

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: P832231

Luminaire Tested: S123RDIP-S560D365U840-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832231
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D365U840-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

Summary

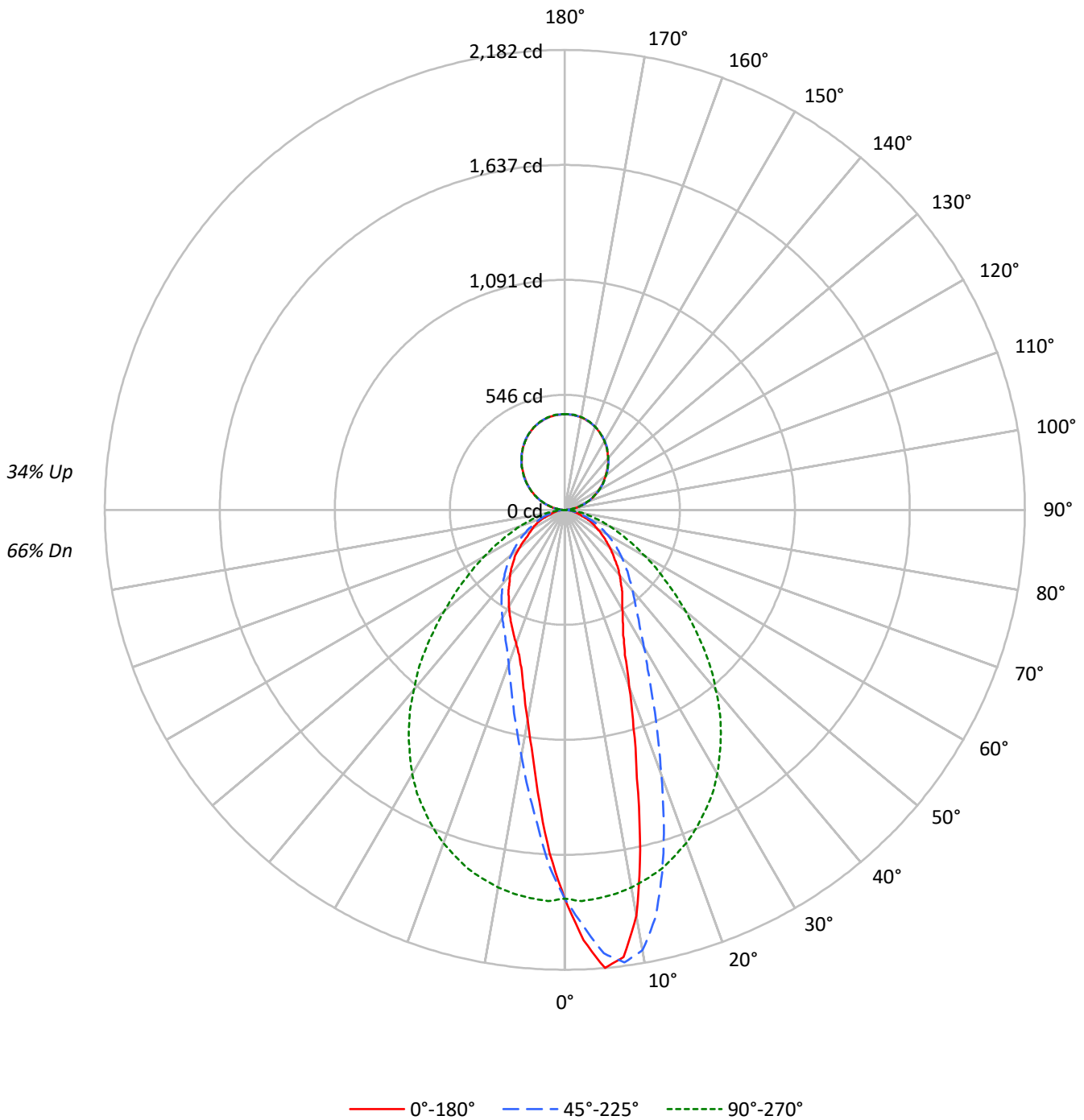
Lumens per Lamp: N/A
Luminaire Lumens: 3705.1 lumens
Efficiency: N/A
Efficacy: 125.2 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 29.6
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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66		
1	102	98	95	92	96	93	90	87	83	80	78	73	71	70	64	63	62	58		
2	94	87	81	77	89	83	77	73	74	70	66	65	63	60	58	56	54	50		
3	87	78	71	65	82	74	68	63	66	61	57	59	55	52	52	50	47	44		
4	80	70	62	57	75	66	60	54	60	54	50	53	49	46	48	45	42	39		
5	74	63	55	50	70	60	53	48	54	49	44	49	44	41	44	40	37	35		
6	69	57	50	44	65	55	48	42	50	44	39	45	40	37	40	37	34	31		
7	64	52	45	39	61	50	43	38	45	40	36	41	37	33	37	34	31	28		
8	60	48	41	36	57	46	39	34	42	36	32	38	34	30	35	31	28	26		
9	56	44	37	32	53	43	36	31	39	33	29	36	31	28	32	29	26	24		
10	53	41	34	30	50	39	33	29	36	31	27	33	29	25	30	27	24	22		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	19853	19853	19853	19853	19853
5°	23573	22821	19977	16149	14993
10°	21357	23180	19878	12939	11100
15°	14705	19875	19668	10575	8781
20°	10230	15301	19274	8917	7718
25°	7796	11662	18699	7926	7113
30°	6786	9324	17980	7359	6589
35°	6230	7864	16962	6882	6112
40°	5685	7024	15631	6413	5674
45°	5135	6424	14193	5969	5238
50°	4660	5926	12499	5534	4699
55°	4215	5442	10871	5108	4031
60°	3776	4949	9442	4639	3810
65°	3487	4391	8127	4169	3601
70°	2832	3795	7091	3773	2927
75°	2483	3019	6005	3127	2578
80°	2250	2554	4922	2622	2436
85°	2050	2235	3730	2384	2235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 14976 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.1	4.5
10°-20°	389.0	10.5
20°-30°	446.3	12.0
30°-40°	439.9	11.9
40°-50°	388.0	10.5
50°-60°	298.5	8.1
60°-70°	196.2	5.3
70°-80°	95.3	2.6
80°-90°	25.0	0.7
