

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: P831548

Luminaire Tested: S123DIP-S560D585U930-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831548
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U930-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

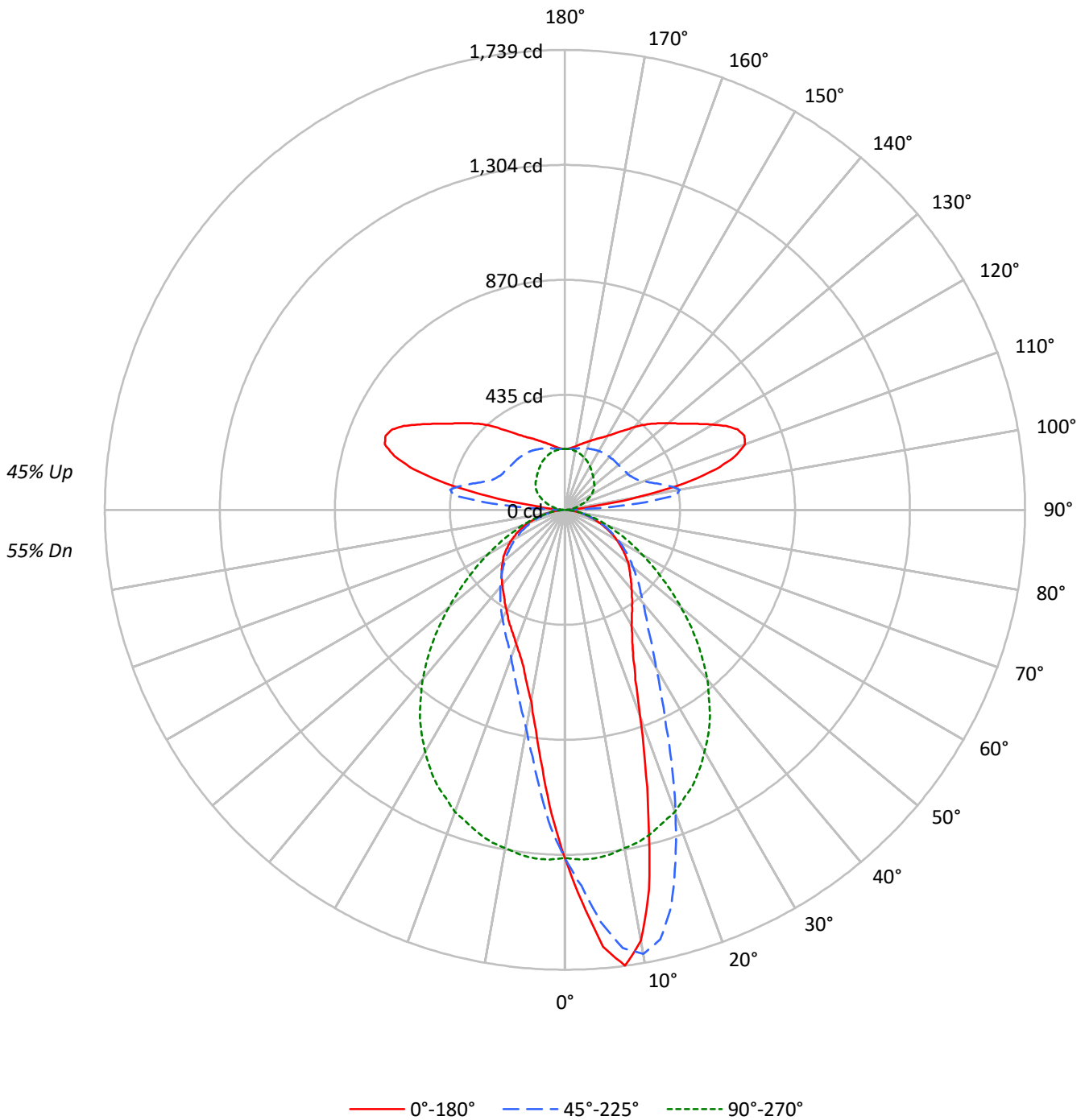
Lumens per Lamp: N/A
Luminaire Lumens: 3844.8 lumens
Efficiency: N/A
Efficacy: 110.5 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 34.8
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				
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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55		
1	99	95	92	88	92	89	86	83	76	74	72	65	63	62	55	53	52	47		
2	91	84	78	73	84	78	73	69	68	64	61	58	55	53	49	47	45	41		
3	84	74	67	62	77	70	63	58	60	56	52	52	48	45	44	41	39	35		
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	34	31		
5	71	60	52	46	66	56	49	44	49	43	39	42	38	35	36	33	31	27		
6	66	54	46	40	61	51	44	38	44	39	35	39	34	31	33	30	27	25		
7	61	49	41	36	57	46	39	34	41	35	31	35	31	28	31	27	25	22		
8	57	45	37	32	53	42	35	31	37	32	28	33	28	25	28	25	22	20		
9	53	41	34	29	49	39	32	28	34	29	25	30	26	23	26	23	21	19		
10	50	38	31	26	46	36	30	25	32	27	23	28	24	21	25	21	19	17		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	14165	14165	14165	14165	14165
5°	17915	16908	14292	11517	10584
10°	18088	18636	14197	9181	8023
15°	13624	17302	14100	7775	6784
20°	9493	14001	13920	6800	6163
25°	7238	10766	13613	6255	5780
30°	6262	8554	13123	5872	5473
35°	5809	7222	12558	5593	5256
40°	5500	6479	11764	5328	5182
45°	5317	5996	10755	5122	5150
50°	5226	5615	9562	4933	5123
55°	5031	5335	8389	4755	5146
60°	4850	5035	7231	4588	5061
65°	4557	4753	6238	4409	4961
70°	4208	4390	5303	4113	4670
75°	3810	3938	4546	3822	4267
80°	3143	3446	3595	3329	3595
85°	2495	2791	2643	2828	2865

