

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: P831078

Luminaire Tested: S123DIP-S1000D1195U840-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831078
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-S1000D1195U840-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

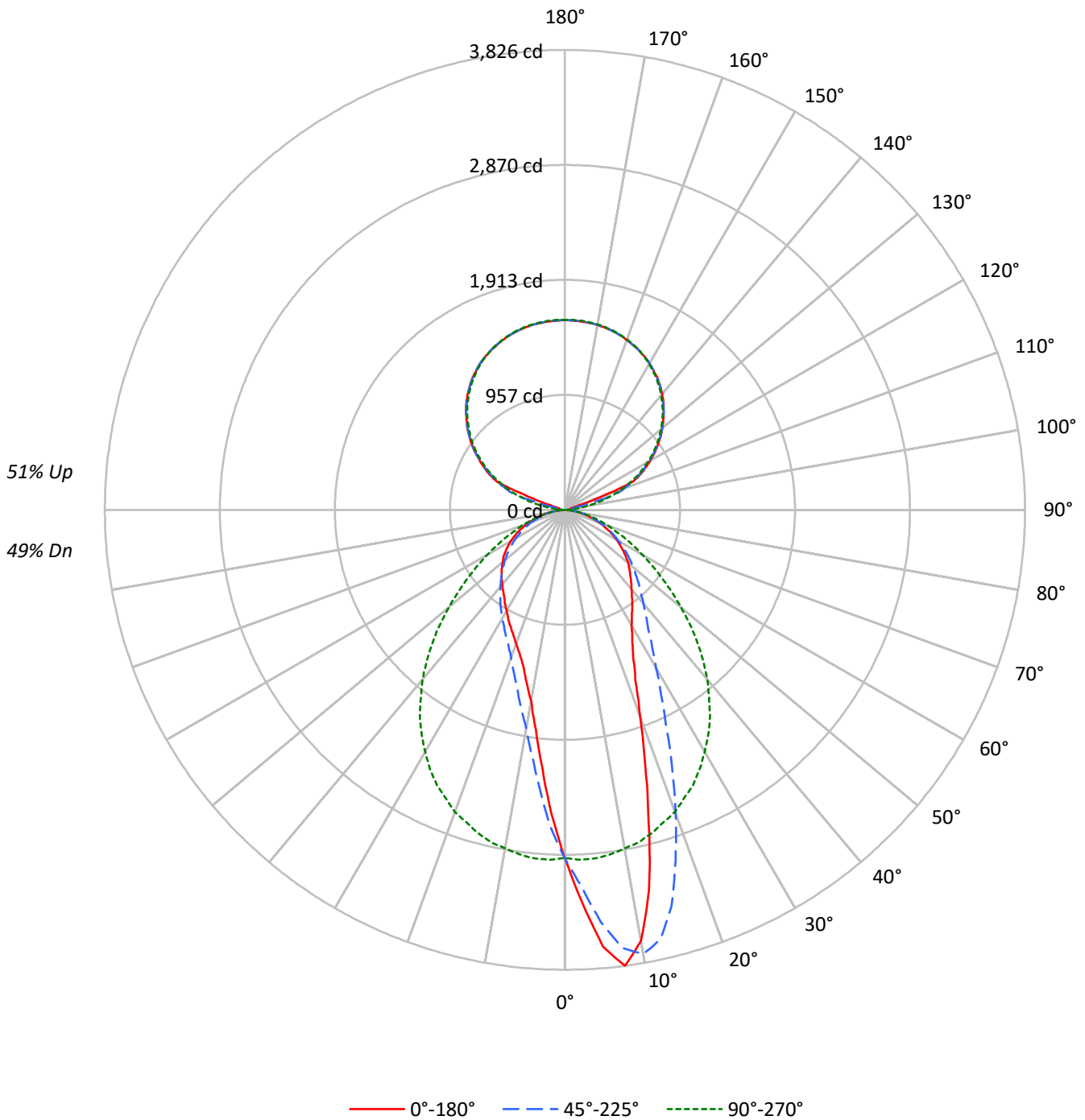
Lumens per Lamp: N/A
Luminaire Lumens: 9473.0 lumens
Efficiency: N/A
Efficacy: 143.3 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 66.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49				
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48	42				
2	90	83	77	72	83	77	71	67	65	61	58	54	52	49	44	43	41	36				
3	82	73	66	61	76	68	62	57	58	53	50	49	45	42	40	38	36	32				
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	36	33	31	28				
5	70	59	51	45	64	54	48	42	47	41	37	40	36	33	33	30	28	25				
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	30	27	25	22				
7	60	48	40	35	55	45	38	33	39	33	29	33	29	26	28	25	22	20				
8	56	44	36	31	51	41	34	30	36	30	26	31	26	23	26	23	20	18				
9	52	40	33	28	48	38	31	27	33	28	24	28	24	21	24	21	19	17				
10	49	37	30	25	45	35	28	24	30	25	22	26	22	20	22	19	17	15				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	31174	31174	31174	31174	31174
5°	39425	37211	31453	25348	23292
10°	39808	41013	31244	20205	17656
15°	29983	38078	31032	17111	14931
20°	20890	30812	30636	14963	13562
25°	15930	23695	29960	13767	12721
30°	13781	18825	28881	12920	12044
35°	12786	15895	27638	12309	11567
40°	12105	14258	25891	11727	11405
45°	11702	13195	23669	11272	11333
50°	11501	12355	21043	10860	11275
55°	11072	11740	18462	10466	11324
60°	10676	11080	15913	10097	11138
65°	10030	10458	13726	9704	10919
70°	9262	9665	11673	9051	10279
75°	8384	8663	10006	8413	9391
80°	6912	7581	7916	7333	7916
85°	5483	6138	5805	6225	6311

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 27026 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.8	2.9
10°-20°	681.2	7.2
20°-30°	806.5	8.5
30°-40°	811.0	8.6
40°-50°	744.0	7.9
50°-60°	614.1	6.5
60°-70°	434.4	4.6
70°-80°	231.9	2.4
80°-90°	62.0	0.7
90°-100°	55.7	0.6
100°-110°	269.2	2.8
110°-120°	659.8	7.0
120°-130°	837.6	8.8
130°-140°	894.8	9.4
140°-150°	836.7	8.8
150°-160°	674.9	7.1
160°-170°	435.5	4.6
170°-180°	150.1	1.6
0°-30°	1761.5	18.6
0°-40°	2572.5	27.2
0°-60°	3930.6	41.5
0°-90°	4658.9	49.2
90°-120°	984.6	10.4
90°-150°	3553.7	37.5
90°-180°	4814.0	50.8
0°-180°	9473.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2896	2896	2896	2896	2896	
5°	3649	3444	2911	2346	2156	348
15°	2691	3417	2785	1536	1340	743
25°	1341	1995	2523	1159	1071	633
35°	973	1210	2103	937	880	611
45°	769	867	1555	740	744	595
55°	590	626	984	558	603	528
65°	394	411	539	381	429	391
75°	202	208	241	202	226	212
85°	44	50	47	50	51	50
90°	35	28	1	28	35	18
95°	45	36	72	36	45	37
105°	52	257	350	257	52	108
115°	690	674	656	674	690	649
125°	943	939	924	939	943	843
135°	1163	1163	1151	1163	1163	897
145°	1341	1339	1328	1339	1341	837