90°-100°	29.2	0.8
100°-110°	88.5	2.4
110°-120°	150.7	4.1
120°-130°	198.2	5.4
130°-140°	222.8	6.0
140°-150°	219.1	5.9
150°-160°	184.4	5.0
160°-170°	122.8	3.3
170°-180°	43.0	1.2
0°-30°	1003.5	27.1
0°-40°	1443.4	39.0
0°-60°	2129.8	57.5
0°-90°	2446.3	66.0
90°-120°	268.4	7.2
90°-150°	908.6	24.5
90°-180°	1259.0	34.0
0°-180°	3705.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1844	1844	1844	1844	1844	
5°	2182	2112	1849	1495	1388	199
15°	1320	1784	1765	949	788	372
25°	656	982	1574	667	599	310
35°	474	598	1291	524	465	296
45°	337	422	932	392	344	262
55°	225	290	579	272	215	201
65°	137	172	319	164	141	134
75°	60	73	144	75	62	64
85°	17	18	30	19	18	18
90°	11	9	0	9	11	6
95°	28	26	21	26	28	28
105°	85	84	80	84	85	90
115°	152	152	152	152	152	151
125°	220	222	222	222	220	196
135°	288	290	288	290	288	221
145°	349	351	349	351	349	218
155°	399	400	400	400	399	184
165°	434	435	436	435	434	123
175°	452	452	453	452	452	43
180°	454	454	454	454	454	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4
2.5°	2044.0	2037.6	2031.2	2029.3	2027.4	2021.3	2015.3	2001.7	1988.1	1974.1	1960.1
5°	2181.7	2182.4	2183.2	2181.3	2179.4	2171.4	2163.5	2146.9	2130.2	2112.1	2093.9
7.5°	2139.3	2151.4	2163.5	2165.8	2168.0	2174.1	2180.1	2176.4	2172.6	2165.8	2159.0
10°	1954.0	1953.3	1952.5	1966.1	1979.7	2020.2	2060.7	2081.5	2102.2	2120.8	2139.3
12.5°	1651.6	1652.7	1653.8	1698.4	1743.1	1781.2	1819.4	1872.4	1925.3	1982.4	2039.5
15°	1319.6	1338.1	1356.6	1396.3	1436.0	1493.5	1551.0	1622.1	1693.1	1783.5	1873.9
17.5°	1083.6	1091.6	1099.5	1137.7	1175.9	1230.3	1284.8	1365.3	1445.9	1562.3	1678.8
20°	893.1	900.3	907.4	935.0	962.6	1014.8	1067.0	1143.8	1220.5	1335.8	1451.2
22.5°	745.6	759.6	773.6	792.1	810.7	848.5	886.3	964.5	1042.8	1147.9	1253.0
25°	656.4	662.8	669.2	685.1	701.0	737.3	773.6	825.4	877.2	981.9	1086.7
27.5°	595.9	597.8	599.7	611.4	623.1	646.6	670.0	718.0	766.0	852.2	938.5
30°	546.0	549.4	552.8	561.9	570.9	587.9	605.0	639.0	673.0	750.2	827.3
32.5°	507.4	509.3	511.2	518.8	526.3	538.8	551.3	578.1	605.0	663.9	722.9
