

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: P831689

Luminaire Tested: S123DIP-S775D585U940-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831689  
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-S775D585U940-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

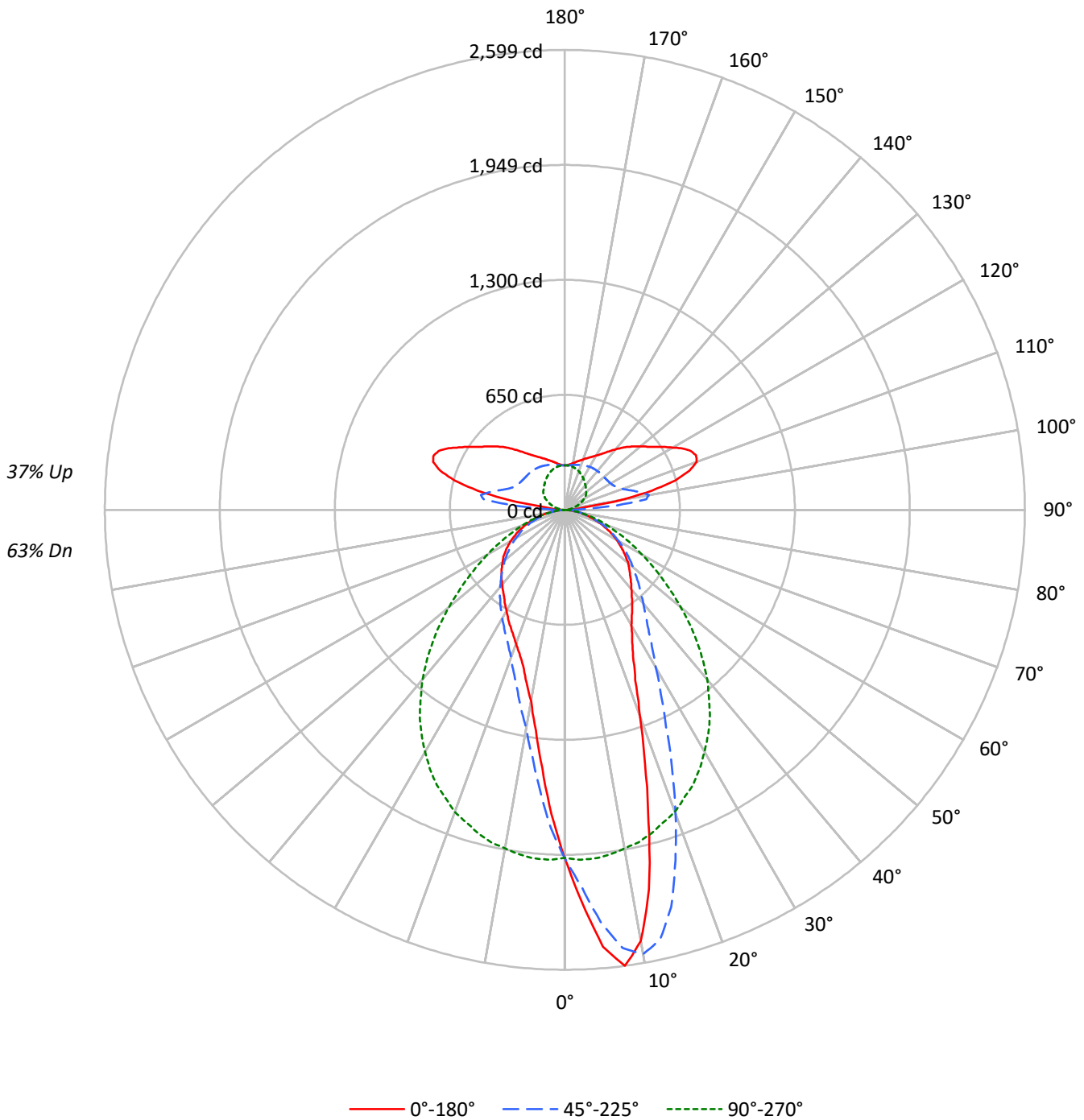
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5054.0 lumens  
Efficiency: N/A  
Efficacy: 123.0 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: Semi-Direct  
  
