21.3	29.2	37.1	45.0	52.9	45.0	37.1	29.2
97.5°	47.4	57.2	67.0	74.7	80.1	85.4	90.8	96.2	90.8	85.4	80.1
100°	88.7	118.8	148.8	161.9	158.1	154.2	150.4	146.5	150.4	154.2	158.1
102.5°	131.2	164.7	198.3	213.8	211.3	208.8	206.3	203.7	206.3	208.8	211.3
105°	224.6	241.9	259.2	266.8	264.7	262.6	260.5	258.4	260.5	262.6	264.7
107.5°	331.5	328.6	325.7	323.4	321.7	319.9	318.2	316.5	318.2	319.9	321.7
110°	386.8	384.7	382.5	380.7	379.2	377.6	376.1	374.5	376.1	377.6	379.2



TEST NUMBER: P831297

CATALOG NUMBER: S123DIP-S1165D805U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	441.4	439.3	437.2	435.4	434.1	432.7	431.4	430.0	431.4	432.7	434.1
115°	494.2	492.5	490.7	489.3	488.1	487.0	485.8	484.7	485.8	487.0	488.1
117.5°	546.9	545.9	545.0	543.8	542.5	541.1	539.8	538.4	539.8	541.1	542.5
120°	597.1	596.5	595.9	594.8	593.0	591.3	589.6	587.8	589.6	591.3	593.0
122.5°	646.1	645.3	644.6	643.5	642.2	640.8	639.5	638.1	639.5	640.8	642.2
125°	692.1	691.3	690.5	689.4	687.8	686.3	684.7	683.2	684.7	686.3	687.8
127.5°	737.6	736.7	735.7	734.5	732.9	731.4	729.8	728.3	729.8	731.4	732.9
130°	778.8	778.0	777.2	776.1	774.5	773.0	771.4	769.9	771.4	773.0	774.5
132.5°	818.2	817.6	817.0	816.0	814.4	812.9	811.3	809.8	811.3	812.9	814.4
135°	857.7	856.9	856.1	855.2	854.0	852.8	851.7	850.5	851.7	852.8	854.0
137.5°	893.1	892.7	892.3	891.4	889.8	888.3	886.8	885.2	886.8	888.3	889.8
140°	926.5	926.0	925.4	924.5	923.4	922.2	921.1	919.9	921.1	922.2	923.4
142.5°	958.6	958.0	957.5	956.6	955.4	954.3	953.1	952.0	953.1	954.3	955.4
145°	988.5	988.1	987.7	986.9	985.5	984.2	982.8	981.5	982.8	984.2	985.5
147.5°	1015.4	1015.0	1014.6	1013.9	1013.0	1012.0	1011.0	1010.1	1011.0	1012.0	1013.0
150°	1039.6	1039.3	1038.9	1038.4	1037.8	1037.2	1036.7	1036.1	1036.7	1037.2	1037.8
152.5°	1060.8	1060.6	1060.4	1060.3	1060.1	1059.9	1059.7	1059.5	1059.7	1059.9	1060.1
155°	1079.9	1079.7	1079.5	1079.6	1080.0	1080.4	1080.8	1081.2	1080.8	1080.4	1080.0
157.5°	1098.0	1098.2	1098.4	1098.5	1098.5	1098.5	1098.5	1098.5	1098.5	1098.5	1098.5
160°	1112.8	1113.0	1113.1	1113.3	1113.5	1113.7	1113.9	1114.1	1113.9	1113.7	1113.5
162.5°	1125.8	1126.0	1126.1	1126.5	1127.1	1127.7	1128.3	1128.8	1128.3	1127.7	1127.1
165°	1137.0	1137.2	1137.4	1137.8	1138.4	1139.0	1139.5	1140.1	1139.5	1139.0	1138.4
167.5°	1146.2	1146.2	1146.2	1146.6	1147.3	1148.1	1148.9	1149.7	1148.9	1148.1	1147.3
170°	1154.0	1154.0	1154.0	1154.4	1155.1	1155.9	1156.7	1157.5	1156.7	1155.9	1155.1
172.5°	1158.8	1158.6	1158.4	1158.8	1159.8	1160.7	1161.7	1162.7	1161.7	1160.7	1159.8
175°	1163.1	1162.9	1162.8	1163.1	1164.1	1165.1	1166.0	1167.0	1166.0	1165.1	1164.1
177.5°	1164.9	1164.7	1164.5	1164.9	1165.8	1166.8	1167.8	1168.7	1167.8	1166.8	1165.8
180°	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0