155°	1461	1462	1463	1462	1461	674
165°	1539	1538	1543	1538	1539	435
175°	1573	1574	1579	1574	1573	150
180°	1579	1579	1579	1579	1579	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2
2.5°	3264.4	3261.1	3257.7	3240.9	3224.1	3216.1	3208.0	3183.8	3159.6	3132.7	3105.9
5°	3648.8	3658.2	3667.6	3656.9	3646.1	3613.2	3580.3	3536.6	3492.9	3443.9	3394.8
7.5°	3826.2	3831.6	3837.0	3830.2	3823.5	3814.8	3806.1	3767.1	3728.1	3677.7	3627.3
10°	3642.1	3654.2	3666.3	3692.5	3718.7	3748.3	3777.8	3772.5	3767.1	3752.3	3737.5
12.5°	3237.6	3252.4	3267.1	3319.5	3372.0	3439.2	3506.4	3564.1	3621.9	3662.3	3702.6
15°	2690.6	2731.6	2772.6	2820.3	2868.0	2966.8	3065.5	3187.2	3308.8	3417.0	3525.2
17.5°	2216.2	2231.6	2247.1	2298.1	2349.2	2473.5	2597.8	2738.3	2878.7	3058.2	3237.6
20°	1823.7	1837.8	1852.0	1919.2	1986.4	2083.8	2181.2	2339.1	2497.1	2689.9	2882.8
22.5°	1532.1	1554.3	1576.4	1614.1	1651.7	1745.1	1838.5	1979.0	2119.4	2332.4	2545.4
25°	1341.3	1357.4	1373.5	1396.4	1419.2	1493.8	1568.4	1684.0	1799.5	1995.1	2190.6
27.5°	1210.9	1217.6	1224.3	1247.2	1270.0	1318.4	1366.8	1466.2	1565.7	1731.7	1897.7
30°	1108.8	1113.5	1118.2	1138.3	1158.5	1191.4	1224.3	1296.2	1368.1	1514.6	1661.1
32.5°	1037.5	1040.9	1044.2	1059.7	1075.2	1098.7	1122.2	1174.6	1227.0	1348.0	1468.9
35°	973.0	975.0	977.0	988.5	999.9	1017.4	1034.8	1074.5	1114.1	1209.6	1305.0
37.5°	916.6	919.3	921.9	928.7	935.4	950.8	966.3	997.9	1029.5	1102.7	1176.0
40°	861.5	866.2	870.9	875.6	880.3	893.1	905.8	930.0	954.2	1014.7	1075.2
42.5°	814.4	819.1	823.8	825.9	827.9	835.3	842.7	864.8	887.0	932.0	977.0
45°	768.7	770.8	772.8	774.8	776.8	782.8	788.9	808.4	827.9	866.8	905.8
47.5°	727.1	727.1	727.1	728.4	729.8	735.1	740.5	754.6	768.7	799.0	829.2
50°	686.8	686.8	686.8	684.7	682.7	686.1	689.4	700.2	710.9	737.8	764.7
52.5°	638.4	638.4	638.4	639.0	639.7	639.7	639.7	649.1	658.5	682.7	706.9
55°	590.0	592.7	595.4	593.4	591.3	592.7	594.0	600.1	606.1	625.6	645.1
57.5°	541.6	543.0	544.3	543.6	543.0	543.6	544.3	549.7	555.0	569.8	584.6
60°	495.9	495.9	495.9	494.6	493.2	494.6	495.9	498.6	501.3	514.7	528.2
62.5°	444.8	445.5	446.2	446.9	447.5	446.2	444.8	448.2	451.6	461.6	471.7
65°	393.8	394.4	395.1	397.1	399.2	397.8	396.5	399.8	403.2	410.6	418.0
67.5°	348.1	346.7	345.4	346.1	346.7	348.8	350.8	351.4	352.1	360.2	368.2
70°	294.3	295.7	297.0	296.3	295.7	296.3	297.0	299.0	301.0	307.1	313.1
72.5°	245.9	246.6	247.3	247.3	247.3	248.6	250.0	252.0	254.0	257.4	260.7
75°	201.6	201.6	201.6	202.9	204.3	205.0	205.6	205.6	205.6	208.3	211.0
77.5°	153.2	156.6	159.9	159.3	158.6	159.9	161.3	163.3	165.3	166.6	168.0
80°	111.5	111.5	111.5	112.2	112.9	114.9	116.9	118.3	119.6	122.3	125.0
82.5°	71.2	71.9	72.6	74.6	76.6	77.9	79.3	81.3	83.3	83.3	83.3
85°	44.4	43.0	41.7	43.0	44.4	45.7	47.0	47.7	48.4	49.7	51.1
87.5°	21.5	21.5	21.5	21.5	21.5	22.2	22.8	22.8	22.8	22.8	22.8
90°	35.2	34.7	34.2	33.6	33.1	32.3	31.3	30.2	29.2	28.2	24.8
92.5°	39.9	39.6	39.4	39.1	38.8	37.8	36.0	34.2	32.3	30.5	28.2