35°	474.1	474.5	474.9	480.6	486.2	498.3	510.4	532.7	555.1	598.5	642.0
37.5°	436.3	439.0	441.6	445.8	449.9	460.5	471.1	489.3	507.4	543.3	579.3
40°	404.6	406.8	409.1	414.0	418.9	427.3	435.6	452.2	468.8	499.9	530.9
42.5°	372.8	374.3	375.8	380.7	385.7	395.9	406.1	419.3	432.5	458.3	484.0
45°	337.3	341.0	344.8	350.1	355.4	364.1	372.8	386.4	400.0	422.0	443.9
47.5°	307.8	309.7	311.6	316.1	320.6	331.2	341.8	353.9	366.0	386.4	406.8
50°	278.3	279.0	279.8	284.0	288.1	297.6	307.0	321.0	335.0	353.9	372.8
52.5°	250.3	252.2	254.1	258.2	262.4	268.8	275.3	289.6	304.0	322.5	341.0
55°	224.6	225.7	226.9	229.9	232.9	240.5	248.0	260.5	273.0	290.0	307.0
57.5°	200.4	201.9	203.4	205.7	208.0	214.8	221.6	232.5	243.5	260.5	277.5
60°	175.4	177.3	179.2	181.9	184.5	189.8	195.1	204.9	214.8	229.9	245.0
62.5°	157.3	157.7	158.0	160.3	162.6	166.4	170.1	178.1	186.0	201.2	216.3
65°	136.9	138.0	139.1	140.3	141.4	144.4	147.5	154.3	161.1	172.4	183.8
67.5°	115.7	116.8	118.0	119.9	121.7	124.4	127.0	131.6	136.1	146.7	157.3
70°	90.0	90.0	90.0	93.0	96.0	100.6	105.1	108.5	111.9	120.6	129.3
72.5°	73.4	73.7	74.1	74.5	74.9	77.5	80.2	85.8	91.5	96.8	102.1
75°	59.7	60.1	60.5	60.9	61.3	62.0	62.8	64.7	66.5	72.6	78.6
77.5°	47.6	48.0	48.4	48.8	49.2	49.9	50.7	51.4	52.2	54.4	56.7
80°	36.3	36.7	37.1	37.4	37.8	38.2	38.6	39.3	40.1	41.2	42.3
82.5°	26.5	26.5	26.5	26.5	26.5	27.2	28.0	28.0	28.0	28.7	29.5
85°	16.6	16.6	16.6	17.0	17.4	17.4	17.4	17.8	18.1	18.1	18.1
87.5°	7.6	7.2	6.8	7.2	7.6	7.6	7.6	7.9	8.3	8.3	8.3
90°	10.7	10.5	10.4	10.2	10.1	9.8	9.5	9.2	8.9	8.6	7.5
92.5°	15.3	15.5	15.7	15.8	16.0	15.9	15.7	15.5	15.2	15.0	14.5
95°	27.8	27.8	27.8	27.8	27.8	27.7	27.4	27.0	26.7	26.4	25.8
97.5°	40.0	40.0	40.1	40.2	40.3	40.1	39.7	39.3	38.9	38.5	38.1
100°	54.2	54.1	53.9	53.8	53.6	53.4	53.2	52.9	52.7	52.5	52.1
102.5°	68.9	69.0	69.0	69.1	69.2	69.1	68.9	68.6	68.4	68.2	67.6
105°	84.9	84.8	84.6	84.5	84.3	84.2	84.2	84.2	84.2	84.2	83.5
107.5°	101.4	101.4	101.5	101.6	101.7	101.6	101.4	101.1	100.9	100.6	100.3
110°	118.1	118.3	118.4	118.6	118.8	118.7	118.4	118.0	117.7	117.4	117.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	136.0	136.0	136.0	136.0	136.0	135.8	135.4	135.0	134.6	134.2	134.2
