

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: P831072

Luminaire Tested: S123DIP-S1000D1195U830-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831072
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-S1000D1195U830-4F0-1E-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

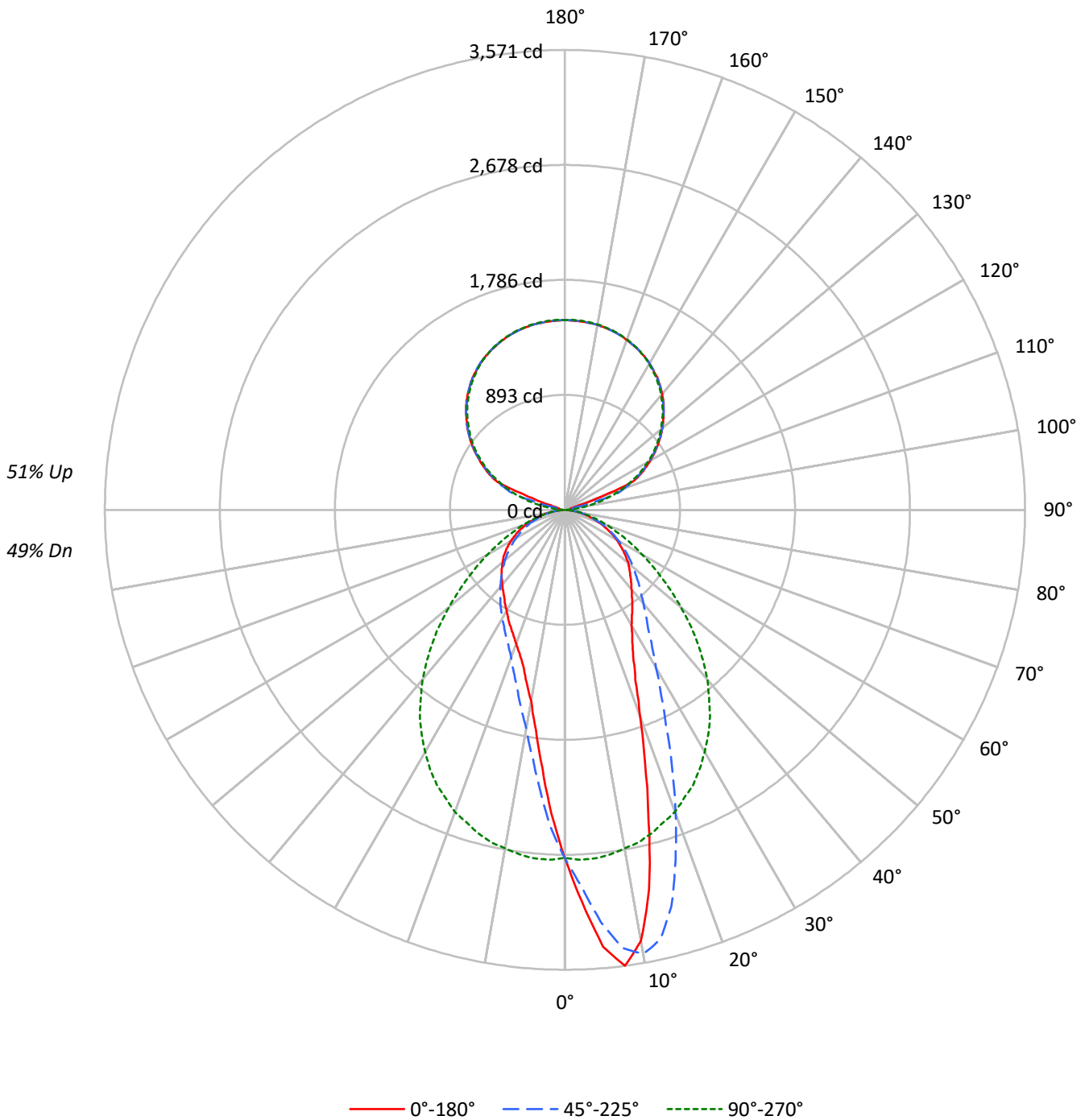
Lumens per Lamp: N/A
Luminaire Lumens: 8841.5 lumens
Efficiency: N/A
Efficacy: 133.8 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

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	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°	29096	29096	29096	29096	29096
5°	36798	34731	29356	23658	21740
10°	37154	38278	29161	18859	16479
15°	27984	35539	28962	15970	13936
20°	19498	28758	28593	13966	12659
25°	14867	22116	27962	12849	11873
30°	12862	17571	26956	12059	11241
35°	11934	14834	25796	11489	10796
40°	11297	13307	24164	10946	10645
45°	10922	12317	22092	10520	10578
50°	10734	11531	19639	10134	10523
55°	10335	10958	17231	9770	10569
60°	9965	10342	14852	9425	10396
65°	9360	9760	12811	9057	10190
70°	8645	9020	10895	8447	9593
75°	7827	8085	9337	7852	8763
80°	6453	7073	7389	6843	7389
85°	5113	5730	5422	5805	5891

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 25224 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.6	2.9
10°-20°	635.8	7.2
20°-30°	752.8	8.5
30°-40°	756.9	8.6
40°-50°	694.4	7.9
50°-60°	573.2	6.5
60°-70°	405.4	4.6
70°-80°	216.4	2.4
80°-90°	57.9	0.7
90°-100°	52.0	0.6
100°-110°	251.2	2.8
110°-120°	615.8	7.0
120°-130°	781.7	8.8
130°-140°	835.1	9.4
140°-150°	780.9	8.8
150°-160°	629.9	7.1
160°-170°	406.5	4.6
170°-180°	140.1	1.6
0°-30°	1644.1	18.6
0°-40°	2401.0	27.2
0°-60°	3668.6	41.5
0°-90°	4348.3	49.2
90°-120°	918.9	10.4
90°-150°	3316.8	37.5
90°-180°	4493.0	50.8
0°-180°	8841.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2703	2703	2703	2703	2703	
5°	3406	3214	2717	2190	2012	324
15°	2511	3189	2599	1433	1251	694
25°	1252	1862	2354	1082	1000	591
35°	908	1129	1963	874	822	571
45°	718	809	1451	691	695	556
55°	551	584	918	521	563	493
65°	368	383	503	356	400	365
75°	188	194	224	189	211	198
85°	41	46	44	47	48	46
90°	33	26	1	26	33	17
95°	42	34	67	34	42	35
105°	48	240	326	240	48	100
115°	644	629	612	629	644	606
125°	880	876	863	876	880	787
135°	1085	1085	1074	1085	1085	837
145°	1252	1250	1240	1250	1252	782
155°	1363	1364	1366	1364	1363	629
165°	1437	1436	1440	1436	1437	406
175°	1468	1470	1474	1470	1468	140
180°	1474	1474	1474	1474	1474	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1
2.5°	3046.8	3043.7	3040.5	3024.9	3009.2	3001.7	2994.1	2971.6	2949.0	2923.9	2898.8
5°	3405.6	3414.3	3423.1	3413.1	3403.1	3372.3	3341.6	3300.8	3260.1	3214.3	3168.5
7.5°	3571.1	3576.2	3581.2	3574.9	3568.6	3560.5	3552.3	3515.9	3479.6	3432.5	3385.5
10°	3399.3	3410.6	3421.9	3446.3	3470.8	3498.4	3526.0	3521.0	3515.9	3502.1	3488.4