TEST NUMBER: P831297

CATALOG NUMBER: S123DIP-S1165D805U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3	3673.3
2.5°	3525.0	3491.7	3458.5	3432.9	3407.4	3363.9	3320.4	3310.2	3300.0	3285.5	3271.0
5°	3342.6	3260.8	3179.0	3105.7	3032.4	2975.3	2918.2	2880.7	2843.2	2815.9	2788.6
7.5°	3129.5	3006.8	2884.1	2797.1	2710.2	2627.5	2544.9	2518.5	2492.0	2456.2	2420.4
10°	2923.3	2787.8	2652.3	2538.9	2425.6	2344.6	2263.6	2231.2	2198.9	2153.7	2108.5
12.5°	2739.2	2590.9	2442.6	2328.4	2214.2	2135.8	2057.4	2010.5	1963.6	1938.1	1912.5
15°	2546.6	2388.1	2229.5	2123.9	2018.2	1947.4	1876.7	1835.8	1794.9	1770.2	1745.4
17.5°	2376.1	2219.3	2062.5	1961.1	1859.6	1794.9	1730.1	1694.3	1658.5	1639.8	1621.0
20°	2214.2	2060.8	1907.4	1808.5	1709.7	1656.8	1604.0	1581.0	1557.9	1542.6	1527.3
22.5°	2065.9	1915.0	1764.2	1679.8	1595.4	1552.8	1510.2	1494.0	1477.8	1465.0	1452.3
25°	1917.6	1782.9	1648.3	1576.7	1505.1	1470.2	1435.2	1419.0	1402.8	1390.0	1377.3
27.5°	1796.6	1667.9	1539.2	1477.8	1416.5	1389.2	1361.9	1349.1	1336.4	1324.4	1312.5
30°	1679.0	1563.9	1448.9	1396.0	1343.2	1318.5	1293.7	1281.0	1268.2	1257.1	1246.0
32.5°	1569.9	1471.0	1372.2	1323.6	1275.0	1254.5	1234.1	1218.7	1203.4	1194.9	1186.4
35°	1465.9	1377.3	1288.6	1248.6	1208.5	1188.1	1167.6	1154.8	1142.0	1135.2	1128.4
37.5°	1377.3	1298.0	1218.7	1180.4	1142.0	1122.4	1102.8	1091.8	1080.7	1078.1	1075.6
40°	1286.9	1218.7	1150.6	1113.1	1075.6	1058.5	1041.5	1034.7	1027.8	1026.1	1024.4
42.5°	1211.9	1145.4	1079.0	1044.9	1010.8	996.3	981.8	978.4	975.0	977.6	980.1
45°	1125.0	1069.6	1014.2	982.7	951.1	939.2	927.3	924.7	922.2	927.3	932.4
47.5°	1051.7	1000.6	949.4	919.6	889.8	881.2	872.7	871.9	871.0	877.8	884.7
50°	976.7	927.3	877.8	854.0	830.1	822.4	814.8	817.3	819.9	831.0	842.0
52.5°	906.8	860.8	814.8	792.6	770.5	765.3	760.2	766.2	772.2	784.1	796.0
55°	830.1	788.3	746.6	729.5	712.5	707.4	702.3	714.2	726.1	737.2	748.3
57.5°	756.8	720.2	683.5	668.2	652.8	652.0	651.1	662.2	673.3	685.2	697.2
60°	678.4	647.7	617.0	605.1	593.2	594.9	596.6	609.4	622.2	631.5	640.9
62.5°	606.8	581.2	555.7	544.6	533.5	537.8	542.0	554.8	567.6	578.7	589.8
65°	535.2	513.9	492.6	484.9	477.3	483.2	489.2	500.3	511.4	519.0	526.7
67.5°	467.0	449.1	431.2	425.3	419.3	425.3	431.2	442.3	453.4	461.1	468.7
70°	395.5	381.0	366.5	362.2	358.0	364.8	371.6	381.0	390.3	398.0	405.7
72.5°	329.0	317.9	306.8	306.0	305.1	311.1	317.0	326.4	335.8	340.9	346.0
75°	264.2	258.2	252.3	251.4	250.6	256.5	262.5	267.6	272.7	277.0	281.2
77.5°	206.2	201.1	196.0	196.9	197.7	202.0	206.2	211.4	216.5	219.0	221.6
80°	146.6	144.9	143.2	144.9	146.6	150.0	153.4	156.8	160.2	161.9	163.6
82.5°	100.6	98.9	97.2	99.7	102.3	104.8	107.4	109.9	112.5	113.4	114.2
85°	58.0	60.5	63.1	63.1	63.1	63.9	64.8	65.6	66.5	65.6	64.8
87.5°	27.3	28.1	29.0	29.0	29.0	29.8	30.7	30.7	30.7	29.8	29.0
90°	8.6	10.8	13.3	15.8	18.3	20.8	21.6	22.3	23.1	23.9	24.5
92.5°	15.3	15.6	17.3	19.1	20.8	22.5	23.9	25.2	26.6	27.9	28.7
95°	21.3	18.4	20.5	22.6	24.8	26.9	28.2	29.6	30.9	32.3	32.9
97.5°	74.7	67.0	57.2	47.4	37.6	27.7	29.3	30.8	32.4	33.9	34.8
100°	161.9	148.8	118.8	88.7	58.7	28.6	30.2	31.7	33.2	34.8	35.6
102.5°	213.8	198.3	164.7	131.2	97.7	64.2	57.8	51.4	45.1	38.7	35.7
105°	266.8	259.2	241.9	224.6	207.2	189.9	155.8	121.7	87.6	53.5	36.6
107.5°	323.4	325.7	328.6	331.5	334.4	337.3	307.6	277.9	248.3	218.6	191.1
110°	380.7	382.5	384.7	386.8	388.9	391.0	384.7	378.3	371.9	365.6	348.6