95°	44.6	44.6	44.6	44.6	44.6	43.7	41.8	40.0	38.2	36.4	33.5
97.5°	48.1	47.8	47.6	47.3	47.1	45.9	43.8	41.7	39.6	37.5	50.8
100°	49.3	49.0	48.8	48.5	48.2	47.1	45.0	42.9	40.8	38.7	79.4
102.5°	50.5	49.9	49.4	48.9	48.4	52.4	61.0	69.6	78.2	86.8	132.2
105°	51.6	51.1	50.6	50.1	49.5	72.4	118.5	164.6	210.8	256.9	280.4
107.5°	122.0	156.2	190.3	224.5	258.6	295.8	335.9	376.1	416.3	456.4	452.5
110°	322.6	359.9	397.2	434.5	471.8	494.7	503.3	511.9	520.5	529.1	526.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	611.3	611.8	612.3	612.8	613.4	612.4	610.1	607.8	605.4	603.1	600.2
115°	689.9	688.8	687.8	686.8	685.7	683.9	681.3	678.7	676.1	673.5	671.1
117.5°	753.2	753.0	752.7	752.5	752.2	751.0	748.9	746.9	744.8	742.7	741.4
120°	818.9	818.9	818.9	818.9	818.9	817.9	815.8	813.7	811.6	809.6	808.8
122.5°	883.5	883.2	883.0	882.7	882.4	881.6	880.3	879.0	877.7	876.4	875.4
125°	943.3	942.8	942.3	941.7	941.2	940.7	940.2	939.7	939.1	938.6	937.6
127.5°	1002.0	1002.5	1003.0	1003.5	1004.1	1003.9	1003.1	1002.4	1001.6	1000.8	999.5
130°	1058.3	1058.8	1059.3	1059.9	1060.4	1060.1	1059.1	1058.0	1057.0	1055.9	1054.9
132.5°	1109.9	1110.7	1111.5	1112.3	1113.0	1112.9	1111.9	1110.8	1109.8	1108.7	1108.0
135°	1162.7	1163.5	1164.3	1165.1	1165.8	1165.8	1165.1	1164.3	1163.5	1162.7	1161.7
137.5°	1213.2	1213.7	1214.2	1214.7	1215.2	1214.9	1213.6	1212.3	1210.9	1209.6	1209.1
140°	1257.7	1258.3	1258.8	1259.3	1259.8	1259.6	1258.5	1257.5	1256.4	1255.4	1254.6
142.5°	1298.8	1299.6	1300.4	1301.2	1301.9	1301.9	1301.2	1300.4	1299.6	1298.8	1298.0
145°	1341.0	1341.0	1341.0	1341.0	1341.0	1340.8	1340.3	1339.7	1339.2	1338.7	1338.2
147.5°	1371.6	1372.9	1374.2	1375.5	1376.8	1377.2	1376.6	1376.1	1375.6	1375.1	1374.6
150°	1406.8	1407.5	1408.3	1409.1	1409.9	1410.0	1409.5	1409.0	1408.4	1407.9	1407.4
152.5°	1434.9	1436.2	1437.5	1438.8	1440.1	1440.3	1439.2	1438.2	1437.1	1436.1	1435.8
155°	1460.7	1462.3	1463.9	1465.4	1467.0	1467.1	1465.8	1464.5	1463.2	1461.9	1461.6
157.5°	1483.0	1485.1	1487.2	1489.3	1491.4	1491.6	1490.1	1488.5	1486.9	1485.4	1485.6
160°	1504.1	1506.0	1507.8	1509.6	1511.4	1511.6	1510.0	1508.4	1506.9	1505.3	1505.6
162.5°	1524.1	1525.6	1527.2	1528.8	1530.3	1530.2	1528.4	1526.6	1524.7	1522.9	1523.2
165°	1539.3	1541.2	1543.0	1544.8	1546.6	1546.5	1544.4	1542.3	1540.2	1538.2	1538.4
167.5°	1551.1	1553.2	1555.2	1557.3	1559.4	1559.4	1557.3	1555.2	1553.2	1551.1	1551.1
170°	1561.6	1563.7	1565.8	1567.9	1570.0	1570.0	1567.9	1565.8	1563.7	1561.6	1561.6
172.5°	1567.5	1569.8	1572.2	1574.5	1576.9	1577.0	1574.9	1572.8	1570.8	1568.7	1568.4
175°	1573.4	1575.4	1577.5	1579.6	1581.7	1581.8	1580.0	1578.2	1576.4	1574.5	1574.3
177.5°	1574.5	1577.1	1579.7	1582.4	1585.0	1585.2	1583.1	1581.0	1579.0	1576.9	1576.6
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2
2.5°	3097.8	3089.7	3060.2	3030.6	2997.0	2963.4	2938.5	2913.7	2876.7	2839.8	2809.5
5°	3357.2	3319.5	3257.1	3194.6	3109.9	3025.2	2968.1	2911.0	2834.4	2757.8	2696.6