12.5°	3021.7	3035.5	3049.3	3098.2	3147.2	3209.9	3272.6	3326.5	3380.5	3418.1	3455.7
15°	2511.2	2549.5	2587.7	2632.3	2676.8	2769.0	2861.2	2974.7	3088.2	3189.2	3290.2
17.5°	2068.4	2082.9	2097.3	2144.9	2192.6	2308.6	2424.7	2555.7	2686.8	2854.3	3021.7
20°	1702.2	1715.3	1728.5	1791.2	1853.9	1944.9	2035.8	2183.2	2330.6	2510.6	2690.6
22.5°	1430.0	1450.7	1471.4	1506.5	1541.6	1628.8	1716.0	1847.0	1978.1	2176.9	2375.7
25°	1251.8	1266.9	1281.9	1303.3	1324.6	1394.2	1463.8	1571.7	1679.6	1862.1	2044.6
27.5°	1130.2	1136.4	1142.7	1164.0	1185.4	1230.5	1275.7	1368.5	1461.3	1616.2	1771.1
30°	1034.8	1039.2	1043.6	1062.4	1081.3	1112.0	1142.7	1209.8	1276.9	1413.7	1550.4
32.5°	968.4	971.5	974.6	989.1	1003.5	1025.4	1047.4	1096.3	1145.2	1258.1	1371.0
35°	908.2	910.0	911.9	922.6	933.2	949.5	965.9	1002.9	1039.9	1128.9	1218.0
37.5°	855.5	858.0	860.5	866.8	873.0	887.5	901.9	931.4	960.8	1029.2	1097.6
40°	804.0	808.4	812.8	817.2	821.6	833.5	845.4	868.0	890.6	947.0	1003.5
42.5°	760.1	764.5	768.9	770.8	772.7	779.6	786.5	807.2	827.9	869.9	911.9
45°	717.5	719.4	721.3	723.1	725.0	730.7	736.3	754.5	772.7	809.1	845.4
47.5°	678.6	678.6	678.6	679.9	681.1	686.1	691.1	704.3	717.5	745.7	773.9
50°	641.0	641.0	641.0	639.1	637.2	640.3	643.5	653.5	663.6	688.6	713.7
52.5°	595.8	595.8	595.8	596.4	597.1	597.1	597.1	605.9	614.6	637.2	659.8
55°	550.7	553.2	555.7	553.8	551.9	553.2	554.4	560.1	565.7	583.9	602.1
57.5°	505.5	506.8	508.0	507.4	506.8	507.4	508.0	513.0	518.0	531.8	545.6
60°	462.9	462.9	462.9	461.6	460.3	461.6	462.9	465.4	467.9	480.4	493.0
62.5°	415.2	415.8	416.4	417.1	417.7	416.4	415.2	418.3	421.5	430.9	440.3
65°	367.5	368.2	368.8	370.7	372.5	371.3	370.0	373.2	376.3	383.2	390.1
67.5°	324.9	323.6	322.4	323.0	323.6	325.5	327.4	328.0	328.6	336.2	343.7
70°	274.7	276.0	277.2	276.6	276.0	276.6	277.2	279.1	281.0	286.6	292.3
72.5°	229.5	230.2	230.8	230.8	230.8	232.1	233.3	235.2	237.1	240.2	243.3
75°	188.2	188.2	188.2	189.4	190.7	191.3	191.9	191.9	191.9	194.4	196.9
77.5°	143.0	146.1	149.3	148.6	148.0	149.3	150.5	152.4	154.3	155.5	156.8
80°	104.1	104.1	104.1	104.7	105.4	107.2	109.1	110.4	111.6	114.1	116.7
82.5°	66.5	67.1	67.7	69.6	71.5	72.8	74.0	75.9	77.8	77.8	77.8
85°	41.4	40.1	38.9	40.1	41.4	42.6	43.9	44.5	45.2	46.4	47.7
87.5°	20.1	20.1	20.1	20.1	20.1	20.7	21.3	21.3	21.3	21.3	21.3
90°	32.9	32.4	31.9	31.4	30.9	30.2	29.2	28.2	27.3	26.3	23.1
92.5°	37.2	37.0	36.7	36.5	36.3	35.3	33.6	31.9	30.2	28.5	26.3
95°	41.6	41.6	41.6	41.6	41.6	40.8	39.1	37.4	35.7	33.9	31.3
97.5°	44.9	44.7	44.4	44.2	43.9	42.8	40.9	38.9	37.0	35.0	47.5
100°	46.0	45.7	45.5	45.3	45.0	43.9	42.0	40.0	38.1	36.1	74.1
102.5°	47.1	46.6	46.1	45.6	45.1	48.9	56.9	65.0	73.0	81.0	123.4
105°	48.2	47.7	47.2	46.7	46.2	67.5	110.6	153.7	196.7	239.8	261.7
107.5°	113.9	145.8	177.6	209.5	241.4	276.1	313.6	351.0	388.5	426.0	422.3
110°	301.1	335.9	370.7	405.5	440.3	461.7	469.8	477.8	485.8	493.9	491.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	570.5	571.0	571.5	572.0	572.5	571.6	569.4	567.2	565.0	562.9	560.2