Input Watts (W): 41.1  
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									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	50	30	10	0																
RCR																																														
0	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68	63																												
1	101	97	93	90	95	91	88	85	80	78	76	70	68	67	61	60	58	54																												
2	93	86	80	75	87	81	75	71	71	67	64	62	59	57	54	52	50	46																												
3	85	76	69	63	80	72	65	60	63	59	55	56	52	49	49	46	44	40																												
4	78	68	60	54	73	64	57	52	57	52	47	50	46	43	44	41	38	35																												
5	72	61	53	47	68	58	51	45	52	46	42	46	41	38	40	37	34	31																												
6	67	55	47	42	63	52	45	40	47	41	37	42	37	34	37	33	31	28																												
7	62	50	43	37	59	48	41	36	43	37	33	38	34	30	34	31	28	25																												
8	58	46	39	33	55	44	37	32	40	34	30	36	31	27	32	28	25	23																												
9	54	42	35	30	51	40	34	29	37	31	27	33	28	25	30	26	23	21																												
10	51	39	32	27	48	37	31	27	34	29	25	31	26	23	28	24	21	19																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	21177	21177	21177	21177	21177
5°	26782	25278	21367	17219	15823
10°	27042	27860	21225	13726	11995
15°	20367	25867	21080	11624	10143
20°	14191	20931	20811	10165	9213
25°	10821	16096	20352	9352	8641
30°	9362	12788	19619	8777	8181
35°	8686	10797	18775	8361	7858
40°	8223	9686	17588	7966	7748
45°	7949	8965	16079	7657	7700
50°	7812	8393	14294	7376	7659
55°	7522	7976	12542	7111	7692
60°	7253	7528	10809	6859	7567
65°	6813	7103	9324	6592	7417
70°	6291	6565	7931	6150	6980
75°	5693	5885	6796	5714	6380
80°	4699	5151	5374	4978	5374
85°	3717	4174	3952	4224	4286