7.5°	3562.8	3498.3	3410.9	3323.6	3212.7	3101.8	2997.0	2892.2	2775.2	2658.3	2562.9
10°	3693.8	3650.2	3549.4	3448.6	3300.1	3151.6	3005.1	2858.6	2708.1	2557.5	2431.2
12.5°	3706.6	3710.6	3617.9	3525.2	3357.2	3189.2	3011.1	2833.0	2643.5	2454.0	2306.9
15°	3594.4	3663.6	3612.5	3561.5	3392.1	3222.8	3003.7	2784.7	2566.3	2347.9	2177.9
17.5°	3386.1	3534.6	3542.0	3549.4	3380.0	3210.7	2968.1	2725.5	2478.2	2231.0	2052.2
20°	3101.8	3320.9	3396.2	3471.4	3333.7	3195.9	2935.2	2674.5	2397.6	2120.7	1933.3
22.5°	2811.5	3077.6	3215.4	3353.1	3251.0	3148.9	2871.3	2593.8	2301.5	2009.2	1819.0
25°	2480.9	2771.2	2982.9	3194.6	3132.1	3069.6	2796.1	2522.6	2211.5	1900.3	1706.1
27.5°	2192.6	2487.6	2743.0	2998.3	2984.9	2971.5	2700.0	2428.5	2110.0	1791.5	1604.0
30°	1936.0	2210.8	2496.4	2782.0	2814.9	2847.8	2585.8	2323.7	2004.5	1685.3	1504.5
32.5°	1708.8	1948.7	2255.1	2561.6	2626.1	2690.6	2454.0	2217.5	1901.7	1585.9	1411.8
35°	1522.7	1740.4	2046.8	2353.3	2433.9	2514.5	2308.9	2103.3	1795.5	1487.7	1321.8
37.5°	1358.1	1540.2	1839.2	2138.2	2237.0	2335.8	2151.7	1967.5	1679.3	1391.0	1238.4
40°	1221.6	1368.1	1643.0	1917.8	2032.0	2146.3	1994.4	1842.6	1569.1	1295.6	1155.1
42.5°	1107.4	1237.8	1487.1	1736.4	1845.9	1955.4	1827.1	1698.7	1455.5	1212.2	1083.9
45°	1010.0	1114.1	1340.6	1567.0	1671.2	1775.4	1665.1	1554.9	1340.6	1126.2	1006.6
47.5°	918.6	1008.0	1201.5	1395.0	1487.7	1580.5	1494.5	1408.5	1227.0	1045.6	937.4
50°	836.6	908.5	1077.8	1247.2	1327.8	1408.5	1332.5	1256.6	1107.4	958.2	864.2
52.5°	765.4	823.8	965.6	1107.4	1176.6	1245.8	1180.7	1115.5	997.2	878.9	797.0
55°	694.8	744.5	867.5	990.5	1037.5	1084.6	1034.2	983.8	888.3	792.9	723.7
57.5°	629.0	673.3	774.1	874.9	911.2	947.5	901.8	856.1	784.2	712.3	654.5
60°	564.5	600.7	684.7	768.7	790.9	813.1	776.1	739.2	688.8	638.4	586.6
62.5°	504.7	537.6	600.1	662.6	677.3	692.1	663.9	635.7	597.4	559.1	518.8
65°	442.8	467.7	518.8	569.8	579.2	588.6	563.8	538.9	510.0	481.1	451.6
67.5°	385.7	403.2	444.8	486.5	487.2	487.9	467.7	447.5	431.4	415.3	391.8
70°	329.9	346.7	374.3	401.8	402.5	403.2	387.1	370.9	358.8	346.7	329.3
72.5°	272.8	284.9	305.7	326.6	325.2	323.9	313.8	303.7	294.3	284.9	272.1
75°	221.1	231.2	245.3	259.4	255.3	251.3	245.9	240.6	232.5	224.4	216.4
77.5°	174.0	180.1	188.2	196.2	193.5	190.8	186.1	181.4	175.4	169.3	166.0
80°	127.7	130.4	135.7	141.1	139.8	138.4	133.1	127.7	126.3	125.0	120.3
82.5°	86.7	90.0	91.4	92.7	92.1	91.4	87.4	83.3	82.0	80.6	80.0
85°	51.7	52.4	53.1	53.8	51.7	49.7	48.4	47.0	47.0	47.0	46.4
87.5°	23.5	24.2	24.2	24.2	23.5	22.8	21.5	20.2	20.8	21.5	21.5
90°	21.4	18.0	14.6	11.6	9.0	6.4	3.8	1.2	3.8	6.4	9.0
92.5°	25.8	23.5	21.1	20.7	22.3	23.9	25.4	27.0	25.4	23.9	22.3
95°	30.6	27.8	24.9	28.8	39.5	50.2	60.9	71.6	60.9	50.2	39.5
97.5°	64.1	77.4	90.7	101.0	108.3	115.6	122.9	130.2	122.9	115.6	108.3
100°	120.1	160.7	201.4	219.1	213.9	208.7	203.5	198.3	203.5	208.7	213.9
102.5°	177.6	222.9	268.3	289.3	285.9	282.5	279.1	275.7	279.1	282.5	285.9
105°	303.9	327.3	350.8	361.1	358.2	355.4	352.5	349.6	352.5	355.4	358.2