115°	643.9	642.9	641.9	641.0	640.0	638.3	635.9	633.4	631.0	628.6	626.4
117.5°	703.0	702.8	702.5	702.3	702.1	701.0	699.0	697.1	695.1	693.2	692.0
120°	764.3	764.3	764.3	764.3	764.3	763.4	761.4	759.5	757.5	755.6	754.9
122.5°	824.6	824.3	824.1	823.8	823.6	822.9	821.7	820.4	819.2	818.0	817.0
125°	880.4	879.9	879.5	879.0	878.5	878.0	877.5	877.0	876.5	876.0	875.1
127.5°	935.2	935.7	936.2	936.6	937.1	937.0	936.3	935.5	934.8	934.1	932.9
130°	987.7	988.2	988.7	989.2	989.7	989.4	988.5	987.5	986.5	985.5	984.6
132.5°	1035.9	1036.7	1037.4	1038.1	1038.8	1038.7	1037.7	1036.8	1035.8	1034.8	1034.1
135°	1085.2	1085.9	1086.7	1087.4	1088.1	1088.1	1087.4	1086.7	1085.9	1085.2	1084.2
137.5°	1132.3	1132.8	1133.3	1133.7	1134.2	1133.9	1132.7	1131.4	1130.2	1129.0	1128.5
140°	1173.9	1174.4	1174.9	1175.4	1175.8	1175.6	1174.6	1173.7	1172.7	1171.7	1171.0
142.5°	1212.2	1213.0	1213.7	1214.4	1215.1	1215.1	1214.4	1213.7	1213.0	1212.2	1211.5
145°	1251.6	1251.6	1251.6	1251.6	1251.6	1251.4	1250.9	1250.4	1249.9	1249.5	1249.0
147.5°	1280.1	1281.3	1282.6	1283.8	1285.0	1285.4	1284.9	1284.4	1283.9	1283.4	1282.9
150°	1313.0	1313.7	1314.4	1315.2	1315.9	1316.0	1315.5	1315.0	1314.6	1314.1	1313.6
152.5°	1339.3	1340.5	1341.7	1342.9	1344.1	1344.2	1343.3	1342.3	1341.3	1340.3	1340.1
155°	1363.3	1364.8	1366.3	1367.7	1369.2	1369.3	1368.1	1366.9	1365.7	1364.4	1364.2
157.5°	1384.1	1386.1	1388.0	1390.0	1391.9	1392.2	1390.7	1389.3	1387.8	1386.3	1386.6
160°	1403.9	1405.6	1407.3	1409.0	1410.7	1410.8	1409.3	1407.9	1406.4	1405.0	1405.2
162.5°	1422.5	1423.9	1425.4	1426.9	1428.3	1428.2	1426.5	1424.8	1423.1	1421.4	1421.6
165°	1436.7	1438.4	1440.1	1441.8	1443.5	1443.4	1441.5	1439.5	1437.6	1435.6	1435.9
167.5°	1447.7	1449.6	1451.6	1453.5	1455.4	1455.4	1453.5	1451.6	1449.6	1447.7	1447.7
170°	1457.5	1459.5	1461.4	1463.4	1465.3	1465.3	1463.4	1461.4	1459.5	1457.5	1457.5
172.5°	1463.0	1465.2	1467.4	1469.6	1471.8	1471.9	1469.9	1468.0	1466.0	1464.1	1463.8
175°	1468.5	1470.4	1472.4	1474.3	1476.3	1476.4	1474.7	1473.0	1471.3	1469.6	1469.3
177.5°	1469.6	1472.0	1474.4	1476.9	1479.3	1479.5	1477.6	1475.6	1473.7	1471.8	1471.5
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1
2.5°	2891.3	2883.8	2856.2	2828.6	2797.2	2765.8	2742.6	2719.4	2684.9	2650.4	2622.2
5°	3133.4	3098.2	3039.9	2981.6	2902.6	2823.5	2770.2	2716.9	2645.4	2573.9	2516.9
7.5°	3325.3	3265.1	3183.5	3102.0	2998.5	2895.0	2797.2	2699.4	2590.2	2481.1	2392.0
10°	3447.6	3406.8	3312.7	3218.7	3080.1	2941.5	2804.7	2668.0	2527.5	2387.0	2269.1
12.5°	3459.5	3463.3	3376.7	3290.2	3133.4	2976.6	2810.4	2644.2	2467.3	2290.4	2153.1
15°	3354.8	3419.4	3371.7	3324.0	3166.0	3007.9	2803.5	2599.0	2395.2	2191.4	2032.7
17.5°	3160.3	3298.9	3305.8	3312.7	3154.7	2996.6	2770.2	2543.8	2313.0	2082.2	1915.4
20°	2895.0	3099.5	3169.7	3240.0	3111.4	2982.8	2739.5	2496.2	2237.8	1979.4	1804.4