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 12280 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.4	3.2
10°-20°	309.5	8.1
20°-30°	366.5	9.5
30°-40°	368.5	9.6
40°-50°	338.1	8.8
50°-60°	279.0	7.3
60°-70°	197.4	5.1
70°-80°	105.4	2.7
80°-90°	28.0	0.7
90°-100°	124.7	3.2
100°-110°	365.0	9.5
110°-120°	356.4	9.3
120°-130°	283.8	7.4
130°-140°	223.9	5.8
140°-150°	167.1	4.3
150°-160°	116.5	3.0
160°-170°	68.4	1.8
170°-180°	22.3	0.6
0°-30°	800.4	20.8
0°-40°	1168.9	30.4
0°-60°	1786.0	46.5
0°-90°	2116.8	55.1
90°-120°	846.0	22.0
90°-150°	1520.8	39.6
90°-180°	1728.0	44.9
0°-180°	3844.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1316	1316	1316	1316	1316	
5°	1658	1565	1323	1066	980	158
15°	1223	1553	1265	698	609	338
25°	609	906	1146	527	487	288
35°	442	550	956	426	400	278
45°	349	394	706	336	338	271
55°	268	284	447	253	274	240
65°	179	187	245	173	195	178
75°	92	95	109	92	103	96
85°	20	23	21	23	23	23
90°	14	12	1	12	14	8
95°	54	276	16	276	54	88
105°	592	374	54	374	592	590
115°	719	286	95	286	719	702
125°	567	267	132	267	567	513
135°	460	263	155	263	460	357
145°	360	260	177	260	360	228
155°	298	252	201	252	298	139
165°	260	241	220	241	260	74
175°	234	231	229	231	234	23
180°	230	230	230	230	230	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0
2.5°	1483.3	1481.8	1480.3	1472.6	1465.0	1461.3	1457.7	1446.7	1435.7	1423.5	1411.3
5°	1658.0	1662.2	1666.5	1661.6	1656.7	1641.8	1626.8	1607.0	1587.1	1564.8	1542.5
7.5°	1738.6	1741.0	1743.5	1740.4	1737.4	1733.4	1729.4	1711.7	1694.0	1671.1	1648.2
10°	1654.9	1660.4	1665.9	1677.8	1689.7	1703.2	1716.6	1714.1	1711.7	1705.0	1698.3
12.5°	1471.1	1477.8	1484.5	1508.4	1532.2	1562.7	1593.2	1619.5	1645.8	1664.1	1682.4
15°	1222.6	1241.2	1259.8	1281.5	1303.2	1348.0	1392.9	1448.2	1503.5	1552.6	1601.8
17.5°	1007.0	1014.0	1021.0	1044.2	1067.4	1123.9	1180.4	1244.2	1308.1	1389.6	1471.1
20°	828.7	835.1	841.5	872.0	902.6	946.8	991.1	1062.9	1134.6	1222.3	1309.9
22.5°	696.2	706.2	716.3	733.4	750.5	793.0	835.4	899.2	963.0	1059.8	1156.6
25°	609.4	616.8	624.1	634.5	644.9	678.8	712.6	765.2	817.7	906.5	995.4
27.5°	550.2	553.3	556.3	566.7	577.1	599.1	621.0	666.2	711.4	786.8	862.3
30°	503.8	505.9	508.1	517.2	526.4	541.4	556.3	589.0	621.7	688.2	754.8
32.5°	471.4	473.0	474.5	481.5	488.5	499.2	509.9	533.7	557.5	612.5	667.5
35°	442.1	443.0	444.0	449.1	454.3	462.3	470.2	488.2	506.2	549.6	593.0
37.5°	416.5	417.7	418.9	422.0	425.0	432.0	439.1	453.4	467.8	501.1	534.3
40°	391.4	393.6	395.7	397.9	400.0	405.8	411.6	422.6	433.6	461.1	488.5
42.5°	370.1	372.2	374.3	375.3	376.2	379.5	382.9	393.0	403.0	423.5	444.0
45°	349.3	350.2	351.1	352.1	353.0	355.7	358.5	367.3	376.2	393.9	411.6
47.5°	330.4	330.4	330.4	331.0	331.6	334.0	336.5	342.9	349.3	363.0	376.8
50°	312.1	312.1	312.1	311.1	310.2	311.7	313.3	318.2	323.0	335.3	347.5
52.5°	290.1	290.1	290.1	290.4	290.7	290.7	290.7	295.0	299.2	310.2	321.2
55°	268.1	269.3	270.5	269.6	268.7	269.3	269.9	272.7	275.4	284.3	293.1
57.5°	246.1	246.7	247.3	247.0	246.7	247.0	247.3	249.8	252.2	258.9	265.6
60°	225.3	225.3	225.3	224.7	224.1	224.7	225.3	226.6	227.8	233.9	240.0
62.5°	202.1	202.4	202.7	203.0	203.4	202.7	202.1	203.7	205.2	209.8	214.3
65°	178.9	179.2	179.5	180.5	181.4	180.8	180.1	181.7	183.2	186.6	189.9