107.5°	448.6	444.7	440.8	437.6	435.3	432.9	430.6	428.2	430.6	432.9	435.3
110°	523.4	520.5	517.7	515.2	513.1	511.0	508.9	506.9	508.9	511.0	513.1



TEST NUMBER: P831078

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	597.3	594.5	591.6	589.2	587.4	585.6	583.8	581.9	583.8	585.6	587.4
115°	668.8	666.4	664.1	662.1	660.6	659.0	657.4	655.9	657.4	659.0	660.6
117.5°	740.1	738.8	737.5	735.9	734.1	732.3	730.4	728.6	730.4	732.3	734.1
120°	808.0	807.2	806.4	804.9	802.5	800.2	797.8	795.5	797.8	800.2	802.5
122.5°	874.3	873.3	872.3	870.8	869.0	867.2	865.4	863.5	865.4	867.2	869.0
125°	936.5	935.5	934.4	932.9	930.8	928.7	926.6	924.5	926.6	928.7	930.8
127.5°	998.2	996.9	995.6	993.9	991.8	989.7	987.6	985.5	987.6	989.7	991.8
130°	1053.9	1052.8	1051.8	1050.2	1048.1	1046.0	1044.0	1041.9	1044.0	1046.0	1048.1
132.5°	1107.2	1106.4	1105.6	1104.2	1102.1	1100.0	1097.9	1095.8	1097.9	1100.0	1102.1
135°	1160.6	1159.6	1158.5	1157.2	1155.7	1154.1	1152.5	1151.0	1152.5	1154.1	1155.7
137.5°	1208.6	1208.1	1207.6	1206.3	1204.2	1202.1	1200.0	1197.9	1200.0	1202.1	1204.2
140°	1253.8	1253.1	1252.3	1251.1	1249.5	1248.0	1246.4	1244.8	1246.4	1248.0	1249.5
142.5°	1297.2	1296.5	1295.7	1294.5	1292.9	1291.4	1289.8	1288.3	1289.8	1291.4	1292.9
145°	1337.7	1337.1	1336.6	1335.4	1333.6	1331.8	1330.0	1328.1	1330.0	1331.8	1333.6
147.5°	1374.0	1373.5	1373.0	1372.1	1370.8	1369.5	1368.2	1366.9	1368.2	1369.5	1370.8
150°	1406.9	1406.4	1405.8	1405.2	1404.4	1403.6	1402.8	1402.1	1402.8	1403.6	1404.4
152.5°	1435.6	1435.3	1435.0	1434.8	1434.5	1434.3	1434.0	1433.7	1434.0	1434.3	1434.5
155°	1461.4	1461.1	1460.9	1461.0	1461.5	1462.0	1462.5	1463.1	1462.5	1462.0	1461.5
157.5°	1485.9	1486.1	1486.4	1486.5	1486.5	1486.5	1486.5	1486.5	1486.5	1486.5	1486.5
160°	1505.8	1506.1	1506.4	1506.6	1506.9	1507.1	1507.4	1507.7	1507.4	1507.1	1506.9
162.5°	1523.4	1523.7	1523.9	1524.5	1525.3	1526.0	1526.8	1527.6	1526.8	1526.0	1525.3
165°	1538.7	1538.9	1539.2	1539.7	1540.5	1541.3	1542.1	1542.9	1542.1	1541.3	1540.5
167.5°	1551.1	1551.1	1551.1	1551.6	1552.6	1553.7	1554.7	1555.8	1554.7	1553.7	1552.6
170°	1561.6	1561.6	1561.6	1562.1	1563.2	1564.2	1565.3	1566.3	1565.3	1564.2	1563.2
172.5°	1568.1	1567.9	1567.6	1568.1	1569.4	1570.8	1572.1	1573.4	1572.1	1570.8	1569.4
175°	1574.0	1573.7	1573.5	1574.0	1575.3	1576.6	1577.9	1579.2	1577.9	1576.6	1575.3
177.5°	1576.4	1576.1	1575.8	1576.4	1577.7	1579.0	1580.3	1581.6	1580.3	1579.0	1577.7
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2	2896.2
2.5°	2779.3	2753.1	2726.9	2706.7	2686.5	2652.3	2618.0	2609.9	2601.9	2590.5	2579.0
5°	2635.5	2571.0	2506.5	2448.7	2390.9	2345.9	2300.8	2271.3	2241.7	2220.2	2198.7
7.5°	2467.5	2370.7	2274.0	2205.4	2136.9	2071.7	2006.5	1985.7	1964.8	1936.6	1908.4
10°	2304.9	2198.0	2091.2	2001.8	1912.4	1848.6	1784.8	1759.2	1733.7	1698.1	1662.5
12.5°	2159.7	2042.8	1925.9	1835.8	1745.8	1684.0	1622.1	1585.2	1548.2	1528.1	1507.9