22.5°	2624.1	2872.5	3001.0	3129.6	3034.3	2938.9	2679.9	2420.9	2148.1	1875.3	1697.8
25°	2315.5	2586.5	2784.0	2981.6	2923.3	2864.9	2609.7	2354.4	2064.0	1773.7	1592.4
27.5°	2046.5	2321.8	2560.1	2798.5	2785.9	2773.4	2520.0	2266.6	1969.3	1672.1	1497.1
30°	1806.9	2063.4	2330.0	2596.5	2627.2	2658.0	2413.4	2168.8	1870.9	1573.0	1404.2
32.5°	1594.9	1818.8	2104.8	2390.8	2451.0	2511.2	2290.4	2069.7	1774.9	1480.1	1317.7
35°	1421.2	1624.4	1910.4	2196.4	2271.6	2346.9	2155.0	1963.1	1675.8	1388.6	1233.7
37.5°	1267.5	1437.5	1716.6	1995.7	2087.9	2180.1	2008.2	1836.4	1567.3	1298.3	1155.9
40°	1140.2	1276.9	1533.4	1790.0	1896.6	2003.2	1861.5	1719.7	1464.5	1209.2	1078.1
42.5°	1033.6	1155.3	1387.9	1620.6	1722.9	1825.1	1705.3	1585.5	1358.5	1131.4	1011.6
45°	942.6	1039.9	1251.2	1462.6	1559.8	1657.0	1554.1	1451.3	1251.2	1051.1	939.5
47.5°	857.3	940.8	1121.4	1302.0	1388.6	1475.1	1394.8	1314.6	1145.2	975.9	874.9
50°	780.8	847.9	1006.0	1164.0	1239.3	1314.6	1243.7	1172.8	1033.6	894.4	806.5
52.5°	714.4	768.9	901.3	1033.6	1098.2	1162.8	1101.9	1041.1	930.7	820.3	743.8
55°	648.5	694.9	809.7	924.5	968.4	1012.3	965.2	918.2	829.1	740.1	675.5
57.5°	587.0	628.4	722.5	816.6	850.5	884.3	841.7	799.0	731.9	664.8	610.9
60°	526.8	560.7	639.1	717.5	738.2	758.9	724.4	689.9	642.9	595.8	547.5
62.5°	471.0	501.7	560.1	618.4	632.2	646.0	619.6	593.3	557.6	521.8	484.2
65°	413.3	436.5	484.2	531.8	540.6	549.4	526.2	503.0	476.0	449.1	421.5
67.5°	360.0	376.3	415.2	454.1	454.7	455.3	436.5	417.7	402.6	387.6	365.6
70°	307.9	323.6	349.3	375.1	375.7	376.3	361.3	346.2	334.9	323.6	307.3
72.5°	254.6	265.9	285.4	304.8	303.6	302.3	292.9	283.5	274.7	265.9	254.0
75°	206.3	215.7	228.9	242.1	238.3	234.6	229.5	224.5	217.0	209.5	202.0
77.5°	162.4	168.1	175.6	183.1	180.6	178.1	173.7	169.3	163.7	158.0	154.9
80°	119.2	121.7	126.7	131.7	130.5	129.2	124.2	119.2	117.9	116.7	112.3
82.5°	80.9	84.0	85.3	86.6	85.9	85.3	81.5	77.8	76.5	75.3	74.6
85°	48.3	48.9	49.5	50.2	48.3	46.4	45.2	43.9	43.9	43.9	43.3
87.5°	22.0	22.6	22.6	22.6	22.0	21.3	20.1	18.8	19.4	20.1	20.1
90°	20.0	16.8	13.6	10.8	8.4	6.0	3.5	1.1	3.5	6.0	8.4
92.5°	24.1	21.9	19.7	19.3	20.8	22.3	23.7	25.2	23.7	22.3	20.8
95°	28.6	25.9	23.2	26.9	36.9	46.8	56.8	66.8	56.8	46.8	36.9
97.5°	59.9	72.3	84.7	94.3	101.1	107.9	114.7	121.6	114.7	107.9	101.1
100°	112.1	150.0	188.0	204.5	199.7	194.8	189.9	185.1	189.9	194.8	199.7
102.5°	165.7	208.1	250.4	270.0	266.8	263.7	260.5	257.3	260.5	263.7	266.8
105°	283.6	305.5	327.4	337.0	334.4	331.7	329.0	326.3	329.0	331.7	334.4
107.5°	418.7	415.0	411.4	408.5	406.3	404.1	401.9	399.7	401.9	404.1	406.3
110°	488.5	485.8	483.2	480.9	478.9	477.0	475.0	473.1	475.0	477.0	478.9



TEST NUMBER: P831072

CATALOG NUMBER: S123DIP-S1000D1195U830-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	557.5	554.8	552.2	550.0	548.3	546.6	544.9	543.1	544.9	546.6	548.3
115°	624.2	622.0	619.8	618.0	616.5	615.1	613.6	612.1	613.6	615.1	616.5