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 18358 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.0	3.7
10°-20°	462.7	9.2
20°-30°	547.9	10.8
30°-40°	550.9	10.9
40°-50°	505.4	10.0
50°-60°	417.2	8.3
60°-70°	295.1	5.8
70°-80°	157.5	3.1
80°-90°	41.4	0.8
90°-100°	136.3	2.7
100°-110°	399.2	7.9
110°-120°	389.8	7.7
120°-130°	310.4	6.1
130°-140°	244.9	4.8
140°-150°	182.7	3.6
150°-160°	127.4	2.5
160°-170°	74.8	1.5
170°-180°	24.3	0.5
0°-30°	1196.6	23.7
0°-40°	1747.5	34.6
0°-60°	2670.1	52.8
0°-90°	3164.1	62.6
90°-120°	925.3	18.3
90°-150°	1663.4	32.9
90°-180°	1890.0	37.4
0°-180°	5054.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1967	1967	1967	1967	1967	
5°	2479	2340	1978	1594	1464	236
15°	1828	2321	1892	1043	910	505
25°	911	1355	1714	787	728	430
35°	661	822	1429	636	598	415
45°	522	589	1056	503	506	404
55°	401	425	668	379	410	359
65°	268	279	366	259	291	266
75°	137	142	163	137	153	144
85°	30	34	32	34	35	34
90°	15	13	1	13	15	10
95°	59	302	17	302	59	96
105°	647	409	59	409	647	645
115°	787	313	104	313	787	767
125°	620	292	145	292	620	562
135°	503	288	170	288	503	390
145°	393	284	194	284	393	250
155°	326	275	220	275	326	152
165°	284	264	241	264	284	81
175°	256	253	251	253	256	25
180°	251	251	251	251	251	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4
2.5°	2217.6	2215.3	2213.0	2201.6	2190.2	2184.7	2179.2	2162.8	2146.4	2128.1	2109.8
5°	2478.7	2485.1	2491.5	2484.2	2476.9	2454.5	2432.1	2402.5	2372.8	2339.5	2306.1
7.5°	2599.2	2602.8	2606.5	2601.9	2597.4	2591.4	2585.5	2559.0	2532.5	2498.3	2464.1
10°	2474.1	2482.3	2490.6	2508.4	2526.2	2546.2	2566.3	2562.7	2559.0	2549.0	2538.9
12.5°	2199.3	2209.4	2219.4	2255.0	2290.6	2336.3	2381.9	2421.2	2460.4	2487.8	2515.2
15°	1827.7	1855.6	1883.4	1915.8	1948.3	2015.4	2082.5	2165.1	2247.7	2321.2	2394.7
17.5°	1505.5	1516.0	1526.5	1561.2	1595.9	1680.3	1764.8	1860.2	1955.6	2077.4	2199.3
20°	1238.9	1248.5	1258.1	1303.7	1349.4	1415.5	1481.7	1589.0	1696.3	1827.3	1958.3
22.5°	1040.8	1055.8	1070.9	1096.5	1122.0	1185.5	1248.9	1344.3	1439.7	1584.4	1729.1
25°	911.1	922.1	933.0	948.6	964.1	1014.8	1065.4	1143.9	1222.5	1355.3	1488.1
27.5°	822.6	827.1	831.7	847.2	862.7	895.6	928.5	996.0	1063.6	1176.3	1289.1
30°	753.2	756.4	759.6	773.3	787.0	809.3	831.7	880.5	929.4	1028.9	1128.4
32.5°	704.8	707.1	709.4	719.9	730.4	746.3	762.3	797.9	833.5	915.7	997.9
35°	661.0	662.4	663.7	671.5	679.2	691.1	703.0	729.9	756.8	821.7	886.5
37.5°	622.6	624.5	626.3	630.9	635.4	645.9	656.4	677.9	699.3	749.1	798.8
40°	585.2	588.4	591.6	594.8	598.0	606.7	615.3	631.8	648.2	689.3	730.4
42.5°	553.3	556.4	559.6	561.0	562.4	567.4	572.4	587.5	602.6	633.1	663.7
45°	522.2	523.6	525.0	526.3	527.7	531.8	535.9	549.1	562.4	588.9	615.3
47.5°	493.9	493.9	493.9	494.8	495.7	499.4	503.0	512.6	522.2	542.8	563.3
50°	466.5	466.5	466.5	465.2	463.8	466.1	468.3	475.7	483.0	501.2	519.5
52.5°	433.7	433.7	433.7	434.1	434.6	434.6	434.6	441.0	447.4	463.8	480.2
55°	400.8	402.6	404.4	403.1	401.7	402.6	403.5	407.6	411.7	425.0	438.2
57.5°	367.9	368.8	369.7	369.3	368.8	369.3	369.7	373.4	377.1	387.1	397.1
60°	336.9	336.9	336.9	336.0	335.1	336.0	336.9	338.7	340.5	349.7	358.8
62.5°	302.2	302.6	303.1	303.6	304.0	303.1	302.2	304.5	306.8	313.6	320.4
65°	267.5	268.0	268.4	269.8	271.1	270.2	269.3	271.6	273.9	278.9	283.9
67.5°	236.5	235.5	234.6	235.1	235.5	236.9	238.3	238.7	239.2	244.7	250.2
70°	199.9	200.9	201.8	201.3	200.9	201.3	201.8	203.1	204.5	208.6	212.7
72.5°	167.1	167.5	168.0	168.0	168.0	168.9	169.8	171.2	172.5	174.8	177.1
75°	136.9	136.9	136.9	137.9	138.8	139.2	139.7	139.7	139.7	141.5	143.3
77.5°	104.1	106.4	108.6	108.2	107.7	108.6	109.6	110.9	112.3	113.2	114.1
80°	75.8	75.8	75.8	76.2	76.7	78.1	79.4	80.3	81.3	83.1	84.9
82.5°	48.4	48.8	49.3	50.7	52.0	53.0	53.9	55.2	56.6	56.6	56.6
85°	30.1	29.2	28.3	29.2	30.1	31.0	32.0	32.4	32.9	33.8	34.7
87.5°	14.6	14.6	14.6	14.6	14.6	15.1	15.5	15.5	15.5	15.5	15.5
90°	14.7	15.3	14.7	14.2	14.7	13.7	13.2	12.7	12.2	12.7	11.2
92.5°	27.0	28.0	27.5	29.5	30.5	34.1	39.2	50.4	70.7	94.6	104.8
95°	59.0	61.0	64.6	69.2	78.8	97.1	124.1	183.1	244.6	301.6	268.5
97.5°	121.0	126.6	138.9	158.2	192.3	250.2	317.4	420.6	479.6	463.9	346.4
100°	318.9	318.4	338.2	375.4	426.7	498.9	558.5	599.6	581.8	481.7	325.5
102.5°	505.0	519.8	535.6	563.0	600.2	639.3	667.8	659.2	586.9	448.6	295.0
105°	646.9	649.5	665.8	685.1	708.5	721.7	712.1	661.2	554.9	408.9	271.1
107.5°	739.5	745.1	751.7	760.9	763.9	750.2	710.5	630.7	509.1	373.8	253.8
110°	792.4	793.4	794.4	790.4	776.1	740.5	676.4	582.9	466.4	344.8	244.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	803.1	802.6	797.5	782.7	753.8	705.4	631.7	535.6	429.3	325.5	239.6
115°	786.8	784.3	774.1	751.7	713.6	658.1	583.4	494.9	400.8	312.8	239.0
117.5°	751.2	747.7	732.4	707.5	667.8	610.3	541.7	463.3	382.0	304.1	239.6
120°	704.4	701.4	689.2	660.7	620.5	569.1	508.1	439.4	367.7	298.6	241.6
122.5°	660.7	656.6	642.9	618.0	583.4	536.6	481.1	420.6	356.0	295.0	245.1
