

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: P831473

Luminaire Tested: S123DIP-S560D1025U940-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831473
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-S560D1025U940-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

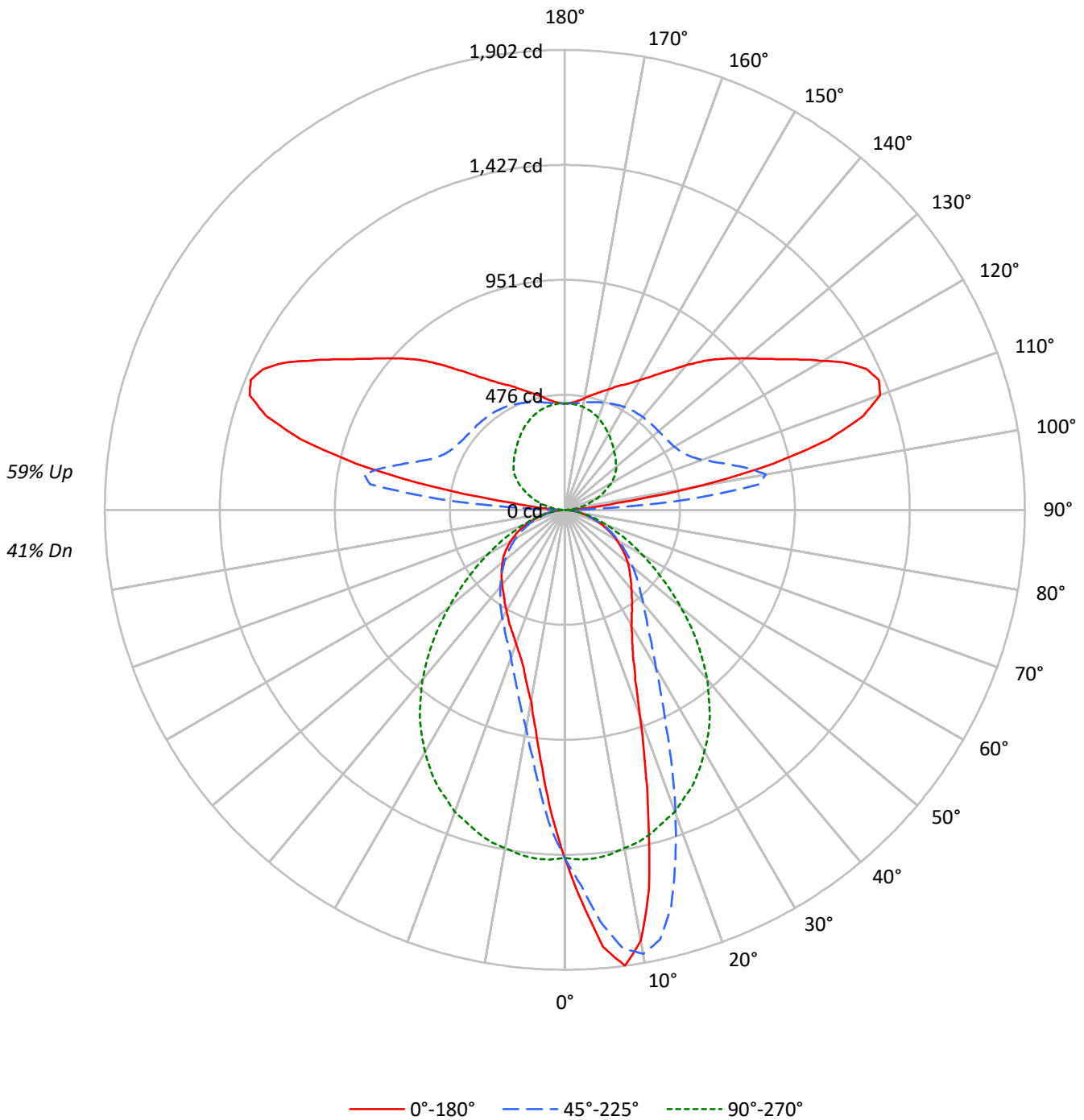
Lumens per Lamp: N/A
Luminaire Lumens: 5623.7 lumens
Efficiency: N/A
Efficacy: 123.6 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 45.5
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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41		
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36		
2	88	81	75	70	80	74	69	65	61	58	55	49	47	45	38	37	36	30		
3	81	72	65	59	73	66	60	55	54	50	47	44	41	39	35	33	31	26		
4	74	64	56	50	67	59	52	47	49	44	40	40	36	33	31	29	27	23		
5	68	57	49	44	62	52	46	41	44	39	35	36	32	29	28	26	24	21		
6	63	51	44	38	57	47	41	36	40	35	31	33	29	26	26	23	21	18		
7	58	47	39	34	53	43	36	32	36	31	27	30	26	23	24	21	19	17		
8	54	42	35	30	49	39	33	28	33	28	25	28	24	21	22	20	18	15		
9	51	39	32	27	46	36	30	25	31	26	22	25	22	19	21	18	16	14		
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	19	17	15	13		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	15493	15493	15493	15493	15493
5°	19594	18493	15632	12597	11575
10°	19783	20382	15527	10041	8775
15°	14900	18923	15422	8504	7421
20°	10381	15313	15224	7436	6740
25°	7917	11776	14890	6842	6322
30°	6848	9355	14353	6421	5986
35°	6355	7899	13736	6117	5749
40°	6015	7086	12867	5828	5668
45°	5815	6558	11764	5602	5632
50°	5715	6141	10458	5397	5603
55°	5502	5834	9175	5202	5628
60°	5307	5507	7907	5018	5535
65°	4984	5196	6821	4824	5428
70°	4604	4803	5800	4497	5108
75°	4167	4304	4974	4180	4666
80°	3434	3769	3936	3645	3936
85°	2717	3051	2890	3088	3137