117.5°	690.7	689.5	688.3	686.8	685.1	683.4	681.7	680.0	681.7	683.4	685.1
120°	754.1	753.4	752.7	751.2	749.0	746.8	744.6	742.4	744.6	746.8	749.0
122.5°	816.1	815.1	814.1	812.8	811.1	809.4	807.7	806.0	807.7	809.4	811.1
125°	874.1	873.1	872.2	870.7	868.7	866.8	864.9	862.9	864.9	866.8	868.7
127.5°	931.6	930.4	929.2	927.6	925.7	923.7	921.8	919.8	921.8	923.7	925.7
130°	983.6	982.6	981.7	980.2	978.2	976.3	974.4	972.4	974.4	976.3	978.2
132.5°	1033.4	1032.6	1031.9	1030.6	1028.6	1026.7	1024.7	1022.8	1024.7	1026.7	1028.6
135°	1083.3	1082.3	1081.3	1080.1	1078.6	1077.2	1075.7	1074.2	1075.7	1077.2	1078.6
137.5°	1128.0	1127.5	1127.1	1125.8	1123.9	1121.9	1120.0	1118.1	1120.0	1121.9	1123.9
140°	1170.2	1169.5	1168.8	1167.7	1166.2	1164.8	1163.3	1161.9	1163.3	1164.8	1166.2
142.5°	1210.8	1210.0	1209.3	1208.2	1206.8	1205.3	1203.8	1202.4	1203.8	1205.3	1206.8
145°	1248.5	1248.0	1247.5	1246.4	1244.7	1243.0	1241.3	1239.6	1241.3	1243.0	1244.7
147.5°	1282.4	1281.9	1281.5	1280.6	1279.4	1278.2	1277.0	1275.7	1277.0	1278.2	1279.4
150°	1313.1	1312.6	1312.1	1311.5	1310.8	1310.1	1309.3	1308.6	1309.3	1310.1	1310.8
152.5°	1339.9	1339.6	1339.4	1339.1	1338.9	1338.6	1338.4	1338.2	1338.4	1338.6	1338.9
155°	1364.0	1363.7	1363.5	1363.6	1364.1	1364.6	1365.0	1365.5	1365.0	1364.6	1364.1
157.5°	1386.8	1387.1	1387.3	1387.4	1387.4	1387.4	1387.4	1387.4	1387.4	1387.4	1387.4
160°	1405.4	1405.7	1405.9	1406.2	1406.4	1406.7	1406.9	1407.1	1406.9	1406.7	1406.4
162.5°	1421.9	1422.1	1422.4	1422.8	1423.6	1424.3	1425.0	1425.8	1425.0	1424.3	1423.6
165°	1436.1	1436.3	1436.6	1437.1	1437.8	1438.5	1439.3	1440.0	1439.3	1438.5	1437.8
167.5°	1447.7	1447.7	1447.7	1448.1	1449.1	1450.1	1451.1	1452.0	1451.1	1450.1	1449.1
170°	1457.5	1457.5	1457.5	1458.0	1459.0	1460.0	1460.9	1461.9	1460.9	1460.0	1459.0
172.5°	1463.6	1463.4	1463.1	1463.6	1464.8	1466.0	1467.3	1468.5	1467.3	1466.0	1464.8
175°	1469.1	1468.8	1468.6	1469.1	1470.3	1471.5	1472.7	1473.9	1472.7	1471.5	1470.3
177.5°	1471.3	1471.0	1470.8	1471.3	1472.5	1473.7	1474.9	1476.1	1474.9	1473.7	1472.5
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1	2703.1
2.5°	2594.0	2569.5	2545.1	2526.3	2507.4	2475.5	2443.5	2436.0	2428.4	2417.8	2407.1
5°	2459.8	2399.6	2339.4	2285.4	2231.5	2189.5	2147.4	2119.9	2092.3	2072.2	2052.1
7.5°	2303.0	2212.7	2122.4	2058.4	1994.4	1933.6	1872.7	1853.3	1833.9	1807.5	1781.2
10°	2151.2	2051.5	1951.8	1868.4	1784.9	1725.4	1665.8	1641.9	1618.1	1584.9	1551.6
12.5°	2015.7	1906.6	1797.5	1713.4	1629.4	1571.7	1514.0	1479.5	1445.0	1426.2	1407.4
15°	1874.0	1757.3	1640.7	1562.9	1485.2	1433.1	1381.0	1350.9	1320.8	1302.6	1284.5
17.5°	1748.6	1633.2	1517.8	1443.1	1368.5	1320.8	1273.2	1246.8	1220.5	1206.7	1192.9
20°	1629.4	1516.5	1403.6	1330.9	1258.1	1219.2	1180.3	1163.4	1146.5	1135.2	1123.9
22.5°	1520.3	1409.3	1298.3	1236.2	1174.1	1142.7	1111.4	1099.4	1087.5	1078.1	1068.7