67.5°	158.2	157.6	156.9	157.2	157.6	158.5	159.4	159.7	160.0	163.7	167.3
70°	133.7	134.3	135.0	134.7	134.3	134.7	135.0	135.9	136.8	139.5	142.3
72.5°	111.8	112.1	112.4	112.4	112.4	113.0	113.6	114.5	115.4	116.9	118.5
75°	91.6	91.6	91.6	92.2	92.8	93.1	93.4	93.4	93.4	94.7	95.9
77.5°	69.6	71.1	72.7	72.4	72.1	72.7	73.3	74.2	75.1	75.7	76.3
80°	50.7	50.7	50.7	51.0	51.3	52.2	53.1	53.7	54.3	55.6	56.8
82.5°	32.4	32.7	33.0	33.9	34.8	35.4	36.0	36.9	37.9	37.9	37.9
85°	20.2	19.5	18.9	19.5	20.2	20.8	21.4	21.7	22.0	22.6	23.2
87.5°	9.8	9.8	9.8	9.8	9.8	10.1	10.4	10.4	10.4	10.4	10.4
90°	13.5	14.0	13.5	13.0	13.5	12.6	12.1	11.6	11.2	11.6	10.2
92.5°	24.6	25.6	25.1	27.0	27.9	31.2	35.8	46.0	64.6	86.5	95.8
95°	53.9	55.8	59.1	63.2	72.1	88.8	113.5	167.4	223.7	275.8	245.5
97.5°	110.7	115.8	127.0	144.6	175.8	228.8	290.2	384.6	438.5	424.1	316.7
100°	291.6	291.1	309.2	343.2	390.2	456.2	510.6	548.3	532.0	440.4	297.6
102.5°	461.8	475.3	489.7	514.8	548.7	584.5	610.6	602.7	536.6	410.2	269.7
105°	591.5	593.8	608.7	626.4	647.8	659.9	651.0	604.5	507.3	373.9	247.9
107.5°	676.1	681.3	687.3	695.7	698.5	685.9	649.6	576.6	465.5	341.8	232.0
110°	724.5	725.4	726.4	722.6	709.6	677.1	618.5	532.9	426.4	315.3	223.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	734.3	733.8	729.2	715.7	689.2	645.0	577.6	489.7	392.5	297.6	219.0
115°	719.4	717.1	707.8	687.3	652.4	601.7	533.4	452.5	366.4	286.0	218.6
117.5°	686.8	683.6	669.6	646.8	610.6	558.0	495.3	423.6	349.2	278.1	219.0
120°	644.1	641.3	630.1	604.1	567.3	520.4	464.6	401.8	336.2	273.0	220.9
122.5°	604.1	600.3	587.8	565.0	533.4	490.6	439.9	384.6	325.5	269.7	224.1
125°	567.3	564.1	552.4	532.0	502.2	465.0	420.4	369.7	316.7	266.9	227.4
127.5°	535.7	532.9	522.2	504.6	477.6	443.2	402.2	356.2	308.3	265.5	231.1
130°	509.7	505.9	496.2	479.4	454.8	423.2	385.5	343.7	301.8	264.1	234.8
132.5°	484.1	481.8	473.4	456.7	433.9	404.1	369.7	332.0	295.8	263.7	237.6
135°	459.9	456.7	448.3	434.3	411.5	385.0	354.8	321.8	290.6	263.2	240.4
137.5°	434.3	431.5	424.6	410.2	390.6	366.9	339.9	312.0	286.0	262.3	242.3
140°	407.4	407.8	400.4	387.4	369.7	349.7	327.4	303.7	281.8	261.8	244.1
142.5°	382.3	382.7	376.2	365.0	350.6	333.9	315.3	295.8	278.1	260.9	245.5
145°	359.5	358.5	354.8	345.0	333.4	319.9	305.1	289.7	274.8	259.9	246.0
147.5°	339.9	339.5	335.7	328.8	319.5	309.7	297.2	284.6	271.6	258.6	246.0
150°	323.2	323.2	320.4	315.3	308.3	299.5	289.7	279.0	268.3	256.7	246.0
152.5°	309.2	309.2	307.8	303.2	298.1	291.1	282.7	273.9	264.6	254.4	244.6
155°	298.1	297.6	296.7	293.0	288.8	283.2	276.2	268.8	260.9	251.6	243.7
157.5°	287.4	287.4	286.5	283.7	279.9	275.3	269.7	263.2	256.7	249.3	242.3
160°	277.2	277.6	277.6	274.8	271.6	268.3	263.7	258.6	252.5	246.5	241.3
162.5°	267.9	268.3	268.3	266.0	264.1	261.3	257.2	253.0	248.3	243.7	239.5
165°	259.9	259.9	260.4	258.6	256.7	254.4	251.1	248.3	244.6	240.9	237.6
167.5°	252.0	252.0	252.5	251.1	250.2	248.3	246.5	244.1	240.9	238.1	235.8
170°	245.1	245.1	245.5	244.6	244.1	243.2	241.3	240.0	237.6	235.3	233.9
172.5°	238.6	239.0	240.0	239.0	239.0	238.6	237.2	236.2	234.4	233.0	232.5
175°	233.9	234.4	234.8	234.4	234.4	234.4	233.4	233.0	232.0	231.1	231.1
177.5°	230.7	230.7	231.6	231.1	231.6	231.6	231.1	230.7	230.2	229.7	230.2