125°	620.5	616.9	604.2	581.8	549.3	508.6	459.8	404.3	346.4	291.9	248.7
127.5°	585.9	582.9	571.2	551.8	522.3	484.7	439.9	389.6	337.2	290.4	252.8
130°	557.4	553.4	542.7	524.4	497.4	462.8	421.6	375.9	330.1	288.9	256.8
132.5°	529.5	526.9	517.8	499.5	474.5	442.0	404.3	363.1	323.5	288.4	259.9
135°	503.0	499.5	490.3	475.0	450.1	421.1	388.1	352.0	317.9	287.9	263.0
137.5°	475.0	472.0	464.4	448.6	427.2	401.3	371.8	341.3	312.8	286.9	265.0
140°	445.5	446.0	437.9	423.7	404.3	382.5	358.1	332.1	308.2	286.3	267.0
142.5°	418.1	418.6	411.5	399.3	383.5	365.2	344.8	323.5	304.1	285.3	268.5
145°	393.2	392.1	388.1	377.4	364.7	349.9	333.6	316.9	300.6	284.3	269.1
147.5°	371.8	371.3	367.2	359.6	349.4	338.7	325.0	311.3	297.0	282.8	269.1
150°	353.5	353.5	350.4	344.8	337.2	327.5	316.9	305.2	293.5	280.8	269.1
152.5°	338.2	338.2	336.7	331.6	326.0	318.4	309.2	299.6	289.4	278.2	267.5
155°	326.0	325.5	324.5	320.4	315.8	309.7	302.1	294.0	285.3	275.2	266.5
157.5°	314.3	314.3	313.3	310.3	306.2	301.1	295.0	287.9	280.8	272.6	265.0
160°	303.1	303.6	303.6	300.6	297.0	293.5	288.4	282.8	276.2	269.6	264.0
162.5°	293.0	293.5	293.5	290.9	288.9	285.8	281.3	276.7	271.6	266.5	261.9
165°	284.3	284.3	284.8	282.8	280.8	278.2	274.6	271.6	267.5	263.5	259.9
167.5°	275.7	275.7	276.2	274.6	273.6	271.6	269.6	267.0	263.5	260.4	257.9
170°	268.0	268.0	268.5	267.5	267.0	266.0	264.0	262.4	259.9	257.4	255.8
172.5°	260.9	261.4	262.4	261.4	261.4	260.9	259.4	258.4	256.3	254.8	254.3
175°	255.8	256.3	256.8	256.3	256.3	256.3	255.3	254.8	253.8	252.8	252.8
177.5°	252.3	252.3	253.3	252.8	253.3	253.3	252.8	252.3	251.8	251.3	251.8
180°	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4
2.5°	2104.4	2098.9	2078.8	2058.7	2035.9	2013.1	1996.2	1979.3	1954.2	1929.1	1908.5
5°	2280.6	2255.0	2212.6	2170.1	2112.6	2055.1	2016.3	1977.5	1925.4	1873.4	1831.9
7.5°	2420.3	2376.4	2317.1	2257.7	2182.4	2107.1	2035.9	1964.7	1885.3	1805.8	1741.0
10°	2509.3	2479.6	2411.1	2342.7	2241.8	2140.9	2041.4	1941.9	1839.6	1737.4	1651.5
12.5°	2517.9	2520.7	2457.7	2394.7	2280.6	2166.5	2045.5	1924.5	1795.8	1667.1	1567.1
15°	2441.7	2488.7	2454.0	2419.3	2304.3	2189.3	2040.5	1891.7	1743.3	1594.9	1479.5
17.5°	2300.2	2401.1	2406.1	2411.1	2296.1	2181.1	2016.3	1851.5	1683.5	1515.5	1394.1
20°	2107.1	2255.9	2307.0	2358.2	2264.6	2171.0	1993.9	1816.8	1628.7	1440.7	1313.3
22.5°	1909.9	2090.7	2184.3	2277.8	2208.4	2139.1	1950.5	1762.0	1563.4	1364.9	1235.7
25°	1685.3	1882.5	2026.3	2170.1	2127.7	2085.2	1899.4	1713.6	1502.3	1290.9	1159.0
27.5°	1489.5	1689.9	1863.4	2036.8	2027.7	2018.6	1834.1	1649.7	1433.3	1217.0	1089.6
30°	1315.1	1501.8	1695.8	1889.8	1912.2	1934.6	1756.5	1578.5	1361.7	1144.9	1022.1
32.5°	1160.8	1323.8	1531.9	1740.1	1783.9	1827.7	1667.1	1506.4	1291.8	1077.3	959.1
35°	1034.4	1182.3	1390.4	1598.6	1653.4	1708.1	1568.5	1428.8	1219.7	1010.6	897.9
37.5°	922.5	1046.3	1249.4	1452.5	1519.6	1586.7	1461.6	1336.6	1140.7	944.9	841.3
40°	829.9	929.4	1116.1	1302.8	1380.4	1458.0	1354.8	1251.7	1065.9	880.1	784.7
42.5°	752.3	840.8	1010.2	1179.5	1253.9	1328.4	1241.2	1154.0	988.7	823.5	736.3
45°	686.1	756.8	910.7	1064.5	1135.3	1206.0	1131.2	1056.3	910.7	765.1	683.8
47.5°	624.0	684.7	816.2	947.7	1010.6	1073.6	1015.2	956.8	833.5	710.3	636.8
50°	568.3	617.2	732.2	847.2	902.0	956.8	905.2	853.6	752.3	650.9	587.0
52.5°	519.9	559.6	656.0	752.3	799.3	846.3	802.0	757.8	677.4	597.1	541.4
55°	472.0	505.8	589.3	672.9	704.8	736.8	702.5	668.3	603.5	538.6	491.6
57.5°	427.3	457.4	525.9	594.3	619.0	643.6	612.6	581.6	532.7	483.9	444.6
60°	383.4	408.1	465.2	522.2	537.3	552.3	527.2	502.1	467.9	433.7	398.5
62.5°	342.8	365.2	407.6	450.1	460.1	470.2	451.0	431.8	405.8	379.8	352.4
65°	300.8	317.7	352.4	387.1	393.5	399.9	383.0	366.1	346.5	326.8	306.8
67.5°	262.0	273.9	302.2	330.5	330.9	331.4	317.7	304.0	293.1	282.1	266.1
70°	224.1	235.5	254.3	273.0	273.4	273.9	262.9	252.0	243.8	235.5	223.7
72.5°	185.3	193.5	207.7	221.8	220.9	220.0	213.2	206.3	199.9	193.5	184.9
75°	150.2	157.0	166.6	176.2	173.5	170.7	167.1	163.4	157.9	152.5	147.0
77.5°	118.2	122.3	127.8	133.3	131.5	129.6	126.4	123.2	119.1	115.0	112.8
80°	86.7	88.6	92.2	95.9	94.9	94.0	90.4	86.7	85.8	84.9	81.7
82.5°	58.9	61.2	62.1	63.0	62.5	62.1	59.3	56.6	55.7	54.8	54.3
85°	35.1	35.6	36.1	36.5	35.1	33.8	32.9	32.0	32.0	32.0	31.5
87.5°	16.0	16.4	16.4	16.4	16.0	15.5	14.6	13.7	14.2	14.6	14.6
90°	9.7	8.1	6.6	5.6	4.6	3.1	2.0	1.0	2.0	3.1	4.6
92.5°	78.3	51.4	35.1	25.9	20.9	16.3	11.2	7.6	11.2	16.3	20.9
95°	185.1	109.4	66.1	46.3	33.1	24.4	18.8	17.3	18.8	24.4	33.1
97.5°	206.0	118.0	75.3	53.4	40.2	32.6	28.0	27.5	28.0	32.6	40.2
100°	191.7	116.5	80.9	61.0	48.8	41.7	38.1	37.6	38.1	41.7	48.8
102.5°	179.5	118.5	87.5	69.7	59.0	52.4	49.3	48.3	49.3	52.4	59.0
105°	175.0	122.6	95.1	79.3	69.7	63.6	60.5	59.0	60.5	63.6	69.7
107.5°	173.9	129.2	104.8	90.0	80.9	74.8	71.7	70.2	71.7	74.8	80.9
110°	176.5	137.8	114.9	100.7	92.1	86.5	83.9	82.4	83.9	86.5	92.1