25°	1411.1	1312.1	1213.0	1160.3	1107.6	1081.9	1056.2	1044.2	1032.3	1022.9	1013.5
27.5°	1322.1	1227.4	1132.7	1087.5	1042.4	1022.3	1002.2	992.8	983.4	974.6	965.9
30°	1235.5	1150.9	1066.2	1027.3	988.4	970.2	952.1	942.6	933.2	925.1	916.9
32.5°	1155.3	1082.5	1009.8	974.0	938.3	923.2	908.2	896.9	885.6	879.3	873.0
35°	1078.7	1013.5	948.3	918.8	889.3	874.3	859.2	849.8	840.4	835.4	830.4
37.5°	1013.5	955.2	896.9	868.6	840.4	826.0	811.6	803.4	795.3	793.4	791.5
40°	947.0	896.9	846.7	819.1	791.5	779.0	766.4	761.4	756.4	755.1	753.9
42.5°	891.8	842.9	794.0	768.9	743.8	733.2	722.5	720.0	717.5	719.4	721.3
45°	827.9	787.1	746.3	723.1	699.9	691.1	682.4	680.5	678.6	682.4	686.1
47.5°	773.9	736.3	698.7	676.7	654.8	648.5	642.2	641.6	641.0	646.0	651.0
50°	718.7	682.4	646.0	628.4	610.9	605.2	599.6	601.5	603.3	611.5	619.6
52.5°	667.3	633.4	599.6	583.3	567.0	563.2	559.4	563.8	568.2	577.0	585.8
55°	610.9	580.1	549.4	536.9	524.3	520.6	516.8	525.6	534.4	542.5	550.7
57.5°	556.9	530.0	503.0	491.7	480.4	479.8	479.2	487.3	495.5	504.2	513.0
60°	499.2	476.7	454.1	445.3	436.5	437.8	439.0	448.4	457.8	464.7	471.6
62.5°	446.5	427.7	408.9	400.8	392.6	395.7	398.9	408.3	417.7	425.9	434.0
65°	393.9	378.2	362.5	356.9	351.2	355.6	360.0	368.2	376.3	382.0	387.6
67.5°	343.7	330.5	317.4	313.0	308.6	313.0	317.4	325.5	333.7	339.3	344.9
70°	291.0	280.3	269.7	266.5	263.4	268.4	273.4	280.3	287.2	292.9	298.5
72.5°	242.1	233.9	225.8	225.2	224.5	228.9	233.3	240.2	247.1	250.9	254.6
75°	194.4	190.0	185.6	185.0	184.4	188.8	193.2	196.9	200.7	203.8	207.0
77.5°	151.8	148.0	144.3	144.9	145.5	148.6	151.8	155.5	159.3	161.2	163.1
80°	107.9	106.6	105.4	106.6	107.9	110.4	112.9	115.4	117.9	119.2	120.4
82.5°	74.0	72.8	71.5	73.4	75.3	77.1	79.0	80.9	82.8	83.4	84.0
85°	42.6	44.5	46.4	46.4	46.4	47.0	47.7	48.3	48.9	48.3	47.7
87.5°	20.1	20.7	21.3	21.3	21.3	22.0	22.6	22.6	22.6	22.0	21.3
90°	10.8	13.6	16.8	20.0	23.1	26.3	27.3	28.2	29.2	30.2	30.9
92.5°	19.3	19.7	21.9	24.1	26.3	28.5	30.2	31.9	33.6	35.3	36.3
95°	26.9	23.2	25.9	28.6	31.3	33.9	35.7	37.4	39.1	40.8	41.6
97.5°	94.3	84.7	72.3	59.9	47.5	35.0	37.0	38.9	40.9	42.8	43.9
100°	204.5	188.0	150.0	112.1	74.1	36.1	38.1	40.0	42.0	43.9	45.0
102.5°	270.0	250.4	208.1	165.7	123.4	81.0	73.0	65.0	56.9	48.9	45.1
105°	337.0	327.4	305.5	283.6	261.7	239.8	196.7	153.7	110.6	67.5	46.2
107.5°	408.5	411.4	415.0	418.7	422.3	426.0	388.5	351.0	313.6	276.1	241.4
110°	480.9	483.2	485.8	488.5	491.2	493.9	485.8	477.8	469.8	461.7	440.3



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CATALOG NUMBER: S123DIP-S1000D1195U830-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	550.0	552.2	554.8	557.5	560.2	562.9	565.0	567.2	569.4	571.6	572.5
115°	618.0	619.8	622.0	624.2	626.4	628.6	631.0	633.4	635.9	638.3	640.0
117.5°	686.8	688.3	689.5	690.7	692.0	693.2	695.1	697.1	699.0	701.0	702.1
120°	751.2	752.7	753.4	754.1	754.9	755.6	757.5	759.5	761.4	763.4	764.3