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 13431 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.1	2.4
10°-20°	338.5	6.0
20°-30°	400.8	7.1
30°-40°	403.0	7.2
40°-50°	369.8	6.6
50°-60°	305.2	5.4
60°-70°	215.9	3.8
70°-80°	115.2	2.0
80°-90°	31.7	0.6
90°-100°	238.6	4.2
100°-110°	698.6	12.4
110°-120°	682.2	12.1
120°-130°	543.3	9.7
130°-140°	428.6	7.6
140°-150°	319.8	5.7
150°-160°	222.9	4.0
160°-170°	131.0	2.3
170°-180°	42.6	0.8
0°-30°	875.4	15.6
0°-40°	1278.4	22.7
0°-60°	1953.4	34.7
0°-90°	2316.2	41.2
90°-120°	1619.3	28.8
90°-150°	2911.0	51.8
90°-180°	3308.0	58.8
0°-180°	5623.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1439	1439	1439	1439	1439	
5°	1813	1712	1447	1166	1071	173
15°	1337	1698	1384	763	666	369
25°	667	992	1254	576	532	315
35°	484	601	1045	466	438	304
45°	382	431	773	368	370	296
55°	293	311	489	277	300	262
65°	196	204	268	189	213	194
75°	100	104	120	100	112	105
85°	22	25	23	25	25	25
90°	26	22	2	22	26	15
95°	103	528	30	528	103	168
105°	1132	716	103	716	1132	1130
115°	1377	547	182	547	1377	1343
125°	1086	511	254	511	1086	983
135°	880	504	297	504	880	683
145°	688	498	339	498	688	437
155°	570	482	385	482	570	266
165°	498	461	421	461	498	142
175°	448	442	439	442	448	43
180°	440	440	440	440	440	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3
2.5°	1622.3	1620.7	1619.0	1610.6	1602.3	1598.3	1594.3	1582.3	1570.2	1556.9	1543.5
5°	1813.4	1818.0	1822.7	1817.4	1812.0	1795.7	1779.3	1757.6	1735.9	1711.5	1687.1
7.5°	1901.5	1904.2	1906.9	1903.5	1900.2	1895.8	1891.5	1872.1	1852.8	1827.7	1802.7
10°	1810.0	1816.0	1822.0	1835.1	1848.1	1862.8	1877.5	1874.8	1872.1	1864.8	1857.4
12.5°	1609.0	1616.3	1623.7	1649.7	1675.8	1709.2	1742.6	1771.3	1800.0	1820.0	1840.1
15°	1337.1	1357.5	1377.9	1401.6	1425.3	1474.4	1523.5	1583.9	1644.4	1698.1	1751.9
17.5°	1101.4	1109.1	1116.7	1142.1	1167.5	1229.3	1291.1	1360.8	1430.6	1519.8	1609.0
20°	906.3	913.4	920.4	953.8	987.2	1035.6	1084.0	1162.5	1241.0	1336.8	1432.6
22.5°	761.4	772.4	783.4	802.1	820.9	867.3	913.7	983.5	1053.3	1159.1	1265.0
25°	666.6	674.6	682.6	693.9	705.3	742.4	779.4	836.9	894.3	991.5	1088.7
27.5°	601.8	605.1	608.5	619.8	631.2	655.2	679.3	728.7	778.1	860.6	943.1
30°	551.0	553.4	555.7	565.7	575.7	592.1	608.5	644.2	679.9	752.7	825.5
32.5°	515.6	517.3	519.0	526.6	534.3	546.0	557.7	583.7	609.8	669.9	730.0
35°	483.6	484.6	485.6	491.2	496.9	505.6	514.3	534.0	553.7	601.1	648.5
37.5°	455.5	456.8	458.2	461.5	464.9	472.5	480.2	495.9	511.6	548.0	584.4
40°	428.1	430.5	432.8	435.1	437.5	443.8	450.2	462.2	474.2	504.3	534.3
42.5°	404.7	407.1	409.4	410.4	411.4	415.1	418.8	429.8	440.8	463.2	485.6
45°	382.0	383.0	384.0	385.0	386.0	389.1	392.1	401.7	411.4	430.8	450.2
47.5°	361.3	361.3	361.3	362.0	362.7	365.3	368.0	375.0	382.0	397.1	412.1
50°	341.3	341.3	341.3	340.3	339.3	341.0	342.6	348.0	353.3	366.7	380.0
52.5°	317.3	317.3	317.3	317.6	317.9	317.9	317.9	322.6	327.3	339.3	351.3
55°	293.2	294.5	295.9	294.9	293.9	294.5	295.2	298.2	301.2	310.9	320.6
57.5°	269.2	269.8	270.5	270.2	269.8	270.2	270.5	273.2	275.8	283.2	290.5
60°	246.5	246.5	246.5	245.8	245.1	245.8	246.5	247.8	249.1	255.8	262.5
62.5°	221.1	221.4	221.7	222.1	222.4	221.7	221.1	222.7	224.4	229.4	234.4
65°	195.7	196.0	196.4	197.4	198.4	197.7	197.0	198.7	200.4	204.0	207.7