TEST NUMBER: P831689

CATALOG NUMBER: S123DIP-S775D585U940-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	181.6	146.5	125.6	111.9	103.2	97.7	95.1	93.6	95.1	97.7	103.2
115°	187.2	156.1	136.8	123.1	114.4	109.4	106.3	104.3	106.3	109.4	114.4
117.5°	194.3	166.3	147.0	134.3	124.6	120.0	117.5	114.9	117.5	120.0	124.6
120°	202.4	176.0	157.7	145.0	135.3	130.2	127.7	126.1	127.7	130.2	135.3
122.5°	210.1	186.2	168.3	154.6	145.5	139.9	137.3	135.8	137.3	139.9	145.5
125°	218.2	195.8	178.0	164.3	154.6	149.0	146.0	145.0	146.0	149.0	154.6
127.5°	224.8	204.5	187.2	173.4	162.8	157.2	153.6	152.1	153.6	157.2	162.8
130°	231.4	212.1	195.3	181.6	170.9	164.8	160.2	158.7	160.2	164.8	170.9
132.5°	237.5	218.7	202.4	189.2	178.5	170.9	165.8	163.8	165.8	170.9	178.5
135°	242.6	225.3	209.5	195.8	185.1	177.5	171.9	169.9	171.9	177.5	185.1
137.5°	246.7	229.9	214.6	201.9	191.2	183.1	177.5	175.5	177.5	183.1	191.2
140°	249.7	234.5	219.7	207.0	196.8	188.7	183.6	181.1	183.6	188.7	196.8
142.5°	252.8	238.0	223.8	212.1	201.9	194.8	189.2	187.2	189.2	194.8	201.9
145°	254.8	241.1	227.9	216.2	207.5	199.9	195.3	193.8	195.3	199.9	207.5
147.5°	256.3	243.6	231.4	221.2	212.6	206.0	201.4	200.4	201.4	206.0	212.6
150°	256.8	246.2	234.5	225.3	218.2	211.6	207.5	207.0	207.5	211.6	218.2
152.5°	257.9	247.7	238.0	229.4	223.3	217.7	213.6	213.6	213.6	217.7	223.3
155°	257.9	249.7	241.1	234.0	228.4	223.3	220.2	220.2	220.2	223.3	228.4
157.5°	258.4	250.7	243.6	238.0	232.9	228.4	225.8	225.3	225.8	228.4	232.9
160°	258.4	252.3	246.2	241.1	237.5	233.5	231.4	231.4	231.4	233.5	237.5
162.5°	257.9	252.8	247.7	243.6	240.6	237.5	236.0	236.0	236.0	237.5	240.6
165°	256.8	253.3	249.2	245.7	243.6	241.1	240.1	240.6	240.1	241.1	243.6
167.5°	256.3	253.3	250.2	247.7	246.2	244.1	243.6	244.1	243.6	244.1	246.2
170°	254.8	252.8	250.2	249.2	248.2	246.7	246.2	247.2	246.2	246.7	248.2
172.5°	254.3	252.8	250.7	250.2	249.7	248.7	248.7	249.2	248.7	248.7	249.7
175°	253.3	252.3	251.3	250.7	250.7	249.7	250.2	250.7	250.2	249.7	250.7
177.5°	252.8	251.8	251.3	251.3	251.3	250.7	251.3	251.8	251.3	250.7	251.3
180°	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3