115°	152.0	152.1	152.2	152.3	152.3	152.3	152.3	152.2	152.1	152.0	152.2
117.5°	168.4	168.7	168.9	169.2	169.4	169.5	169.5	169.5	169.5	169.5	169.7
120°	185.9	186.1	186.3	186.4	186.6	186.7	186.8	186.8	186.9	187.0	187.4
122.5°	202.7	202.9	203.2	203.4	203.7	203.9	204.1	204.4	204.6	204.8	205.0
125°	219.5	219.8	220.1	220.4	220.7	221.1	221.4	221.7	222.0	222.3	222.5
127.5°	236.3	236.6	236.9	237.2	237.5	237.9	238.4	238.9	239.3	239.8	240.0
130°	252.7	253.2	253.8	254.3	254.9	255.3	255.6	256.0	256.3	256.6	256.8
132.5°	269.8	270.2	270.6	271.0	271.4	271.8	272.2	272.6	273.0	273.4	273.5
135°	287.6	287.8	288.0	288.1	288.3	288.5	288.8	289.2	289.5	289.8	289.9
137.5°	303.3	303.6	303.8	304.1	304.3	304.6	305.0	305.4	305.8	306.2	306.0
140°	318.7	319.2	319.8	320.4	320.9	321.2	321.3	321.4	321.5	321.5	321.5
142.5°	334.4	334.8	335.2	335.6	336.0	336.2	336.3	336.4	336.5	336.5	336.4
145°	349.4	349.7	350.0	350.3	350.7	350.9	350.9	351.0	351.1	351.2	350.9
147.5°	362.9	363.4	363.9	364.4	364.8	365.1	365.1	365.1	365.1	365.1	364.8
150°	375.8	376.3	376.7	377.2	377.7	377.9	377.9	377.9	377.9	377.9	377.8
152.5°	388.3	388.7	389.1	389.5	389.9	390.0	389.8	389.7	389.5	389.4	389.3
155°	399.3	399.9	400.5	401.0	401.6	401.7	401.4	401.1	400.7	400.4	400.3
157.5°	409.7	410.2	410.6	411.1	411.6	411.7	411.4	411.0	410.7	410.4	410.3
160°	419.7	420.0	420.3	420.6	421.0	420.9	420.5	420.1	419.7	419.3	419.3
162.5°	427.2	427.7	428.3	428.8	429.4	429.5	429.1	428.7	428.3	427.9	427.8
165°	434.3	434.9	435.4	436.0	436.5	436.6	436.1	435.6	435.2	434.7	434.7
167.5°	440.7	441.2	441.7	442.2	442.6	442.6	442.2	441.7	441.2	440.7	440.7
170°	445.4	445.9	446.5	447.0	447.6	447.6	447.0	446.5	445.9	445.4	445.4
172.5°	449.0	449.5	450.1	450.6	451.2	451.2	450.7	450.3	449.8	449.3	449.3
175°	451.5	452.0	452.6	453.1	453.7	453.7	453.2	452.8	452.3	451.8	451.8
177.5°	452.9	453.4	454.0	454.5	455.1	455.1	454.7	454.2	453.7	453.2	453.2
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4