TEST NUMBER: P831297

CATALOG NUMBER: S123DIP-S1165D805U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	435.4	437.2	439.3	441.4	443.5	445.6	447.4	449.1	450.8	452.6	453.3
115°	489.3	490.7	492.5	494.2	495.9	497.7	499.6	501.5	503.4	505.4	506.7
117.5°	543.8	545.0	545.9	546.9	547.9	548.8	550.4	551.9	553.4	555.0	555.8
120°	594.8	595.9	596.5	597.1	597.7	598.2	599.8	601.3	602.9	604.4	605.2
122.5°	643.5	644.6	645.3	646.1	646.9	647.7	648.6	649.6	650.5	651.5	652.1
125°	689.4	690.5	691.3	692.1	692.8	693.6	694.0	694.4	694.8	695.1	695.5
127.5°	734.5	735.7	736.7	737.6	738.6	739.6	740.1	740.7	741.3	741.9	742.0
130°	776.1	777.2	778.0	778.8	779.5	780.3	781.1	781.9	782.6	783.4	783.6
132.5°	816.0	817.0	817.6	818.2	818.7	819.3	820.1	820.9	821.6	822.4	822.5
135°	855.2	856.1	856.9	857.7	858.4	859.2	859.8	860.4	860.9	861.5	861.5
137.5°	891.4	892.3	892.7	893.1	893.5	893.9	894.9	895.8	896.8	897.7	898.0
140°	924.5	925.4	926.0	926.5	927.1	927.7	928.5	929.2	930.0	930.8	931.0
142.5°	956.6	957.5	958.0	958.6	959.2	959.8	960.4	960.9	961.5	962.1	962.1
145°	986.9	987.7	988.1	988.5	988.9	989.3	989.6	990.0	990.4	990.8	991.0
147.5°	1013.9	1014.6	1015.0	1015.4	1015.8	1016.1	1016.5	1016.9	1017.3	1017.7	1017.4
150°	1038.4	1038.9	1039.3	1039.6	1040.0	1040.4	1040.8	1041.2	1041.6	1042.0	1041.9
152.5°	1060.3	1060.4	1060.6	1060.8	1061.0	1061.2	1062.0	1062.8	1063.5	1064.3	1064.2
155°	1079.6	1079.5	1079.7	1079.9	1080.1	1080.3	1081.3	1082.2	1083.2	1084.1	1084.1
157.5°	1098.5	1098.4	1098.2	1098.0	1097.8	1097.6	1098.8	1099.9	1101.1	1102.3	1102.1
160°	1113.3	1113.1	1113.0	1112.8	1112.6	1112.4	1113.5	1114.7	1115.8	1117.0	1116.9
162.5°	1126.5	1126.1	1126.0	1125.8	1125.6	1125.4	1126.7	1128.1	1129.4	1130.8	1130.9
165°	1137.8	1137.4	1137.2	1137.0	1136.8	1136.7	1138.2	1139.7	1141.3	1142.8	1142.9
167.5°	1146.6	1146.2	1146.2	1146.2	1146.2	1146.2	1147.7	1149.3	1150.8	1152.4	1152.4