122.5°	812.8	814.1	815.1	816.1	817.0	818.0	819.2	820.4	821.7	822.9	823.6
125°	870.7	872.2	873.1	874.1	875.1	876.0	876.5	877.0	877.5	878.0	878.5
127.5°	927.6	929.2	930.4	931.6	932.9	934.1	934.8	935.5	936.3	937.0	937.1
130°	980.2	981.7	982.6	983.6	984.6	985.5	986.5	987.5	988.5	989.4	989.7
132.5°	1030.6	1031.9	1032.6	1033.4	1034.1	1034.8	1035.8	1036.8	1037.7	1038.7	1038.8
135°	1080.1	1081.3	1082.3	1083.3	1084.2	1085.2	1085.9	1086.7	1087.4	1088.1	1088.1
137.5°	1125.8	1127.1	1127.5	1128.0	1128.5	1129.0	1130.2	1131.4	1132.7	1133.9	1134.2
140°	1167.7	1168.8	1169.5	1170.2	1171.0	1171.7	1172.7	1173.7	1174.6	1175.6	1175.8
142.5°	1208.2	1209.3	1210.0	1210.8	1211.5	1212.2	1213.0	1213.7	1214.4	1215.1	1215.1
145°	1246.4	1247.5	1248.0	1248.5	1249.0	1249.5	1249.9	1250.4	1250.9	1251.4	1251.6
147.5°	1280.6	1281.5	1281.9	1282.4	1282.9	1283.4	1283.9	1284.4	1284.9	1285.4	1285.0
150°	1311.5	1312.1	1312.6	1313.1	1313.6	1314.1	1314.6	1315.0	1315.5	1316.0	1315.9
152.5°	1339.1	1339.4	1339.6	1339.9	1340.1	1340.3	1341.3	1342.3	1343.3	1344.2	1344.1
155°	1363.6	1363.5	1363.7	1364.0	1364.2	1364.4	1365.7	1366.9	1368.1	1369.3	1369.2
157.5°	1387.4	1387.3	1387.1	1386.8	1386.6	1386.3	1387.8	1389.3	1390.7	1392.2	1391.9
160°	1406.2	1405.9	1405.7	1405.4	1405.2	1405.0	1406.4	1407.9	1409.3	1410.8	1410.7
162.5°	1422.8	1422.4	1422.1	1421.9	1421.6	1421.4	1423.1	1424.8	1426.5	1428.2	1428.3
165°	1437.1	1436.6	1436.3	1436.1	1435.9	1435.6	1437.6	1439.5	1441.5	1443.4	1443.5
167.5°	1448.1	1447.7	1447.7	1447.7	1447.7	1447.7	1449.6	1451.6	1453.5	1455.4	1455.4
170°	1458.0	1457.5	1457.5	1457.5	1457.5	1457.5	1459.5	1461.4	1463.4	1465.3	1465.3
172.5°	1463.6	1463.1	1463.4	1463.6	1463.8	1464.1	1466.0	1468.0	1469.9	1471.9	1471.8
175°	1469.1	1468.6	1468.8	1469.1	1469.3	1469.6	1471.3	1473.0	1474.7	1476.4	1476.3
177.5°	1471.3	1470.8	1471.0	1471.3	1471.5	1471.8	1473.7	1475.6	1477.6	1479.5	1479.3
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9



TEST NUMBER: P831072

CATALOG NUMBER: S123DIP-S1000D1195U830-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2703.1	2703.1	2703.1	2703.1
2.5°	2402.7	2398.3	2380.8	2363.2
5°	2037.1	2022.0	2017.0	2012.0
7.5°	1779.9	1778.7	1752.3	1726.0
10°	1553.5	1555.4	1531.6	1507.7
12.5°	1391.7	1376.0	1374.1	1372.3
15°	1270.0	1255.6	1253.1	1250.6
17.5°	1184.1	1175.3	1172.8	1170.3
20°	1118.9	1113.9	1109.5	1105.1
22.5°	1062.4	1056.2	1052.4	1048.6
25°	1007.9	1002.2	1001.0	999.7
27.5°	959.0	952.1	952.1	952.1
30°	912.5	908.2	906.3	904.4
32.5°	869.3	865.5	865.5	865.5
35°	828.5	826.6	824.1	821.6
37.5°	791.5	791.5	790.2	789.0
40°	755.7	757.6	757.6	757.6
42.5°	723.1	725.0	725.0	725.0
45°	689.3	692.4	693.7	694.9
47.5°	656.0	661.0	662.3	663.6
50°	623.4	627.2	627.8	628.4
52.5°	590.2	594.6	597.7	600.8
55°	555.1	559.4	561.3	563.2
57.5°	517.4	521.8	522.4	523.1
60°	476.0	480.4	481.7	482.9
62.5°	436.5	439.0	440.3	441.5
65°	391.4	395.1	397.6	400.1