180°	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0
2.5°	1407.6	1403.9	1390.5	1377.1	1361.8	1346.5	1335.2	1323.9	1307.1	1290.3	1276.6
5°	1525.4	1508.4	1480.0	1451.6	1413.1	1374.6	1348.7	1322.7	1287.9	1253.1	1225.3
7.5°	1618.9	1589.6	1549.9	1510.2	1459.8	1409.4	1361.8	1314.2	1261.0	1207.9	1164.5
10°	1678.4	1658.6	1612.8	1567.0	1499.5	1432.0	1365.5	1298.9	1230.5	1162.1	1104.7
12.5°	1684.2	1686.1	1643.9	1601.8	1525.4	1449.1	1368.2	1287.3	1201.2	1115.1	1048.2
15°	1633.2	1664.7	1641.5	1618.3	1541.3	1464.4	1364.8	1265.3	1166.1	1066.8	989.6
17.5°	1538.6	1606.1	1609.4	1612.8	1535.8	1458.9	1348.7	1238.4	1126.1	1013.7	932.5
20°	1409.4	1509.0	1543.2	1577.4	1514.8	1452.2	1333.7	1215.2	1089.4	963.6	878.4
22.5°	1277.5	1398.4	1461.0	1523.6	1477.2	1430.8	1304.7	1178.6	1045.8	912.9	826.5
25°	1127.3	1259.2	1355.4	1451.6	1423.2	1394.8	1270.5	1146.2	1004.9	863.5	775.2
27.5°	996.3	1130.3	1246.4	1362.4	1356.3	1350.2	1226.8	1103.5	958.7	814.0	728.8
30°	879.7	1004.5	1134.3	1264.1	1279.0	1294.0	1174.9	1055.8	910.8	765.8	683.6
32.5°	776.5	885.5	1024.7	1163.9	1193.2	1222.6	1115.1	1007.6	864.1	720.6	641.5
35°	691.9	790.8	930.0	1069.3	1105.9	1142.6	1049.1	955.7	815.9	676.0	600.6
37.5°	617.1	699.8	835.7	971.6	1016.5	1061.3	977.7	894.0	763.0	632.0	562.7
40°	555.1	621.7	746.5	871.4	923.3	975.2	906.2	837.2	713.0	588.7	524.9
42.5°	503.2	562.4	675.7	789.0	838.8	888.5	830.2	771.9	661.4	550.8	492.5
45°	458.9	506.2	609.1	712.0	759.4	806.7	756.6	706.5	609.1	511.7	457.4
47.5°	417.4	458.0	545.9	633.9	676.0	718.1	679.1	640.0	557.5	475.1	425.9
50°	380.1	412.8	489.8	566.7	603.3	640.0	605.5	571.0	503.2	435.4	392.7
52.5°	347.8	374.3	438.8	503.2	534.6	566.1	536.5	506.9	453.1	399.4	362.1
55°	315.7	338.3	394.2	450.1	471.4	492.8	469.9	447.0	403.7	360.3	328.8
57.5°	285.8	305.9	351.7	397.5	414.0	430.5	409.8	389.0	356.3	323.7	297.4
60°	256.5	273.0	311.1	349.3	359.4	369.5	352.7	335.9	313.0	290.1	266.6
62.5°	229.3	244.3	272.7	301.1	307.8	314.5	301.7	288.8	271.4	254.0	235.7
65°	201.2	212.5	235.7	258.9	263.2	267.5	256.2	244.9	231.7	218.6	205.2
67.5°	175.3	183.2	202.1	221.1	221.4	221.7	212.5	203.4	196.0	188.7	178.0
70°	149.9	157.6	170.1	182.6	182.9	183.2	175.9	168.5	163.0	157.6	149.6
72.5°	124.0	129.5	138.9	148.4	147.8	147.2	142.6	138.0	133.7	129.5	123.7
75°	100.5	105.0	111.4	117.9	116.0	114.2	111.8	109.3	105.6	102.0	98.3
77.5°	79.1	81.8	85.5	89.2	87.9	86.7	84.6	82.4	79.7	76.9	75.4
80°	58.0	59.2	61.7	64.1	63.5	62.9	60.5	58.0	57.4	56.8	54.7
82.5°	39.4	40.9	41.5	42.1	41.8	41.5	39.7	37.9	37.3	36.6	36.3
85°	23.5	23.8	24.1	24.4	23.5	22.6	22.0	21.4	21.4	21.4	21.1
87.5°	10.7	11.0	11.0	11.0	10.7	10.4	9.8	9.2	9.5	9.8	9.8
90°	8.8	7.4	6.0	5.1	4.2	2.8	1.9	0.9	1.9	2.8	4.2
92.5°	71.6	47.0	32.1	23.7	19.1	14.9	10.2	7.0	10.2	14.9	19.1
95°	169.3	100.0	60.5	42.3	30.2	22.3	17.2	15.8	17.2	22.3	30.2
97.5°	188.3	107.9	68.8	48.8	36.7	29.8	25.6	25.1	25.6	29.8	36.7
100°	175.3	106.5	73.9	55.8	44.6	38.1	34.9	34.4	34.9	38.1	44.6
102.5°	164.2	108.4	80.0	63.7	53.9	47.9	45.1	44.2	45.1	47.9	53.9
105°	160.0	112.1	87.0	72.5	63.7	58.1	55.3	53.9	55.3	58.1	63.7
107.5°	159.0	118.1	95.8	82.3	73.9	68.4	65.6	64.2	65.6	68.4	73.9
110°	161.4	126.0	105.1	92.1	84.2	79.1	76.7	75.3	76.7	79.1	84.2