67.5°	173.0	172.3	171.7	172.0	172.3	173.3	174.3	174.7	175.0	179.0	183.0
70°	146.3	146.9	147.6	147.3	146.9	147.3	147.6	148.6	149.6	152.6	155.6
72.5°	122.2	122.6	122.9	122.9	122.9	123.6	124.2	125.2	126.2	127.9	129.6
75°	100.2	100.2	100.2	100.9	101.5	101.9	102.2	102.2	102.2	103.5	104.9
77.5°	76.1	77.8	79.5	79.1	78.8	79.5	80.1	81.2	82.2	82.8	83.5
80°	55.4	55.4	55.4	55.8	56.1	57.1	58.1	58.8	59.4	60.8	62.1
82.5°	35.4	35.7	36.1	37.1	38.1	38.7	39.4	40.4	41.4	41.4	41.4
85°	22.0	21.4	20.7	21.4	22.0	22.7	23.4	23.7	24.0	24.7	25.4
87.5°	10.7	10.7	10.7	10.7	10.7	11.0	11.4	11.4	11.4	11.4	11.4
90°	25.8	26.7	25.8	24.9	25.8	24.0	23.1	22.3	21.4	22.3	19.6
92.5°	47.2	49.0	48.1	51.6	53.4	59.6	68.5	88.1	123.7	165.6	183.4
95°	103.3	106.8	113.0	121.1	138.0	170.0	217.2	320.4	428.1	527.8	470.0
97.5°	211.8	221.6	243.0	276.8	336.5	437.9	555.4	736.1	839.4	811.8	606.1
100°	558.1	557.2	591.9	656.9	746.8	873.2	977.3	1049.4	1018.3	842.9	569.7
102.5°	883.9	909.7	937.3	985.3	1050.3	1118.8	1168.7	1153.6	1027.2	785.1	516.3
105°	1132.2	1136.6	1165.1	1198.9	1239.9	1263.0	1246.1	1157.1	971.1	715.6	474.4
107.5°	1294.2	1304.0	1315.5	1331.6	1336.9	1312.9	1243.5	1103.7	891.0	654.2	444.2
110°	1386.8	1388.5	1390.3	1383.2	1358.3	1296.0	1183.8	1020.0	816.2	603.5	428.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1405.4	1404.6	1395.7	1369.8	1319.1	1234.6	1105.5	937.3	751.2	569.7	419.2
115°	1377.0	1372.5	1354.7	1315.5	1248.8	1151.8	1020.9	866.1	701.4	547.4	418.3
117.5°	1314.7	1308.4	1281.7	1238.1	1168.7	1068.1	947.9	810.9	668.5	532.3	419.2
120°	1232.8	1227.4	1206.1	1156.2	1085.9	996.0	889.2	769.0	643.5	522.5	422.8
122.5°	1156.2	1149.1	1125.1	1081.5	1020.9	939.0	842.0	736.1	623.1	516.3	429.0
125°	1085.9	1079.7	1057.4	1018.3	961.3	890.1	804.6	707.6	606.1	510.9	435.3
127.5°	1025.4	1020.0	999.6	965.7	914.1	848.3	769.9	681.8	590.1	508.2	442.4
130°	975.5	968.4	949.7	917.7	870.5	810.0	737.9	657.8	577.7	505.6	449.5
132.5°	926.6	922.1	906.1	874.1	830.5	773.5	707.6	635.5	566.1	504.7	454.8
135°	880.3	874.1	858.0	831.3	787.7	737.0	679.1	615.9	556.3	503.8	460.2
137.5°	831.3	826.0	812.6	785.1	747.7	702.3	650.7	597.2	547.4	502.0	463.7
140°	779.7	780.6	766.4	741.4	707.6	669.3	626.6	581.2	539.4	501.1	467.3
142.5°	731.7	732.5	720.1	698.7	671.1	639.1	603.5	566.1	532.3	499.3	470.0
145°	688.0	686.3	679.1	660.4	638.2	612.4	583.9	554.5	526.0	497.6	470.9
147.5°	650.7	649.8	642.6	629.3	611.5	592.8	568.8	544.7	519.8	494.9	470.9
150°	618.6	618.6	613.3	603.5	590.1	573.2	554.5	534.1	513.6	491.3	470.9
152.5°	591.9	591.9	589.2	580.3	570.5	557.2	541.2	524.3	506.5	486.9	468.2
155°	570.5	569.7	567.9	560.8	552.7	542.1	528.7	514.5	499.3	481.5	466.4
157.5°	550.1	550.1	548.3	543.0	535.8	526.9	516.3	503.8	491.3	477.1	463.7
160°	530.5	531.4	531.4	526.0	519.8	513.6	504.7	494.9	483.3	471.7	462.0
162.5°	512.7	513.6	513.6	509.1	505.6	500.2	492.2	484.2	475.3	466.4	458.4
165°	497.6	497.6	498.4	494.9	491.3	486.9	480.6	475.3	468.2	461.1	454.8
167.5°	482.4	482.4	483.3	480.6	478.9	475.3	471.7	467.3	461.1	455.7	451.3
170°	469.1	469.1	470.0	468.2	467.3	465.5	462.0	459.3	454.8	450.4	447.7
172.5°	456.6	457.5	459.3	457.5	457.5	456.6	453.9	452.2	448.6	445.9	445.0
175°	447.7	448.6	449.5	448.6	448.6	448.6	446.8	445.9	444.2	442.4	442.4
177.5°	441.5	441.5	443.3	442.4	443.3	443.3	442.4	441.5	440.6	439.7	440.6