15°	2007.9	1882.9	1757.9	1674.6	1591.2	1535.5	1479.7	1447.4	1415.2	1395.7	1376.2
17.5°	1873.5	1749.8	1626.2	1546.2	1466.2	1415.2	1364.1	1335.9	1307.7	1292.9	1278.1
20°	1745.8	1624.8	1503.9	1425.9	1348.0	1306.3	1264.7	1246.5	1228.4	1216.3	1204.2
22.5°	1628.9	1509.9	1391.0	1324.5	1257.9	1224.3	1190.7	1178.0	1165.2	1155.1	1145.0
25°	1511.9	1405.8	1299.6	1243.2	1186.7	1159.2	1131.6	1118.8	1106.1	1096.0	1085.9
27.5°	1416.5	1315.1	1213.6	1165.2	1116.8	1095.3	1073.8	1063.7	1053.7	1044.2	1034.8
30°	1323.8	1233.1	1142.4	1100.7	1059.0	1039.5	1020.1	1010.0	999.9	991.2	982.4
32.5°	1237.8	1159.8	1081.9	1043.6	1005.3	989.1	973.0	960.9	948.8	942.1	935.4
35°	1155.8	1085.9	1016.0	984.4	952.9	936.7	920.6	910.5	900.4	895.1	889.7
37.5°	1085.9	1023.4	960.9	930.7	900.4	885.0	869.5	860.8	852.1	850.0	848.0
40°	1014.7	960.9	907.2	877.6	848.0	834.6	821.2	815.8	810.4	809.1	807.7
42.5°	955.5	903.1	850.7	823.8	797.0	785.5	774.1	771.4	768.7	770.8	772.8
45°	887.0	843.3	799.6	774.8	749.9	740.5	731.1	729.1	727.1	731.1	735.1
47.5°	829.2	788.9	748.6	725.1	701.5	694.8	688.1	687.4	686.8	692.1	697.5
50°	770.1	731.1	692.1	673.3	654.5	648.5	642.4	644.4	646.4	655.2	663.9
52.5°	715.0	678.7	642.4	624.9	607.5	603.4	599.4	604.1	608.8	618.2	627.6
55°	654.5	621.6	588.6	575.2	561.8	557.7	553.7	563.1	572.5	581.3	590.0
57.5°	596.7	567.8	538.9	526.8	514.7	514.1	513.4	522.1	530.9	540.3	549.7
60°	534.9	510.7	486.5	477.1	467.7	469.0	470.4	480.5	490.5	497.9	505.3
62.5°	478.4	458.3	438.1	429.4	420.7	424.0	427.4	437.5	447.5	456.3	465.0
65°	422.0	405.2	388.4	382.4	376.3	381.0	385.7	394.4	403.2	409.2	415.3
67.5°	368.2	354.1	340.0	335.3	330.6	335.3	340.0	348.8	357.5	363.5	369.6
70°	311.8	300.4	288.9	285.6	282.2	287.6	293.0	300.4	307.8	313.8	319.9
72.5°	259.4	250.6	241.9	241.2	240.6	245.3	250.0	257.4	264.8	268.8	272.8
75°	208.3	203.6	198.9	198.2	197.6	202.3	207.0	211.0	215.0	218.4	221.8
77.5°	162.6	158.6	154.6	155.2	155.9	159.3	162.6	166.6	170.7	172.7	174.7
80°	115.6	114.2	112.9	114.2	115.6	118.3	121.0	123.6	126.3	127.7	129.0
82.5°	79.3	77.9	76.6	78.6	80.6	82.7	84.7	86.7	88.7	89.4	90.0
85°	45.7	47.7	49.7	49.7	49.7	50.4	51.1	51.7	52.4	51.7	51.1
87.5°	21.5	22.2	22.8	22.8	22.8	23.5	24.2	24.2	24.2	23.5	22.8
90°	11.6	14.6	18.0	21.4	24.8	28.2	29.2	30.2	31.3	32.3	33.1
92.5°	20.7	21.1	23.5	25.8	28.2	30.5	32.3	34.2	36.0	37.8	38.8
95°	28.8	24.9	27.8	30.6	33.5	36.4	38.2	40.0	41.8	43.7	44.6
97.5°	101.0	90.7	77.4	64.1	50.8	37.5	39.6	41.7	43.8	45.9	47.1
100°	219.1	201.4	160.7	120.1	79.4	38.7	40.8	42.9	45.0	47.1	48.2
102.5°	289.3	268.3	222.9	177.6	132.2	86.8	78.2	69.6	61.0	52.4	48.4
105°	361.1	350.8	327.3	303.9	280.4	256.9	210.8	164.6	118.5	72.4	49.5
107.5°	437.6	440.8	444.7	448.6	452.5	456.4	416.3	376.1	335.9	295.8	258.6
110°	515.2	517.7	520.5	523.4	526.3	529.1	520.5	511.9	503.3	494.7	471.8



TEST NUMBER: P831078

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	589.2	591.6	594.5	597.3	600.2	603.1	605.4	607.8	610.1	612.4	613.4
115°	662.1	664.1	666.4	668.8	671.1	673.5	676.1	678.7	681.3	683.9	685.7