TEST NUMBER: P831548

CATALOG NUMBER: S123DIP-S560D585U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	166.0	133.9	114.9	102.3	94.4	89.3	87.0	85.6	87.0	89.3	94.4
115°	171.1	142.8	125.1	112.5	104.6	100.0	97.2	95.3	97.2	100.0	104.6
117.5°	177.6	152.1	134.4	122.8	113.9	109.7	107.4	105.1	107.4	109.7	113.9
120°	185.1	160.9	144.2	132.5	123.7	119.0	116.7	115.3	116.7	119.0	123.7
122.5°	192.1	170.2	153.9	141.4	133.0	127.9	125.6	124.2	125.6	127.9	133.0
125°	199.5	179.0	162.8	150.2	141.4	136.3	133.5	132.5	133.5	136.3	141.4
127.5°	205.5	186.9	171.1	158.6	148.8	143.7	140.4	139.0	140.4	143.7	148.8
130°	211.6	193.9	178.6	166.0	156.2	150.7	146.5	145.1	146.5	150.7	156.2
132.5°	217.2	200.0	185.1	173.0	163.2	156.2	151.6	149.7	151.6	156.2	163.2
135°	221.8	206.0	191.6	179.0	169.3	162.3	157.2	155.3	157.2	162.3	169.3
137.5°	225.5	210.2	196.2	184.6	174.8	167.4	162.3	160.4	162.3	167.4	174.8
140°	228.3	214.4	200.9	189.3	180.0	172.5	167.9	165.5	167.9	172.5	180.0
142.5°	231.1	217.6	204.6	193.9	184.6	178.1	173.0	171.1	173.0	178.1	184.6
145°	233.0	220.4	208.3	197.6	189.7	182.8	178.6	177.2	178.6	182.8	189.7
147.5°	234.4	222.7	211.6	202.3	194.4	188.3	184.1	183.2	184.1	188.3	194.4
150°	234.8	225.1	214.4	206.0	199.5	193.5	189.7	189.3	189.7	193.5	199.5
152.5°	235.8	226.5	217.6	209.7	204.1	199.0	195.3	195.3	195.3	199.0	204.1
155°	235.8	228.3	220.4	213.9	208.8	204.1	201.4	201.4	201.4	204.1	208.8
157.5°	236.2	229.3	222.7	217.6	213.0	208.8	206.5	206.0	206.5	208.8	213.0
160°	236.2	230.7	225.1	220.4	217.2	213.4	211.6	211.6	211.6	213.4	217.2
162.5°	235.8	231.1	226.5	222.7	220.0	217.2	215.8	215.8	215.8	217.2	220.0
165°	234.8	231.6	227.9	224.6	222.7	220.4	219.5	220.0	219.5	220.4	222.7
167.5°	234.4	231.6	228.8	226.5	225.1	223.2	222.7	223.2	222.7	223.2	225.1
170°	233.0	231.1	228.8	227.9	226.9	225.5	225.1	226.0	225.1	225.5	226.9
172.5°	232.5	231.1	229.3	228.8	228.3	227.4	227.4	227.9	227.4	227.4	228.3
175°	231.6	230.7	229.7	229.3	229.3	228.3	228.8	229.3	228.8	228.3	229.3
177.5°	231.1	230.2	229.7	229.7	229.7	229.3	229.7	230.2	229.7	229.3	229.7
180°	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7