TEST NUMBER: P831689

CATALOG NUMBER: S123DIP-S775D585U940-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4	1967.4
2.5°	1888.0	1870.2	1852.4	1838.7	1825.0	1801.7	1778.4	1773.0	1767.5	1759.7	1752.0
5°	1790.3	1746.5	1702.7	1663.4	1624.2	1593.6	1563.0	1542.9	1522.8	1508.2	1493.6
7.5°	1676.2	1610.5	1544.7	1498.2	1451.6	1407.3	1363.0	1348.9	1334.7	1315.6	1296.4
10°	1565.7	1493.1	1420.6	1359.9	1299.1	1255.8	1212.4	1195.1	1177.7	1153.5	1129.3
12.5°	1467.1	1387.7	1308.3	1247.1	1185.9	1143.9	1101.9	1076.8	1051.7	1038.0	1024.3
15°	1364.0	1279.1	1194.2	1137.5	1080.9	1043.1	1005.2	983.3	961.3	948.1	934.9
17.5°	1272.7	1188.7	1104.7	1050.4	996.0	961.3	926.7	907.5	888.3	878.3	868.2
20°	1185.9	1103.8	1021.6	968.7	915.7	887.4	859.1	846.8	834.4	826.2	818.0
22.5°	1106.5	1025.7	944.9	899.7	854.5	831.7	808.9	800.2	791.5	784.7	777.8
25°	1027.1	955.0	882.8	844.5	806.1	787.4	768.7	760.0	751.4	744.5	737.7
27.5°	962.3	893.3	824.4	791.5	758.7	744.1	729.5	722.6	715.8	709.4	703.0
30°	899.3	837.6	776.0	747.7	719.4	706.2	692.9	686.1	679.2	673.3	667.4
32.5°	840.8	787.9	734.9	708.9	682.9	671.9	661.0	652.8	644.5	640.0	635.4
35°	785.1	737.7	690.2	668.7	647.3	636.3	625.4	618.5	611.7	608.0	604.4
37.5°	737.7	695.2	652.8	632.2	611.7	601.2	590.7	584.8	578.8	577.4	576.1
40°	689.3	652.8	616.2	596.2	576.1	566.9	557.8	554.2	550.5	549.6	548.7
42.5°	649.1	613.5	577.9	559.6	541.4	533.6	525.9	524.0	522.2	523.6	525.0
45°	602.6	572.9	543.2	526.3	509.4	503.0	496.7	495.3	493.9	496.7	499.4
47.5°	563.3	535.9	508.5	492.5	476.6	472.0	467.4	467.0	466.5	470.2	473.8
50°	523.1	496.7	470.2	457.4	444.6	440.5	436.4	437.8	439.1	445.1	451.0
52.5°	485.7	461.0	436.4	424.5	412.7	409.9	407.2	410.4	413.6	420.0	426.4
55°	444.6	422.2	399.9	390.7	381.6	378.9	376.1	382.5	388.9	394.9	400.8
57.5°	405.4	385.7	366.1	357.9	349.7	349.2	348.8	354.7	360.6	367.0	373.4
60°	363.4	346.9	330.5	324.1	317.7	318.6	319.5	326.4	333.2	338.3	343.3
62.5°	325.0	311.3	297.6	291.7	285.8	288.0	290.3	297.2	304.0	309.9	315.9
65°	286.7	275.3	263.8	259.7	255.6	258.8	262.0	268.0	273.9	278.0	282.1
67.5°	250.2	240.6	231.0	227.8	224.6	227.8	231.0	236.9	242.8	247.0	251.1
70°	211.8	204.0	196.3	194.0	191.7	195.4	199.0	204.0	209.1	213.2	217.3
72.5°	176.2	170.3	164.3	163.9	163.4	166.6	169.8	174.8	179.9	182.6	185.3
75°	141.5	138.3	135.1	134.7	134.2	137.4	140.6	143.3	146.1	148.4	150.6
77.5°	110.5	107.7	105.0	105.4	105.9	108.2	110.5	113.2	115.9	117.3	118.7
80°	78.5	77.6	76.7	77.6	78.5	80.3	82.2	84.0	85.8	86.7	87.6
82.5°	53.9	53.0	52.0	53.4	54.8	56.1	57.5	58.9	60.3	60.7	61.2
85°	31.0	32.4	33.8	33.8	33.8	34.2	34.7	35.1	35.6	35.1	34.7
87.5°	14.6	15.1	15.5	15.5	15.5	16.0	16.4	16.4	16.4	16.0	15.5
90°	5.6	6.6	8.1	9.7	11.2	12.7	12.2	12.7	13.2	13.7	14.7
92.5°	25.9	35.1	51.4	78.3	104.8	94.6	70.7	50.4	39.2	34.1	30.5
95°	46.3	66.1	109.4	185.1	268.5	301.6	244.6	183.1	124.1	97.1	78.8
97.5°	53.4	75.3	118.0	206.0	346.4	463.9	479.6	420.6	317.4	250.2	192.3
100°	61.0	80.9	116.5	191.7	325.5	481.7	581.8	599.6	558.5	498.9	426.7
102.5°	69.7	87.5	118.5	179.5	295.0	448.6	586.9	659.2	667.8	639.3	600.2
105°	79.3	95.1	122.6	175.0	271.1	408.9	554.9	661.2	712.1	721.7	708.5
107.5°	90.0	104.8	129.2	173.9	253.8	373.8	509.1	630.7	710.5	750.2	763.9
110°	100.7	114.9	137.8	176.5	244.6	344.8	466.4	582.9	676.4	740.5	776.1