170°	1154.4	1154.0	1154.0	1154.0	1154.0	1154.0	1155.5	1157.1	1158.6	1160.2	1160.2
172.5°	1158.8	1158.4	1158.6	1158.8	1159.0	1159.2	1160.7	1162.3	1163.8	1165.4	1165.3
175°	1163.1	1162.8	1162.9	1163.1	1163.3	1163.5	1164.9	1166.2	1167.6	1168.9	1168.8
177.5°	1164.9	1164.5	1164.7	1164.9	1165.1	1165.3	1166.8	1168.3	1169.9	1171.4	1171.2
180°	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0	1167.0



TEST NUMBER: P831297

CATALOG NUMBER: S123DIP-S1165D805U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3673.3	3673.3	3673.3	3673.3
2.5°	3265.0	3259.1	3235.2	3211.3
5°	2768.2	2747.7	2740.9	2734.1
7.5°	2418.7	2417.0	2381.2	2345.4
10°	2111.1	2113.6	2081.2	2048.9
12.5°	1891.2	1869.9	1867.3	1864.8
15°	1725.8	1706.2	1702.8	1699.4
17.5°	1609.1	1597.2	1593.7	1590.3
20°	1520.4	1513.6	1507.7	1501.7
22.5°	1443.7	1435.2	1430.1	1425.0
25°	1369.6	1361.9	1360.2	1358.5
27.5°	1303.1	1293.7	1293.7	1293.7
30°	1240.1	1234.1	1231.5	1229.0
32.5°	1181.2	1176.1	1176.1	1176.1
35°	1125.8	1123.3	1119.9	1116.5
37.5°	1075.6	1075.6	1073.9	1072.2
40°	1027.0	1029.5	1029.5	1029.5
42.5°	982.7	985.2	985.2	985.2
45°	936.6	940.9	942.6	944.3
47.5°	891.5	898.3	900.0	901.7
50°	847.2	852.3	853.1	854.0
52.5°	802.0	808.0	812.2	816.5
55°	754.3	760.2	762.8	765.3
57.5°	703.1	709.1	709.9	710.8
60°	646.9	652.8	654.5	656.2
62.5°	593.2	596.6	598.3	600.0
65°	531.8	536.9	540.3	543.7
67.5°	473.0	477.3	477.3	477.3
70°	407.4	409.1	411.6	414.2
72.5°	346.9	347.7	347.7	347.7
75°	283.0	284.7	285.5	286.4
77.5°	222.4	223.3	223.3	223.3
80°	162.8	161.9	161.9	161.9
82.5°	111.6	109.1	109.1	109.1
85°	63.9	63.1	63.9	64.8
87.5°	29.0	29.0	29.0	29.0
90°	24.9	25.2	25.6	26.0
92.5°	28.9	29.1	29.3	29.5
95°	32.9	32.9	32.9	32.9
97.5°	35.0	35.2	35.4	35.5
100°	35.8	36.0	36.2	36.4
102.5°	36.1	36.5	36.9	37.3
105°	37.0	37.4	37.8	38.1
107.5°	165.9	140.6	115.4	90.2
110°	321.1	293.5	266.0	238.4