TEST NUMBER: P831548

CATALOG NUMBER: S123DIP-S560D585U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0	1316.0
2.5°	1262.9	1251.0	1239.0	1229.9	1220.7	1205.2	1189.6	1185.9	1182.3	1177.1	1171.9
5°	1197.5	1168.2	1138.9	1112.6	1086.4	1065.9	1045.5	1032.0	1018.6	1008.8	999.1
7.5°	1121.2	1077.2	1033.3	1002.1	971.0	941.3	911.7	902.3	892.8	880.0	867.1
10°	1047.3	998.7	950.2	909.6	869.0	840.0	811.0	799.4	787.8	771.6	755.4
12.5°	981.3	928.2	875.1	834.2	793.3	765.2	737.1	720.3	703.5	694.3	685.2
15°	912.3	855.5	798.8	760.9	723.0	697.7	672.3	657.7	643.0	634.2	625.3
17.5°	851.3	795.1	738.9	702.6	666.2	643.0	619.8	607.0	594.2	587.5	580.7
20°	793.3	738.3	683.3	647.9	612.5	593.6	574.6	566.4	558.2	552.7	547.2
22.5°	740.1	686.1	632.0	601.8	571.6	556.3	541.1	535.3	529.4	524.9	520.3
25°	687.0	638.8	590.5	564.9	539.2	526.7	514.2	508.4	502.6	498.0	493.4
27.5°	643.6	597.5	551.4	529.4	507.5	497.7	487.9	483.3	478.8	474.5	470.2
30°	601.5	560.3	519.1	500.1	481.2	472.4	463.5	458.9	454.3	450.4	446.4
32.5°	562.4	527.0	491.6	474.2	456.8	449.5	442.1	436.6	431.1	428.1	425.0
35°	525.2	493.4	461.7	447.3	433.0	425.6	418.3	413.7	409.1	406.7	404.3
37.5°	493.4	465.0	436.6	422.9	409.1	402.1	395.1	391.1	387.2	386.2	385.3
40°	461.1	436.6	412.2	398.8	385.3	379.2	373.1	370.7	368.2	367.6	367.0
42.5°	434.2	410.4	386.6	374.3	362.1	356.9	351.7	350.5	349.3	350.2	351.1
45°	403.0	383.2	363.3	352.1	340.8	336.5	332.2	331.3	330.4	332.2	334.0
47.5°	376.8	358.5	340.1	329.5	318.8	315.7	312.7	312.4	312.1	314.5	316.9
50°	349.9	332.2	314.5	305.9	297.4	294.6	291.9	292.8	293.7	297.7	301.7
52.5°	324.9	308.4	291.9	284.0	276.0	274.2	272.4	274.5	276.6	280.9	285.2
55°	297.4	282.4	267.5	261.4	255.3	253.4	251.6	255.9	260.1	264.1	268.1
57.5°	271.1	258.0	244.9	239.4	233.9	233.6	233.3	237.2	241.2	245.5	249.8
60°	243.0	232.1	221.1	216.8	212.5	213.1	213.7	218.3	222.9	226.3	229.6
62.5°	217.4	208.2	199.1	195.1	191.1	192.7	194.2	198.8	203.4	207.3	211.3
65°	191.7	184.1	176.5	173.7	171.0	173.1	175.3	179.2	183.2	185.9	188.7
67.5°	167.3	160.9	154.5	152.4	150.2	152.4	154.5	158.5	162.4	165.2	167.9
70°	141.7	136.5	131.3	129.8	128.2	130.7	133.1	136.5	139.8	142.6	145.3
72.5°	117.9	113.9	109.9	109.6	109.3	111.4	113.6	116.9	120.3	122.1	124.0
75°	94.7	92.5	90.4	90.1	89.8	91.9	94.0	95.9	97.7	99.2	100.8
77.5°	73.9	72.1	70.2	70.5	70.8	72.4	73.9	75.7	77.6	78.5	79.4
80°	52.5	51.9	51.3	51.9	52.5	53.7	55.0	56.2	57.4	58.0	58.6
82.5°	36.0	35.4	34.8	35.7	36.6	37.6	38.5	39.4	40.3	40.6	40.9
85°	20.8	21.7	22.6	22.6	22.6	22.9	23.2	23.5	23.8	23.5	23.2
87.5°	9.8	10.1	10.4	10.4	10.4	10.7	11.0	11.0	11.0	10.7	10.4
90°	5.1	6.0	7.4	8.8	10.2	11.6	11.2	11.6	12.1	12.6	13.5
92.5°	23.7	32.1	47.0	71.6	95.8	86.5	64.6	46.0	35.8	31.2	27.9
95°	42.3	60.5	100.0	169.3	245.5	275.8	223.7	167.4	113.5	88.8	72.1
97.5°	48.8	68.8	107.9	188.3	316.7	424.1	438.5	384.6	290.2	228.8	175.8
100°	55.8	73.9	106.5	175.3	297.6	440.4	532.0	548.3	510.6	456.2	390.2
102.5°	63.7	80.0	108.4	164.2	269.7	410.2	536.6	602.7	610.6	584.5	548.7
105°	72.5	87.0	112.1	160.0	247.9	373.9	507.3	604.5	651.0	659.9	647.8
107.5°	82.3	95.8	118.1	159.0	232.0	341.8	465.5	576.6	649.6	685.9	698.5
110°	92.1	105.1	126.0	161.4	223.7	315.3	426.4	532.9	618.5	677.1	709.6