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3
2.5°	1539.5	1535.5	1520.8	1506.1	1489.4	1472.7	1460.4	1448.0	1429.6	1411.3	1396.2
5°	1668.4	1649.7	1618.7	1587.6	1545.5	1503.4	1475.1	1446.7	1408.6	1370.5	1340.1
7.5°	1770.6	1738.5	1695.1	1651.7	1596.6	1541.5	1489.4	1437.3	1379.2	1321.1	1273.7
10°	1835.7	1814.0	1763.9	1713.8	1640.0	1566.2	1493.4	1420.6	1345.8	1271.0	1208.2
12.5°	1842.1	1844.1	1798.0	1751.9	1668.4	1584.9	1496.4	1407.9	1313.8	1219.6	1146.5
15°	1786.3	1820.7	1795.3	1769.9	1685.8	1601.6	1492.8	1383.9	1275.4	1166.8	1082.3
17.5°	1682.8	1756.6	1760.3	1763.9	1679.8	1595.6	1475.1	1354.5	1231.6	1108.7	1019.9
20°	1541.5	1650.4	1687.8	1725.2	1656.7	1588.3	1458.7	1329.1	1191.5	1053.9	960.8
22.5°	1397.3	1529.5	1598.0	1666.4	1615.7	1564.9	1427.0	1289.1	1143.8	998.5	904.0
25°	1232.9	1377.2	1482.4	1587.6	1556.5	1525.5	1389.6	1253.7	1099.0	944.4	847.9
27.5°	1089.7	1236.3	1363.2	1490.1	1483.4	1476.7	1341.8	1206.9	1048.6	890.3	797.1
30°	962.1	1098.7	1240.6	1382.6	1398.9	1415.3	1285.0	1154.8	996.2	837.5	747.7
32.5°	849.2	968.5	1120.7	1273.0	1305.1	1337.1	1219.6	1102.0	945.1	788.1	701.6
35°	756.7	864.9	1017.2	1169.5	1209.6	1249.6	1147.5	1045.3	892.3	739.4	656.9
37.5°	674.9	765.4	914.0	1062.6	1111.7	1160.8	1069.3	977.8	834.5	691.3	615.5
40°	607.1	679.9	816.5	953.1	1009.9	1066.6	991.2	915.7	779.8	643.9	574.1
42.5°	550.4	615.1	739.0	862.9	917.4	971.8	908.0	844.2	723.3	602.4	538.7
45°	501.9	553.7	666.2	778.8	830.5	882.3	827.5	772.8	666.2	559.7	500.3
47.5°	456.5	500.9	597.1	693.3	739.4	785.5	742.7	700.0	609.8	519.6	465.9
50°	415.8	451.5	535.7	619.8	659.9	700.0	662.2	624.5	550.4	476.2	429.5
52.5°	380.4	409.4	479.9	550.4	584.7	619.1	586.8	554.4	495.6	436.8	396.1
55°	345.3	370.0	431.1	492.2	515.6	539.0	514.0	488.9	441.5	394.1	359.7
57.5°	312.6	334.6	384.7	434.8	452.8	470.9	448.2	425.5	389.7	354.0	325.3
60°	280.5	298.6	340.3	382.0	393.1	404.1	385.7	367.3	342.3	317.3	291.5
62.5°	250.8	267.2	298.2	329.3	336.6	344.0	329.9	315.9	296.9	277.8	257.8
65°	220.1	232.4	257.8	283.2	287.9	292.5	280.2	267.8	253.5	239.1	224.4
67.5°	191.7	200.4	221.1	241.8	242.1	242.4	232.4	222.4	214.4	206.4	194.7
70°	164.0	172.3	186.0	199.7	200.0	200.4	192.4	184.3	178.3	172.3	163.6
72.5°	135.6	141.6	151.9	162.3	161.6	161.0	156.0	150.9	146.3	141.6	135.3
75°	109.9	114.9	121.9	128.9	126.9	124.9	122.2	119.6	115.5	111.5	107.5
77.5°	86.5	89.5	93.5	97.5	96.2	94.8	92.5	90.2	87.2	84.2	82.5
80°	63.5	64.8	67.5	70.1	69.5	68.8	66.1	63.5	62.8	62.1	59.8
82.5°	43.1	44.7	45.4	46.1	45.8	45.4	43.4	41.4	40.7	40.1	39.7
85°	25.7	26.0	26.4	26.7	25.7	24.7	24.0	23.4	23.4	23.4	23.0
87.5°	11.7	12.0	12.0	12.0	11.7	11.4	10.7	10.0	10.4	10.7	10.7
90°	16.9	14.2	11.6	9.8	8.0	5.3	3.6	1.8	3.6	5.3	8.0
92.5°	137.1	89.9	61.4	45.4	36.5	28.5	19.6	13.4	19.6	28.5	36.5
95°	324.0	191.4	115.7	81.0	57.9	42.7	32.9	30.3	32.9	42.7	57.9
97.5°	360.5	206.5	131.7	93.5	70.3	57.0	49.0	48.1	49.0	57.0	70.3
100°	335.6	203.8	141.5	106.8	85.4	73.0	66.8	65.9	66.8	73.0	85.4
102.5°	314.2	207.4	153.1	121.9	103.3	91.7	86.3	84.6	86.3	91.7	103.3
105°	306.2	214.5	166.4	138.9	121.9	111.3	105.9	103.3	105.9	111.3	121.9
107.5°	304.4	226.1	183.4	157.5	141.5	130.8	125.5	122.8	125.5	130.8	141.5
110°	308.9	241.2	201.2	176.2	161.1	151.3	146.9	144.2	146.9	151.3	161.1