117.5°	735.9	737.5	738.8	740.1	741.4	742.7	744.8	746.9	748.9	751.0	752.2
120°	804.9	806.4	807.2	808.0	808.8	809.6	811.6	813.7	815.8	817.9	818.9
122.5°	870.8	872.3	873.3	874.3	875.4	876.4	877.7	879.0	880.3	881.6	882.4
125°	932.9	934.4	935.5	936.5	937.6	938.6	939.1	939.7	940.2	940.7	941.2
127.5°	993.9	995.6	996.9	998.2	999.5	1000.8	1001.6	1002.4	1003.1	1003.9	1004.1
130°	1050.2	1051.8	1052.8	1053.9	1054.9	1055.9	1057.0	1058.0	1059.1	1060.1	1060.4
132.5°	1104.2	1105.6	1106.4	1107.2	1108.0	1108.7	1109.8	1110.8	1111.9	1112.9	1113.0
135°	1157.2	1158.5	1159.6	1160.6	1161.7	1162.7	1163.5	1164.3	1165.1	1165.8	1165.8
137.5°	1206.3	1207.6	1208.1	1208.6	1209.1	1209.6	1210.9	1212.3	1213.6	1214.9	1215.2
140°	1251.1	1252.3	1253.1	1253.8	1254.6	1255.4	1256.4	1257.5	1258.5	1259.6	1259.8
142.5°	1294.5	1295.7	1296.5	1297.2	1298.0	1298.8	1299.6	1300.4	1301.2	1301.9	1301.9
145°	1335.4	1336.6	1337.1	1337.7	1338.2	1338.7	1339.2	1339.7	1340.3	1340.8	1341.0
147.5°	1372.1	1373.0	1373.5	1374.0	1374.6	1375.1	1375.6	1376.1	1376.6	1377.2	1376.8
150°	1405.2	1405.8	1406.4	1406.9	1407.4	1407.9	1408.4	1409.0	1409.5	1410.0	1409.9
152.5°	1434.8	1435.0	1435.3	1435.6	1435.8	1436.1	1437.1	1438.2	1439.2	1440.3	1440.1
155°	1461.0	1460.9	1461.1	1461.4	1461.6	1461.9	1463.2	1464.5	1465.8	1467.1	1467.0
157.5°	1486.5	1486.4	1486.1	1485.9	1485.6	1485.4	1486.9	1488.5	1490.1	1491.6	1491.4
160°	1506.6	1506.4	1506.1	1505.8	1505.6	1505.3	1506.9	1508.4	1510.0	1511.6	1511.4
162.5°	1524.5	1523.9	1523.7	1523.4	1523.2	1522.9	1524.7	1526.6	1528.4	1530.2	1530.3
165°	1539.7	1539.2	1538.9	1538.7	1538.4	1538.2	1540.2	1542.3	1544.4	1546.5	1546.6
167.5°	1551.6	1551.1	1551.1	1551.1	1551.1	1551.1	1553.2	1555.2	1557.3	1559.4	1559.4
170°	1562.1	1561.6	1561.6	1561.6	1561.6	1561.6	1563.7	1565.8	1567.9	1570.0	1570.0
172.5°	1568.1	1567.6	1567.9	1568.1	1568.4	1568.7	1570.8	1572.8	1574.9	1577.0	1576.9
175°	1574.0	1573.5	1573.7	1574.0	1574.3	1574.5	1576.4	1578.2	1580.0	1581.8	1581.7
177.5°	1576.4	1575.8	1576.1	1576.4	1576.6	1576.9	1579.0	1581.0	1583.1	1585.2	1585.0
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



TEST NUMBER: P831078

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2896.2	2896.2	2896.2	2896.2
2.5°	2574.3	2569.6	2550.8	2532.0
5°	2182.6	2166.4	2161.1	2155.7
7.5°	1907.1	1905.7	1877.5	1849.3
10°	1664.5	1666.5	1641.0	1615.4
12.5°	1491.1	1474.3	1472.3	1470.3
15°	1360.7	1345.3	1342.6	1339.9
17.5°	1268.7	1259.3	1256.6	1253.9
20°	1198.8	1193.4	1188.7	1184.0
22.5°	1138.3	1131.6	1127.6	1123.5
25°	1079.9	1073.8	1072.5	1071.1
27.5°	1027.4	1020.1	1020.1	1020.1
30°	977.7	973.0	971.0	969.0
32.5°	931.4	927.3	927.3	927.3
35°	887.7	885.7	883.0	880.3
37.5°	848.0	848.0	846.7	845.3
40°	809.7	811.7	811.7	811.7
42.5°	774.8	776.8	776.8	776.8
45°	738.5	741.9	743.2	744.5
47.5°	702.9	708.3	709.6	710.9
50°	667.9	672.0	672.6	673.3
52.5°	632.3	637.0	640.4	643.8
55°	594.7	599.4	601.4	603.4
57.5°	554.4	559.1	559.8	560.4