TEST NUMBER: P831548

CATALOG NUMBER: S123DIP-S560D585U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	102.3	114.9	133.9	166.0	219.0	297.6	392.5	489.7	577.6	645.0	689.2
115°	112.5	125.1	142.8	171.1	218.6	286.0	366.4	452.5	533.4	601.7	652.4
117.5°	122.8	134.4	152.1	177.6	219.0	278.1	349.2	423.6	495.3	558.0	610.6
120°	132.5	144.2	160.9	185.1	220.9	273.0	336.2	401.8	464.6	520.4	567.3
122.5°	141.4	153.9	170.2	192.1	224.1	269.7	325.5	384.6	439.9	490.6	533.4
125°	150.2	162.8	179.0	199.5	227.4	266.9	316.7	369.7	420.4	465.0	502.2
127.5°	158.6	171.1	186.9	205.5	231.1	265.5	308.3	356.2	402.2	443.2	477.6
130°	166.0	178.6	193.9	211.6	234.8	264.1	301.8	343.7	385.5	423.2	454.8
132.5°	173.0	185.1	200.0	217.2	237.6	263.7	295.8	332.0	369.7	404.1	433.9
135°	179.0	191.6	206.0	221.8	240.4	263.2	290.6	321.8	354.8	385.0	411.5
137.5°	184.6	196.2	210.2	225.5	242.3	262.3	286.0	312.0	339.9	366.9	390.6
140°	189.3	200.9	214.4	228.3	244.1	261.8	281.8	303.7	327.4	349.7	369.7
142.5°	193.9	204.6	217.6	231.1	245.5	260.9	278.1	295.8	315.3	333.9	350.6
145°	197.6	208.3	220.4	233.0	246.0	259.9	274.8	289.7	305.1	319.9	333.4
147.5°	202.3	211.6	222.7	234.4	246.0	258.6	271.6	284.6	297.2	309.7	319.5
150°	206.0	214.4	225.1	234.8	246.0	256.7	268.3	279.0	289.7	299.5	308.3
152.5°	209.7	217.6	226.5	235.8	244.6	254.4	264.6	273.9	282.7	291.1	298.1
155°	213.9	220.4	228.3	235.8	243.7	251.6	260.9	268.8	276.2	283.2	288.8
157.5°	217.6	222.7	229.3	236.2	242.3	249.3	256.7	263.2	269.7	275.3	279.9
160°	220.4	225.1	230.7	236.2	241.3	246.5	252.5	258.6	263.7	268.3	271.6
162.5°	222.7	226.5	231.1	235.8	239.5	243.7	248.3	253.0	257.2	261.3	264.1
165°	224.6	227.9	231.6	234.8	237.6	240.9	244.6	248.3	251.1	254.4	256.7
167.5°	226.5	228.8	231.6	234.4	235.8	238.1	240.9	244.1	246.5	248.3	250.2
170°	227.9	228.8	231.1	233.0	233.9	235.3	237.6	240.0	241.3	243.2	244.1
172.5°	228.8	229.3	231.1	232.5	232.5	233.0	234.4	236.2	237.2	238.6	239.0
175°	229.3	229.7	230.7	231.6	231.1	231.1	232.0	233.0	233.4	234.4	234.4
177.5°	229.7	229.7	230.2	231.1	230.2	229.7	230.2	230.7	231.1	231.6	231.6
180°	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7	229.7