TEST NUMBER: P831473

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	317.8	256.3	219.9	195.8	180.7	170.9	166.4	163.8	166.4	170.9	180.7
115°	327.6	273.3	239.4	215.4	200.3	191.4	186.0	182.5	186.0	191.4	200.3
117.5°	340.0	291.1	257.2	235.0	218.1	210.1	205.6	201.2	205.6	210.1	218.1
120°	354.3	308.0	275.9	253.7	236.8	227.9	223.4	220.7	223.4	227.9	236.8
122.5°	367.6	325.8	294.6	270.6	254.6	244.8	240.3	237.7	240.3	244.8	254.6
125°	381.8	342.7	311.5	287.5	270.6	260.8	255.5	253.7	255.5	260.8	270.6
127.5°	393.4	357.8	327.6	303.5	284.8	275.0	268.8	266.1	268.8	275.0	284.8
130°	405.0	371.2	341.8	317.8	299.1	288.4	280.4	277.7	280.4	288.4	299.1
132.5°	415.7	382.7	354.3	331.1	312.4	299.1	290.2	286.6	290.2	299.1	312.4
135°	424.6	394.3	366.7	342.7	324.0	310.6	300.8	297.3	300.8	310.6	324.0
137.5°	431.7	402.3	375.6	353.4	334.7	320.4	310.6	307.1	310.6	320.4	334.7
140°	437.0	410.3	384.5	362.3	344.5	330.2	321.3	316.9	321.3	330.2	344.5
142.5°	442.4	416.6	391.6	371.2	353.4	340.9	331.1	327.6	331.1	340.9	353.4
145°	445.9	421.9	398.8	378.3	363.2	349.8	341.8	339.1	341.8	349.8	363.2
147.5°	448.6	426.4	405.0	387.2	372.1	360.5	352.5	350.7	352.5	360.5	372.1
150°	449.5	430.8	410.3	394.3	381.8	370.3	363.2	362.3	363.2	370.3	381.8
152.5°	451.3	433.5	416.6	401.4	390.7	381.0	373.8	373.8	373.8	381.0	390.7
155°	451.3	437.0	421.9	409.4	399.6	390.7	385.4	385.4	385.4	390.7	399.6
157.5°	452.2	438.8	426.4	416.6	407.7	399.6	395.2	394.3	395.2	399.6	407.7
160°	452.2	441.5	430.8	421.9	415.7	408.5	405.0	405.0	405.0	408.5	415.7
162.5°	451.3	442.4	433.5	426.4	421.0	415.7	413.0	413.0	413.0	415.7	421.0
165°	449.5	443.3	436.1	429.9	426.4	421.9	420.1	421.0	420.1	421.9	426.4
167.5°	448.6	443.3	437.9	433.5	430.8	427.2	426.4	427.2	426.4	427.2	430.8
170°	445.9	442.4	437.9	436.1	434.4	431.7	430.8	432.6	430.8	431.7	434.4
172.5°	445.0	442.4	438.8	437.9	437.0	435.3	435.3	436.1	435.3	435.3	437.0
175°	443.3	441.5	439.7	438.8	438.8	437.0	437.9	438.8	437.9	437.0	438.8
177.5°	442.4	440.6	439.7	439.7	439.7	438.8	439.7	440.6	439.7	438.8	439.7
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