TEST NUMBER: P831297

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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	452.9	452.5	452.1	451.7
115°	507.5	508.3	509.0	509.8
117.5°	556.0	556.2	556.4	556.6
120°	605.2	605.2	605.2	605.2
122.5°	652.3	652.5	652.7	652.9
125°	695.9	696.3	696.7	697.1
127.5°	741.6	741.2	740.8	740.4
130°	783.2	782.8	782.4	782.0
132.5°	821.9	821.3	820.8	820.2
135°	860.9	860.4	859.8	859.2
137.5°	897.6	897.3	896.9	896.5
140°	930.6	930.2	929.8	929.4
142.5°	961.5	960.9	960.4	959.8
145°	991.0	991.0	991.0	991.0
147.5°	1016.4	1015.5	1014.5	1013.5
150°	1041.3	1040.7	1040.1	1039.5
152.5°	1063.2	1062.3	1061.3	1060.4
155°	1082.9	1081.7	1080.6	1079.4
157.5°	1100.5	1099.0	1097.4	1095.9
160°	1115.6	1114.2	1112.9	1111.5
162.5°	1129.7	1128.6	1127.4	1126.2
165°	1141.6	1140.2	1138.9	1137.5
167.5°	1150.8	1149.3	1147.7	1146.2
170°	1158.6	1157.1	1155.5	1154.0
172.5°	1163.5	1161.8	1160.1	1158.3
175°	1167.3	1165.7	1164.2	1162.7
177.5°	1169.3	1167.4	1165.5	1163.5
180°	1167.0	1167.0	1167.0	1167.0



TEST NUMBER: P831297

CATALOG NUMBER: S123DIP-S1165D805U850-4F0-1E-UDD-G

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	17.43	18.37	18.28	19.24	20.32	19.67	20.60	20.52	21.47	22.56
	3H	19.09	19.92	19.95	20.80	21.91	21.10	21.94	21.96	22.81	23.93
	4H	19.67	20.46	20.55	21.34	22.46	21.55	22.34	22.43	23.23	24.35
	6H	20.04	20.77	20.93	21.66	22.80	21.83	22.56	22.72	23.45	24.59
	8H	20.14	20.83	21.04	21.74	22.87	21.90	22.59	22.80	23.50	24.63
	12H	20.19	20.85	21.09	21.75	22.91	21.92	22.58	22.82	23.48	24.64
4H	2H	18.02	18.81	18.90	19.69	20.81	19.84	20.63	20.73	21.52	22.64
	3H	19.85	20.51	20.75	21.43	22.56	21.47	22.13	22.36	23.04	24.18
	4H	20.55	21.15	21.46	22.06	23.23	22.05	22.65	22.96	23.56	24.73
	6H	21.03	21.55	21.95	22.48	23.65	22.46	22.98	23.38	23.91	25.08
	8H	21.17	21.65	22.09	22.58	23.76	22.58	23.06	23.50	23.99	25.17
	12H	21.24	21.67	22.18	22.62	23.81	22.62	23.06	23.57	24.01	25.19
8H	4H	20.82	21.31	21.75	22.24	23.41	22.16	22.65	23.09	23.58	24.75
	6H	21.42	21.81	22.36	22.79	23.96	22.67	23.07	23.62	24.04	25.22
	8H	21.62	21.98	22.58	22.94	24.13	22.85	23.20	23.81	24.16	25.36
	12H	21.75	22.06	22.71	23.01	24.26	22.96	23.26	23.92	24.22	25.46
12H	4H	20.83	21.26	21.77	22.21	23.39	22.14	22.58	23.08	23.52	24.71
	6H	21.47	21.82	22.43	22.78	23.98	22.68	23.04	23.64	24.00	25.19
	8H	21.70	22.01	22.67	22.97	24.21	22.89	23.20	23.85	24.15	25.40