TEST NUMBER: P831689

CATALOG NUMBER: S123DIP-S775D585U940-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	111.9	125.6	146.5	181.6	239.6	325.5	429.3	535.6	631.7	705.4	753.8
115°	123.1	136.8	156.1	187.2	239.0	312.8	400.8	494.9	583.4	658.1	713.6
117.5°	134.3	147.0	166.3	194.3	239.6	304.1	382.0	463.3	541.7	610.3	667.8
120°	145.0	157.7	176.0	202.4	241.6	298.6	367.7	439.4	508.1	569.1	620.5
122.5°	154.6	168.3	186.2	210.1	245.1	295.0	356.0	420.6	481.1	536.6	583.4
125°	164.3	178.0	195.8	218.2	248.7	291.9	346.4	404.3	459.8	508.6	549.3
127.5°	173.4	187.2	204.5	224.8	252.8	290.4	337.2	389.6	439.9	484.7	522.3
130°	181.6	195.3	212.1	231.4	256.8	288.9	330.1	375.9	421.6	462.8	497.4
132.5°	189.2	202.4	218.7	237.5	259.9	288.4	323.5	363.1	404.3	442.0	474.5
135°	195.8	209.5	225.3	242.6	263.0	287.9	317.9	352.0	388.1	421.1	450.1
137.5°	201.9	214.6	229.9	246.7	265.0	286.9	312.8	341.3	371.8	401.3	427.2
140°	207.0	219.7	234.5	249.7	267.0	286.3	308.2	332.1	358.1	382.5	404.3
142.5°	212.1	223.8	238.0	252.8	268.5	285.3	304.1	323.5	344.8	365.2	383.5
145°	216.2	227.9	241.1	254.8	269.1	284.3	300.6	316.9	333.6	349.9	364.7
147.5°	221.2	231.4	243.6	256.3	269.1	282.8	297.0	311.3	325.0	338.7	349.4
150°	225.3	234.5	246.2	256.8	269.1	280.8	293.5	305.2	316.9	327.5	337.2
152.5°	229.4	238.0	247.7	257.9	267.5	278.2	289.4	299.6	309.2	318.4	326.0
155°	234.0	241.1	249.7	257.9	266.5	275.2	285.3	294.0	302.1	309.7	315.8
157.5°	238.0	243.6	250.7	258.4	265.0	272.6	280.8	287.9	295.0	301.1	306.2
160°	241.1	246.2	252.3	258.4	264.0	269.6	276.2	282.8	288.4	293.5	297.0
162.5°	243.6	247.7	252.8	257.9	261.9	266.5	271.6	276.7	281.3	285.8	288.9
165°	245.7	249.2	253.3	256.8	259.9	263.5	267.5	271.6	274.6	278.2	280.8
167.5°	247.7	250.2	253.3	256.3	257.9	260.4	263.5	267.0	269.6	271.6	273.6
170°	249.2	250.2	252.8	254.8	255.8	257.4	259.9	262.4	264.0	266.0	267.0
172.5°	250.2	250.7	252.8	254.3	254.3	254.8	256.3	258.4	259.4	260.9	261.4
175°	250.7	251.3	252.3	253.3	252.8	252.8	253.8	254.8	255.3	256.3	256.3
177.5°	251.3	251.3	251.8	252.8	251.8	251.3	251.8	252.3	252.8	253.3	253.3
180°	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3