TEST NUMBER: P831473

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3	1439.3
2.5°	1381.2	1368.2	1355.2	1345.2	1335.1	1318.1	1301.1	1297.1	1293.1	1287.4	1281.7
5°	1309.8	1277.7	1245.6	1216.9	1188.2	1165.8	1143.4	1128.8	1114.1	1103.4	1092.7
7.5°	1226.3	1178.2	1130.1	1096.0	1062.0	1029.6	997.2	986.8	976.5	962.4	948.4
10°	1145.5	1092.4	1039.3	994.8	950.4	918.7	887.0	874.3	861.6	843.9	826.2
12.5°	1073.3	1015.2	957.1	912.4	867.6	836.9	806.2	787.8	769.4	759.4	749.4
15°	997.8	935.7	873.6	832.2	790.8	763.1	735.4	719.3	703.3	693.6	683.9
17.5°	931.1	869.6	808.2	768.4	728.7	703.3	677.9	663.9	649.9	642.5	635.2
20°	867.6	807.5	747.4	708.6	669.9	649.2	628.5	619.5	610.5	604.5	598.4
22.5°	809.5	750.4	691.3	658.2	625.2	608.5	591.8	585.4	579.1	574.1	569.1
25°	751.4	698.6	645.9	617.8	589.8	576.1	562.4	556.0	549.7	544.7	539.7
27.5°	704.0	653.5	603.1	579.1	555.0	544.3	533.7	528.6	523.6	519.0	514.3
30°	657.9	612.8	567.7	547.0	526.3	516.6	506.9	501.9	496.9	492.6	488.2
32.5°	615.1	576.4	537.7	518.6	499.6	491.6	483.6	477.5	471.5	468.2	464.9
35°	574.4	539.7	504.9	489.2	473.5	465.5	457.5	452.5	447.5	444.8	442.2
37.5°	539.7	508.6	477.5	462.5	447.5	439.8	432.1	427.8	423.4	422.4	421.4
40°	504.3	477.5	450.8	436.1	421.4	414.8	408.1	405.4	402.7	402.1	401.4
42.5°	474.9	448.8	422.8	409.4	396.1	390.4	384.7	383.4	382.0	383.0	384.0
45°	440.8	419.1	397.4	385.0	372.7	368.0	363.3	362.3	361.3	363.3	365.3
47.5°	412.1	392.1	372.0	360.3	348.6	345.3	342.0	341.6	341.3	344.0	346.6
50°	382.7	363.3	344.0	334.6	325.3	322.3	319.3	320.3	321.3	325.6	329.9
52.5°	355.3	337.3	319.3	310.6	301.9	299.9	297.9	300.2	302.6	307.2	311.9
55°	325.3	308.9	292.5	285.9	279.2	277.2	275.2	279.9	284.5	288.9	293.2
57.5°	296.5	282.2	267.8	261.8	255.8	255.5	255.1	259.5	263.8	268.5	273.2
60°	265.8	253.8	241.8	237.1	232.4	233.1	233.8	238.8	243.8	247.5	251.1
62.5°	237.8	227.8	217.7	213.4	209.1	210.7	212.4	217.4	222.4	226.8	231.1
65°	209.7	201.4	193.0	190.0	187.0	189.4	191.7	196.0	200.4	203.4	206.4
67.5°	183.0	176.0	169.0	166.6	164.3	166.6	169.0	173.3	177.7	180.7	183.7
70°	155.0	149.3	143.6	141.9	140.3	142.9	145.6	149.3	152.9	156.0	159.0
72.5°	128.9	124.6	120.2	119.9	119.6	121.9	124.2	127.9	131.6	133.6	135.6
75°	103.5	101.2	98.8	98.5	98.2	100.5	102.9	104.9	106.9	108.5	110.2
77.5°	80.8	78.8	76.8	77.1	77.5	79.1	80.8	82.8	84.8	85.8	86.8
80°	57.4	56.8	56.1	56.8	57.4	58.8	60.1	61.4	62.8	63.5	64.1
82.5°	39.4	38.7	38.1	39.1	40.1	41.1	42.1	43.1	44.1	44.4	44.7
85°	22.7	23.7	24.7	24.7	24.7	25.0	25.4	25.7	26.0	25.7	25.4
87.5°	10.7	11.0	11.4	11.4	11.4	11.7	12.0	12.0	12.0	11.7	11.4
90°	9.8	11.6	14.2	16.9	19.6	22.3	21.4	22.3	23.1	24.0	25.8
92.5°	45.4	61.4	89.9	137.1	183.4	165.6	123.7	88.1	68.5	59.6	53.4
95°	81.0	115.7	191.4	324.0	470.0	527.8	428.1	320.4	217.2	170.0	138.0
97.5°	93.5	131.7	206.5	360.5	606.1	811.8	839.4	736.1	555.4	437.9	336.5
100°	106.8	141.5	203.8	335.6	569.7	842.9	1018.3	1049.4	977.3	873.2	746.8
102.5°	121.9	153.1	207.4	314.2	516.3	785.1	1027.2	1153.6	1168.7	1118.8	1050.3
105°	138.9	166.4	214.5	306.2	474.4	715.6	971.1	1157.1	1246.1	1263.0	1239.9
107.5°	157.5	183.4	226.1	304.4	444.2	654.2	891.0	1103.7	1243.5	1312.9	1336.9
110°	176.2	201.2	241.2	308.9	428.1	603.5	816.2	1020.0	1183.8	1296.0	1358.3