2.5°	1958.2	1956.3	1938.2	1920.0	1902.2	1884.5	1871.2	1858.0	1835.7	1813.4	1799.4
5°	2079.6	2065.2	2036.5	2007.7	1964.6	1921.5	1885.2	1848.9	1802.8	1756.7	1718.1
7.5°	2147.2	2135.5	2100.7	2066.0	2008.9	1951.8	1895.0	1838.3	1770.3	1702.2	1644.0
10°	2149.1	2159.0	2130.2	2101.5	2037.2	1972.9	1895.8	1818.7	1727.2	1635.7	1560.4
12.5°	2081.8	2124.2	2118.1	2112.1	2046.7	1981.3	1887.5	1793.7	1681.4	1569.1	1475.0
15°	1955.9	2038.0	2062.2	2086.4	2032.3	1978.2	1871.6	1765.0	1633.0	1501.1	1392.9
17.5°	1793.7	1908.7	1972.6	2036.5	1997.1	1957.8	1841.0	1724.1	1575.6	1427.0	1309.4
20°	1601.6	1752.1	1852.3	1952.5	1938.2	1923.8	1803.2	1682.6	1522.2	1361.9	1234.5
22.5°	1411.8	1570.6	1709.0	1847.4	1862.2	1876.9	1755.2	1633.4	1458.0	1282.5	1152.8
25°	1248.1	1409.6	1574.4	1739.3	1772.5	1805.8	1690.1	1574.4	1392.6	1210.7	1081.8
27.5°	1092.0	1245.5	1427.0	1608.4	1668.9	1729.4	1623.6	1517.7	1328.3	1138.8	1010.3
30°	964.5	1101.8	1287.1	1472.3	1556.6	1641.0	1543.8	1446.6	1258.7	1070.8	944.9
32.5°	845.8	968.7	1154.7	1340.8	1438.7	1536.6	1452.7	1368.7	1188.0	1007.3	882.9
35°	752.0	862.1	1035.6	1209.2	1318.8	1428.5	1359.7	1290.8	1114.3	937.7	820.1
37.5°	671.5	763.8	926.7	1089.7	1206.1	1322.6	1265.1	1207.7	1041.7	875.7	764.5
40°	605.0	679.1	830.7	982.3	1096.5	1210.7	1161.5	1112.4	963.8	815.2	711.2
42.5°	547.9	611.8	747.9	884.0	988.7	1093.5	1061.0	1028.4	893.8	759.2	662.8
45°	497.6	551.3	671.1	791.0	887.4	983.8	958.1	932.4	816.3	700.2	611.8
47.5°	453.0	499.1	606.1	713.1	799.7	886.3	862.5	838.6	742.6	646.6	566.0
50°	412.1	451.5	540.7	629.9	707.8	785.7	766.0	746.4	667.0	587.6	518.0
52.5°	373.6	406.1	486.2	566.4	629.2	691.9	676.8	661.7	600.4	539.2	476.0
55°	336.9	366.8	434.4	502.1	555.8	609.5	594.4	579.3	531.6	484.0	428.4
57.5°	303.6	329.7	384.5	439.4	482.1	524.8	517.6	510.4	470.7	431.0	385.3
60°	268.5	291.9	339.2	386.4	420.8	455.2	446.9	438.6	410.2	381.9	342.6
62.5°	237.1	257.9	295.7	333.5	361.5	389.4	383.4	377.3	355.8	334.2	301.7
65°	204.2	224.6	255.2	285.8	307.8	329.7	324.4	319.1	302.9	286.6	260.5
67.5°	174.3	191.3	217.8	244.3	259.0	273.7	270.7	267.7	255.2	242.7	222.3