67.5°	348.1	351.2	351.2	351.2
70°	299.8	301.0	302.9	304.8
72.5°	255.3	255.9	255.9	255.9
75°	208.2	209.5	210.1	210.7
77.5°	163.7	164.3	164.3	164.3
80°	119.8	119.2	119.2	119.2
82.5°	82.2	80.3	80.3	80.3
85°	47.0	46.4	47.0	47.7
87.5°	21.3	21.3	21.3	21.3
90°	31.4	31.9	32.4	32.9
92.5°	36.5	36.7	37.0	37.2
95°	41.6	41.6	41.6	41.6
97.5°	44.2	44.4	44.7	44.9
100°	45.3	45.5	45.7	46.0
102.5°	45.6	46.1	46.6	47.1
105°	46.7	47.2	47.7	48.2
107.5°	209.5	177.6	145.8	113.9
110°	405.5	370.7	335.9	301.1



TEST NUMBER: P831072

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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	572.0	571.5	571.0	570.5
115°	641.0	641.9	642.9	643.9
117.5°	702.3	702.5	702.8	703.0
120°	764.3	764.3	764.3	764.3
122.5°	823.8	824.1	824.3	824.6
125°	879.0	879.5	879.9	880.4
127.5°	936.6	936.2	935.7	935.2
130°	989.2	988.7	988.2	987.7
132.5°	1038.1	1037.4	1036.7	1035.9
135°	1087.4	1086.7	1085.9	1085.2
137.5°	1133.7	1133.3	1132.8	1132.3
140°	1175.4	1174.9	1174.4	1173.9
142.5°	1214.4	1213.7	1213.0	1212.2
145°	1251.6	1251.6	1251.6	1251.6
147.5°	1283.8	1282.6	1281.3	1280.1
150°	1315.2	1314.4	1313.7	1313.0
152.5°	1342.9	1341.7	1340.5	1339.3
155°	1367.7	1366.3	1364.8	1363.3
157.5°	1390.0	1388.0	1386.1	1384.1
160°	1409.0	1407.3	1405.6	1403.9
162.5°	1426.9	1425.4	1423.9	1422.5
165°	1441.8	1440.1	1438.4	1436.7
167.5°	1453.5	1451.6	1449.6	1447.7
170°	1463.4	1461.4	1459.5	1457.5
172.5°	1469.6	1467.4	1465.2	1463.0
175°	1474.3	1472.4	1470.4	1468.5
177.5°	1476.9	1474.4	1472.0	1469.6
180°	1473.9	1473.9	1473.9	1473.9



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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	15.20	16.02	16.17	17.00	18.29	17.44	18.26	18.41	19.24	20.52
	3H	16.85	17.58	17.83	18.57	19.88	18.86	19.59	19.84	20.58	21.89
	4H	17.42	18.11	18.42	19.11	20.42	19.31	20.00	20.30	20.99	22.31
	6H	17.79	18.43	18.80	19.43	20.75	19.58	20.22	20.59	21.22	22.55
	8H	17.88	18.49	18.90	19.51	20.83	19.64	20.25	20.66	21.26	22.59
	12H	17.93	18.51	18.95	19.51	20.86	19.66	20.24	20.68	21.25	22.59
4H	2H	15.77	16.46	16.77	17.46	18.77	17.60	18.29	18.60	19.28	20.60
	3H	17.60	18.17	18.61	19.20	20.53	19.21	19.79	20.22	20.81	22.14
	4H	18.29	18.82	19.31	19.84	21.19	19.79	20.32	20.81	21.34	22.69
	6H	18.77	19.22	19.79	20.26	21.61	20.20	20.65	21.23	21.69	23.04
	8H	18.90	19.32	19.93	20.36	21.72	20.31	20.73	21.34	21.76	23.13
	12H	18.97	19.35	20.01	20.39	21.76	20.35	20.73	21.40	21.78	23.15
8H	4H	18.56	18.98	19.59	20.01	21.37	19.90	20.32	20.93	21.35	22.71
	6H	19.14	19.49	20.20	20.56	21.93	20.40	20.75	21.45	21.82	23.18
	8H	19.35	19.66	20.41	20.72	22.10	20.58	20.88	21.64	21.94	23.32
	12H	19.47	19.74	20.54	20.79	22.22	20.68	20.95	21.74	22.00	23.42
12H	4H	18.55	18.94	19.60	19.98	21.35	19.87	20.25	20.92	21.30	22.67
	6H	19.19	19.50	20.25	20.56	21.94	20.41	20.72	21.47	21.78	23.16
	8H	19.43	19.70	20.49	20.75	22.17	20.61	20.88	21.67	21.93	23.36