TEST NUMBER: P831548

CATALOG NUMBER: S123DIP-S560D585U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1316.0	1316.0	1316.0	1316.0
2.5°	1169.7	1167.6	1159.0	1150.5
5°	991.7	984.4	982.0	979.5
7.5°	866.5	865.9	853.1	840.3
10°	756.3	757.2	745.6	734.0
12.5°	677.5	669.9	669.0	668.1
15°	618.3	611.3	610.1	608.8
17.5°	576.5	572.2	571.0	569.8
20°	544.7	542.3	540.1	538.0
22.5°	517.2	514.2	512.4	510.5
25°	490.7	487.9	487.3	486.7
27.5°	466.9	463.5	463.5	463.5
30°	444.3	442.1	441.2	440.3
32.5°	423.2	421.4	421.4	421.4
35°	403.3	402.4	401.2	400.0
37.5°	385.3	385.3	384.7	384.1
40°	367.9	368.8	368.8	368.8
42.5°	352.1	353.0	353.0	353.0
45°	335.6	337.1	337.7	338.3
47.5°	319.4	321.8	322.4	323.0
50°	303.5	305.3	305.6	305.9
52.5°	287.3	289.5	291.0	292.5
55°	270.2	272.4	273.3	274.2
57.5°	251.9	254.0	254.3	254.6
60°	231.7	233.9	234.5	235.1
62.5°	212.5	213.7	214.3	215.0
65°	190.5	192.4	193.6	194.8
67.5°	169.5	171.0	171.0	171.0
70°	145.9	146.6	147.5	148.4
72.5°	124.3	124.6	124.6	124.6
75°	101.4	102.0	102.3	102.6
77.5°	79.7	80.0	80.0	80.0
80°	58.3	58.0	58.0	58.0
82.5°	40.0	39.1	39.1	39.1
85°	22.9	22.6	22.9	23.2
87.5°	10.4	10.4	10.4	10.4
90°	13.0	13.5	14.0	13.5
92.5°	27.0	25.1	25.6	24.6
95°	63.2	59.1	55.8	53.9
97.5°	144.6	127.0	115.8	110.7
100°	343.2	309.2	291.1	291.6
102.5°	514.8	489.7	475.3	461.8
105°	626.4	608.7	593.8	591.5
107.5°	695.7	687.3	681.3	676.1
110°	722.6	726.4	725.4	724.5



TEST NUMBER: P831548

CATALOG NUMBER: S123DIP-S560D585U930-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	715.7	729.2	733.8	734.3
115°	687.3	707.8	717.1	719.4
117.5°	646.8	669.6	683.6	686.8
120°	604.1	630.1	641.3	644.1
122.5°	565.0	587.8	600.3	604.1
125°	532.0	552.4	564.1	567.3
127.5°	504.6	522.2	532.9	535.7
130°	479.4	496.2	505.9	509.7
132.5°	456.7	473.4	481.8	484.1
135°	434.3	448.3	456.7	459.9
137.5°	410.2	424.6	431.5	434.3
140°	387.4	400.4	407.8	407.4
142.5°	365.0	376.2	382.7	382.3
145°	345.0	354.8	358.5	359.5
147.5°	328.8	335.7	339.5	339.9
150°	315.3	320.4	323.2	323.2
152.5°	303.2	307.8	309.2	309.2
155°	293.0	296.7	297.6	298.1
157.5°	283.7	286.5	287.4	287.4
160°	274.8	277.6	277.6	277.2
162.5°	266.0	268.3	268.3	267.9
165°	258.6	260.4	259.9	259.9
167.5°	251.1	252.5	252.0	252.0
170°	244.6	245.5	245.1	245.1
172.5°	239.0	240.0	239.0	238.6
175°	234.4	234.8	234.4	233.9
177.5°	231.1	231.6	230.7	230.7
180°	229.7	229.7	229.7	229.7



TEST NUMBER: P831548

CATALOG NUMBER: S123DIP-S560D585U930-4F0-1E-UDD-G4

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	13.24	14.11	14.16	15.04	16.24	15.47	16.34	16.39	17.28	18.48
	3H	14.89	15.66	15.82	16.61	17.83	16.90	17.68	17.83	18.62	19.84
	4H	15.46	16.20	16.41	17.15	18.38	17.35	18.08	18.30	19.03	20.27
	6H	15.83	16.51	16.79	17.46	18.71	17.63	18.30	18.58	19.26	20.50
	8H	15.93	16.57	16.90	17.54	18.79	17.69	18.33	18.65	19.30	20.55
	12H	15.98	16.59	16.95	17.55	18.82	17.71	18.32	18.68	19.28	20.55
4H	2H	13.81	14.55	14.77	15.50	16.73	15.64	16.37	16.59	17.32	18.55
	3H	15.64	16.25	16.61	17.23	18.48	17.26	17.87	18.22	18.85	20.09
	4H	16.34	16.90	17.31	17.87	19.14	17.84	18.40	18.81	19.37	20.64
	6H	16.82	17.30	17.80	18.29	19.56	18.25	18.73	19.23	19.72	20.99
	8H	16.95	17.40	17.94	18.39	19.68	18.36	18.81	19.34	19.80	21.08
	12H	17.02	17.43	18.02	18.43	19.72	18.40	18.81	19.41	19.81	21.10
8H	4H	16.61	17.06	17.59	18.04	19.33	17.95	18.40	18.93	19.39	20.67
	6H	17.20	17.57	18.21	18.60	19.88	18.45	18.82	19.46	19.85	21.13
	8H	17.41	17.73	18.42	18.75	20.05	18.63	18.96	19.65	19.97	21.28
	12H	17.53	17.82	18.55	18.83	20.17	18.73	19.02	19.75	20.03	21.38
12H	4H	16.61	17.01	17.61	18.02	19.31	17.92	18.33	18.93	19.33	20.62
	6H	17.25	17.57	18.27	18.59	19.89	18.47	18.79	19.48	19.81	21.11
	8H	17.48	17.77	18.50	18.78	20.13	18.67	18.95	19.69	19.96	21.31