TEST NUMBER: P831689

CATALOG NUMBER: S123DIP-S775D585U940-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1967.4	1967.4	1967.4	1967.4
2.5°	1748.8	1745.6	1732.8	1720.0
5°	1482.6	1471.7	1468.0	1464.4
7.5°	1295.5	1294.6	1275.4	1256.2
10°	1130.7	1132.1	1114.7	1097.4
12.5°	1012.9	1001.5	1000.1	998.8
15°	924.4	913.9	912.0	910.2
17.5°	861.8	855.4	853.6	851.8
20°	814.4	810.7	807.5	804.3
22.5°	773.3	768.7	766.0	763.2
25°	733.6	729.5	728.5	727.6
27.5°	698.0	692.9	692.9	692.9
30°	664.2	661.0	659.6	658.2
32.5°	632.7	629.9	629.9	629.9
35°	603.0	601.6	599.8	598.0
37.5°	576.1	576.1	575.2	574.3
40°	550.1	551.4	551.4	551.4
42.5°	526.3	527.7	527.7	527.7
45°	501.7	504.0	504.9	505.8
47.5°	477.5	481.1	482.0	483.0
50°	453.7	456.5	456.9	457.4
52.5°	429.5	432.7	435.0	437.3
55°	404.0	407.2	408.5	409.9
57.5°	376.6	379.8	380.2	380.7
60°	346.5	349.7	350.6	351.5
62.5°	317.7	319.5	320.4	321.4
65°	284.8	287.6	289.4	291.2
67.5°	253.3	255.6	255.6	255.6
70°	218.2	219.1	220.5	221.8
72.5°	185.8	186.2	186.2	186.2
75°	151.6	152.5	152.9	153.4
77.5°	119.1	119.6	119.6	119.6
80°	87.2	86.7	86.7	86.7
82.5°	59.8	58.4	58.4	58.4
85°	34.2	33.8	34.2	34.7
87.5°	15.5	15.5	15.5	15.5
90°	14.2	14.7	15.3	14.7
92.5°	29.5	27.5	28.0	27.0
95°	69.2	64.6	61.0	59.0
97.5°	158.2	138.9	126.6	121.0
100°	375.4	338.2	318.4	318.9
102.5°	563.0	535.6	519.8	505.0
105°	685.1	665.8	649.5	646.9
107.5°	760.9	751.7	745.1	739.5
110°	790.4	794.4	793.4	792.4

TEST NUMBER: P831689

CATALOG NUMBER: S123DIP-S775D585U940-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	782.7	797.5	802.6	803.1
115°	751.7	774.1	784.3	786.8
117.5°	707.5	732.4	747.7	751.2
120°	660.7	689.2	701.4	704.4
122.5°	618.0	642.9	656.6	660.7
125°	581.8	604.2	616.9	620.5
127.5°	551.8	571.2	582.9	585.9
130°	524.4	542.7	553.4	557.4
132.5°	499.5	517.8	526.9	529.5
135°	475.0	490.3	499.5	503.0
137.5°	448.6	464.4	472.0	475.0
140°	423.7	437.9	446.0	445.5
142.5°	399.3	411.5	418.6	418.1
145°	377.4	388.1	392.1	393.2
147.5°	359.6	367.2	371.3	371.8
150°	344.8	350.4	353.5	353.5
152.5°	331.6	336.7	338.2	338.2
155°	320.4	324.5	325.5	326.0
157.5°	310.3	313.3	314.3	314.3
160°	300.6	303.6	303.6	303.1
162.5°	290.9	293.5	293.5	293.0
165°	282.8	284.8	284.3	284.3
167.5°	274.6	276.2	275.7	275.7
170°	267.5	268.5	268.0	268.0
172.5°	261.4	262.4	261.4	260.9
175°	256.3	256.8	256.3	255.8
177.5°	252.8	253.3	252.3	252.3
180°	251.3	251.3	251.3	251.3



TEST NUMBER: P831689

CATALOG NUMBER: S123DIP-S775D585U940-4F0-1E-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	15.28	16.22	16.13	17.08	18.16	17.51	18.45	18.36	19.32	20.40
	3H	16.93	17.77	17.79	18.65	19.76	18.95	19.79	19.81	20.66	21.77
	4H	17.51	18.31	18.39	19.19	20.31	19.40	20.19	20.28	21.07	22.19
	6H	17.89	18.62	18.78	19.51	20.64	19.68	20.41	20.57	21.30	22.43
	8H	17.99	18.68	18.88	19.59	20.72	19.74	20.44	20.64	21.34	22.48
	12H	18.03	18.69	18.94	19.59	20.75	19.77	20.43	20.67	21.33	22.48
4H	2H	15.86	16.66	16.75	17.54	18.66	17.69	18.48	18.57	19.36	20.48
	3H	17.70	18.36	18.59	19.27	20.41	19.31	19.97	20.21	20.89	22.02
	4H	18.40	19.00	19.30	19.91	21.07	19.90	20.50	20.80	21.41	22.57
	6H	18.88	19.40	19.80	20.33	21.49	20.31	20.83	21.23	21.76	22.92
	8H	19.02	19.50	19.94	20.43	21.60	20.42	20.91	21.34	21.83	23.01
	12H	19.09	19.52	20.03	20.47	21.65	20.47	20.91	21.41	21.85	23.03
8H	4H	18.67	19.15	19.59	20.08	21.26	20.01	20.50	20.93	21.42	22.60
	6H	19.26	19.66	20.21	20.63	21.81	20.52	20.92	21.46	21.89	23.06
	8H	19.47	19.82	20.43	20.78	21.98	20.70	21.05	21.65	22.01	23.20
	12H	19.60	19.91	20.56	20.86	22.10	20.80	21.11	21.76	22.06	23.31
12H	4H	18.68	19.11	19.62	20.06	21.24	19.99	20.43	20.93	21.37	22.55
	6H	19.31	19.67	20.27	20.63	21.82	20.53	20.88	21.49	21.84	23.04
	8H	19.55	19.86	20.51	20.81	22.06	20.73	21.04	21.69	22.00	23.24