60°	510.0	514.7	516.1	517.4
62.5°	467.7	470.4	471.7	473.1
65°	419.3	423.3	426.0	428.7
67.5°	372.9	376.3	376.3	376.3
70°	321.2	322.5	324.6	326.6
72.5°	273.5	274.2	274.2	274.2
75°	223.1	224.4	225.1	225.8
77.5°	175.4	176.1	176.1	176.1
80°	128.3	127.7	127.7	127.7
82.5°	88.0	86.0	86.0	86.0
85°	50.4	49.7	50.4	51.1
87.5°	22.8	22.8	22.8	22.8
90°	33.6	34.2	34.7	35.2
92.5°	39.1	39.4	39.6	39.9
95°	44.6	44.6	44.6	44.6
97.5°	47.3	47.6	47.8	48.1
100°	48.5	48.8	49.0	49.3
102.5°	48.9	49.4	49.9	50.5
105°	50.1	50.6	51.1	51.6
107.5°	224.5	190.3	156.2	122.0
110°	434.5	397.2	359.9	322.6



TEST NUMBER: P831078

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	612.8	612.3	611.8	611.3
115°	686.8	687.8	688.8	689.9
117.5°	752.5	752.7	753.0	753.2
120°	818.9	818.9	818.9	818.9
122.5°	882.7	883.0	883.2	883.5
125°	941.7	942.3	942.8	943.3
127.5°	1003.5	1003.0	1002.5	1002.0
130°	1059.9	1059.3	1058.8	1058.3
132.5°	1112.3	1111.5	1110.7	1109.9
135°	1165.1	1164.3	1163.5	1162.7
137.5°	1214.7	1214.2	1213.7	1213.2
140°	1259.3	1258.8	1258.3	1257.7
142.5°	1301.2	1300.4	1299.6	1298.8
145°	1341.0	1341.0	1341.0	1341.0
147.5°	1375.5	1374.2	1372.9	1371.6
150°	1409.1	1408.3	1407.5	1406.8
152.5°	1438.8	1437.5	1436.2	1434.9
155°	1465.4	1463.9	1462.3	1460.7
157.5°	1489.3	1487.2	1485.1	1483.0
160°	1509.6	1507.8	1506.0	1504.1
162.5°	1528.8	1527.2	1525.6	1524.1
165°	1544.8	1543.0	1541.2	1539.3
167.5°	1557.3	1555.2	1553.2	1551.1
170°	1567.9	1565.8	1563.7	1561.6
172.5°	1574.5	1572.2	1569.8	1567.5
175°	1579.6	1577.5	1575.4	1573.4
177.5°	1582.4	1579.7	1577.1	1574.5
180°	1579.2	1579.2	1579.2	1579.2



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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	15.44	16.26	16.41	17.24	18.53	17.68	18.50	18.65	19.48	20.76
	3H	17.08	17.82	18.07	18.81	20.12	19.10	19.83	20.08	20.82	22.13
	4H	17.66	18.35	18.66	19.35	20.66	19.55	20.24	20.54	21.23	22.55
	6H	18.03	18.67	19.03	19.66	20.99	19.82	20.46	20.83	21.46	22.79
	8H	18.12	18.73	19.14	19.75	21.07	19.88	20.49	20.89	21.50	22.83
	12H	18.17	18.74	19.18	19.75	21.10	19.90	20.48	20.92	21.49	22.83
4H	2H	16.01	16.70	17.01	17.70	19.01	17.84	18.53	18.84	19.52	20.84
	3H	17.84	18.41	18.85	19.44	20.76	19.45	20.03	20.46	21.05	22.38
	4H	18.53	19.06	19.55	20.07	21.43	20.03	20.56	21.05	21.58	22.93
	6H	19.01	19.46	20.03	20.50	21.85	20.44	20.89	21.46	21.93	23.28
	8H	19.14	19.56	20.17	20.60	21.96	20.55	20.97	21.58	22.00	23.37
	12H	19.21	19.59	20.25	20.63	22.00	20.59	20.97	21.64	22.02	23.39
8H	4H	18.80	19.22	19.82	20.25	21.61	20.14	20.56	21.17	21.59	22.95
	6H	19.38	19.73	20.44	20.80	22.17	20.64	20.99	21.69	22.06	23.42
	8H	19.59	19.90	20.65	20.95	22.34	20.82	21.12	21.88	22.18	23.56
	12H	19.71	19.98	20.78	21.03	22.46	20.92	21.19	21.98	22.24	23.66
12H	4H	18.79	19.18	19.84	20.22	21.59	20.11	20.49	21.16	21.54	22.91
	6H	19.43	19.74	20.49	20.80	22.18	20.65	20.96	21.71	22.02	23.40
	8H	19.67	19.93	20.73	20.99	22.41	20.85	21.12	21.91	22.17	23.59