TEST NUMBER: P831473

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	195.8	219.9	256.3	317.8	419.2	569.7	751.2	937.3	1105.5	1234.6	1319.1
115°	215.4	239.4	273.3	327.6	418.3	547.4	701.4	866.1	1020.9	1151.8	1248.8
117.5°	235.0	257.2	291.1	340.0	419.2	532.3	668.5	810.9	947.9	1068.1	1168.7
120°	253.7	275.9	308.0	354.3	422.8	522.5	643.5	769.0	889.2	996.0	1085.9
122.5°	270.6	294.6	325.8	367.6	429.0	516.3	623.1	736.1	842.0	939.0	1020.9
125°	287.5	311.5	342.7	381.8	435.3	510.9	606.1	707.6	804.6	890.1	961.3
127.5°	303.5	327.6	357.8	393.4	442.4	508.2	590.1	681.8	769.9	848.3	914.1
130°	317.8	341.8	371.2	405.0	449.5	505.6	577.7	657.8	737.9	810.0	870.5
132.5°	331.1	354.3	382.7	415.7	454.8	504.7	566.1	635.5	707.6	773.5	830.5
135°	342.7	366.7	394.3	424.6	460.2	503.8	556.3	615.9	679.1	737.0	787.7
137.5°	353.4	375.6	402.3	431.7	463.7	502.0	547.4	597.2	650.7	702.3	747.7
140°	362.3	384.5	410.3	437.0	467.3	501.1	539.4	581.2	626.6	669.3	707.6
142.5°	371.2	391.6	416.6	442.4	470.0	499.3	532.3	566.1	603.5	639.1	671.1
145°	378.3	398.8	421.9	445.9	470.9	497.6	526.0	554.5	583.9	612.4	638.2
147.5°	387.2	405.0	426.4	448.6	470.9	494.9	519.8	544.7	568.8	592.8	611.5
150°	394.3	410.3	430.8	449.5	470.9	491.3	513.6	534.1	554.5	573.2	590.1
152.5°	401.4	416.6	433.5	451.3	468.2	486.9	506.5	524.3	541.2	557.2	570.5
155°	409.4	421.9	437.0	451.3	466.4	481.5	499.3	514.5	528.7	542.1	552.7
157.5°	416.6	426.4	438.8	452.2	463.7	477.1	491.3	503.8	516.3	526.9	535.8
160°	421.9	430.8	441.5	452.2	462.0	471.7	483.3	494.9	504.7	513.6	519.8
162.5°	426.4	433.5	442.4	451.3	458.4	466.4	475.3	484.2	492.2	500.2	505.6
165°	429.9	436.1	443.3	449.5	454.8	461.1	468.2	475.3	480.6	486.9	491.3
167.5°	433.5	437.9	443.3	448.6	451.3	455.7	461.1	467.3	471.7	475.3	478.9
170°	436.1	437.9	442.4	445.9	447.7	450.4	454.8	459.3	462.0	465.5	467.3
172.5°	437.9	438.8	442.4	445.0	445.0	445.9	448.6	452.2	453.9	456.6	457.5
175°	438.8	439.7	441.5	443.3	442.4	442.4	444.2	445.9	446.8	448.6	448.6
177.5°	439.7	439.7	440.6	442.4	440.6	439.7	440.6	441.5	442.4	443.3	443.3
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



TEST NUMBER: P831473

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1439.3	1439.3	1439.3	1439.3
2.5°	1279.4	1277.0	1267.7	1258.3
5°	1084.7	1076.7	1074.0	1071.3
7.5°	947.8	947.1	933.1	919.0
10°	827.2	828.2	815.5	802.8
12.5°	741.0	732.7	731.7	730.7
15°	676.3	668.6	667.2	665.9
17.5°	630.5	625.8	624.5	623.2
20°	595.8	593.1	590.8	588.4
22.5°	565.7	562.4	560.4	558.4
25°	536.7	533.7	533.0	532.3
27.5°	510.6	506.9	506.9	506.9
30°	485.9	483.6	482.6	481.6
32.5°	462.9	460.9	460.9	460.9
35°	441.1	440.1	438.8	437.5
37.5°	421.4	421.4	420.8	420.1
40°	402.4	403.4	403.4	403.4
42.5°	385.0	386.0	386.0	386.0
45°	367.0	368.7	369.3	370.0
47.5°	349.3	352.0	352.7	353.3
50°	331.9	334.0	334.3	334.6
52.5°	314.2	316.6	318.3	319.9
55°	295.5	297.9	298.9	299.9
57.5°	275.5	277.8	278.2	278.5
60°	253.5	255.8	256.5	257.1
62.5°	232.4	233.8	234.4	235.1
65°	208.4	210.4	211.7	213.1
67.5°	185.3	187.0	187.0	187.0
70°	159.6	160.3	161.3	162.3
72.5°	135.9	136.3	136.3	136.3
75°	110.9	111.5	111.9	112.2
77.5°	87.2	87.5	87.5	87.5
80°	63.8	63.5	63.5	63.5
82.5°	43.7	42.7	42.7	42.7
85°	25.0	24.7	25.0	25.4
87.5°	11.4	11.4	11.4	11.4
90°	24.9	25.8	26.7	25.8
92.5°	51.6	48.1	49.0	47.2
95°	121.1	113.0	106.8	103.3
97.5°	276.8	243.0	221.6	211.8
100°	656.9	591.9	557.2	558.1
102.5°	985.3	937.3	909.7	883.9
105°	1198.9	1165.1	1136.6	1132.2
107.5°	1331.6	1315.5	1304.0	1294.2
110°	1383.2	1390.3	1388.5	1386.8



TEST NUMBER: P831473

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1369.8	1395.7	1404.6	1405.4
115°	1315.5	1354.7	1372.5	1377.0
117.5°	1238.1	1281.7	1308.4	1314.7
120°	1156.2	1206.1	1227.4	1232.8
122.5°	1081.5	1125.1	1149.1	1156.2
125°	1018.3	1057.4	1079.7	1085.9
127.5°	965.7	999.6	1020.0	1025.4
130°	917.7	949.7	968.4	975.5
132.5°	874.1	906.1	922.1	926.6
135°	831.3	858.0	874.1	880.3
137.5°	785.1	812.6	826.0	831.3
140°	741.4	766.4	780.6	779.7
142.5°	698.7	720.1	732.5	731.7
145°	660.4	679.1	686.3	688.0
147.5°	629.3	642.6	649.8	650.7
150°	603.5	613.3	618.6	618.6
152.5°	580.3	589.2	591.9	591.9
155°	560.8	567.9	569.7	570.5
157.5°	543.0	548.3	550.1	550.1
160°	526.0	531.4	531.4	530.5
162.5°	509.1	513.6	513.6	512.7
165°	494.9	498.4	497.6	497.6
167.5°	480.6	483.3	482.4	482.4
170°	468.2	470.0	469.1	469.1
172.5°	457.5	459.3	457.5	456.6
175°	448.6	449.5	448.6	447.7
177.5°	442.4	443.3	441.5	441.5
180°	439.7	439.7	439.7	439.7



TEST NUMBER: P831473

CATALOG NUMBER: S123DIP-S560D1025U940-4F0-1E-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	12.20	12.96	13.24	14.00	15.40	14.44	15.20	15.48	16.24	17.63
	3H	13.85	14.52	14.89	15.57	16.99	15.86	16.54	16.90	17.58	19.00
	4H	14.42	15.06	15.48	16.11	17.53	16.30	16.95	17.36	18.00	19.42
	6H	14.78	15.38	15.85	16.43	17.86	16.58	17.17	17.64	18.22	19.65
	8H	14.88	15.44	15.95	16.51	17.94	16.63	17.20	17.71	18.27	19.69
	12H	14.92	15.45	16.00	16.52	17.97	16.65	17.19	17.73	18.25	19.70
4H	2H	12.77	13.41	13.83	14.46	15.88	14.59	15.24	15.66	16.29	17.71
	3H	14.59	15.12	15.66	16.20	17.63	16.20	16.74	17.27	17.82	19.25
	4H	15.28	15.77	16.36	16.84	18.30	16.78	17.27	17.86	18.34	19.80
	6H	15.75	16.17	16.84	17.26	18.71	17.18	17.60	18.27	18.69	20.14
	8H	15.89	16.28	16.97	17.36	18.83	17.29	17.69	18.38	18.77	20.23
	12H	15.95	16.31	17.05	17.40	18.87	17.33	17.69	18.44	18.78	20.25
8H	4H	15.54	15.93	16.63	17.02	18.48	16.88	17.27	17.97	18.36	19.82
	6H	16.13	16.45	17.23	17.58	19.04	17.38	17.70	18.49	18.83	20.29
	8H	16.33	16.62	17.45	17.72	19.21	17.56	17.84	18.67	18.95	20.43
	12H	16.45	16.70	17.57	17.81	19.33	17.66	17.91	18.77	19.01	20.53
12H	4H	15.54	15.89	16.64	16.99	18.46	16.85	17.21	17.95	18.30	19.77
	6H	16.18	16.46	17.29	17.57	19.05	17.39	17.68	18.51	18.79	20.27
	8H	16.41	16.66	17.52	17.76	19.28	17.59	17.84	18.71	18.94	20.46