70°	144.1	158.8	180.7	202.7	212.9	223.1	224.2	225.3	214.0	202.7	187.5
72.5°	113.8	125.5	145.9	166.4	174.3	182.2	181.9	181.5	174.7	167.9	154.3
75°	87.3	96.0	111.9	127.8	134.6	141.4	142.9	144.4	138.0	131.6	124.0
77.5°	62.8	68.8	80.9	93.0	100.6	108.1	108.9	109.6	106.6	103.6	96.4
80°	44.2	46.1	53.7	61.3	69.2	77.1	78.3	79.4	76.4	73.4	68.8
82.5°	30.6	31.8	34.4	37.1	43.5	49.9	51.4	52.9	51.4	49.9	45.0
85°	18.5	18.9	20.0	21.2	24.2	27.2	28.7	30.2	29.5	28.7	26.1
87.5°	8.3	8.3	8.7	9.1	9.8	10.6	12.5	14.4	13.2	12.1	11.0
90°	6.5	5.5	4.4	3.5	2.7	1.9	1.1	0.4	1.1	1.9	2.7
92.5°	14.0	13.6	13.1	12.6	12.1	11.7	11.2	10.7	11.2	11.7	12.1
95°	25.1	24.5	23.9	23.3	22.7	22.2	21.6	21.1	21.6	22.2	22.7
97.5°	37.6	37.1	36.6	36.2	35.8	35.4	35.0	34.6	35.0	35.4	35.8
100°	51.7	51.3	50.9	50.4	50.0	49.5	49.0	48.5	49.0	49.5	50.0
102.5°	67.1	66.5	65.9	65.5	65.3	65.1	64.8	64.6	64.8	65.1	65.3
105°	82.8	82.1	81.4	80.9	80.8	80.6	80.5	80.3	80.5	80.6	80.8
107.5°	100.0	99.7	99.4	99.2	99.1	99.0	98.9	98.9	98.9	99.0	99.1
110°	117.1	116.9	116.8	116.6	116.5	116.3	116.1	116.0	116.1	116.3	116.5



TEST NUMBER: P832231

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	134.2	134.2	134.2	134.1	134.1	134.0	133.9	133.8	133.9	134.0	134.1
115°	152.3	152.5	152.7	152.6	152.4	152.1	151.9	151.7	151.9	152.1	152.4
117.5°	169.8	170.0	170.2	170.2	170.1	170.0	170.0	169.9	170.0	170.0	170.1
120°	187.8	188.2	188.6	188.6	188.1	187.6	187.1	186.6	187.1	187.6	188.1
122.5°	205.2	205.3	205.5	205.4	205.1	204.8	204.5	204.1	204.5	204.8	205.1
125°	222.7	222.8	223.0	222.9	222.7	222.5	222.2	222.0	222.2	222.5	222.7
127.5°	240.1	240.3	240.5	240.3	239.8	239.3	238.9	238.4	238.9	239.3	239.8
130°	257.1	257.3	257.5	257.3	256.7	256.1	255.4	254.8	255.4	256.1	256.7
132.5°	273.7	273.8	274.0	273.8	273.1	272.5	271.9	271.2	271.9	272.5	273.1
135°	289.9	290.0	290.1	289.9	289.4	289.0	288.5	288.0	288.5	289.0	289.4
137.5°	305.7	305.5	305.2	304.9	304.5	304.1	303.7	303.3	303.7	304.1	304.5
140°	321.4	321.3	321.2	321.0	320.6	320.2	319.8	319.4	319.8	320.2	320.6
142.5°	336.2	336.1	335.9	335.6	335.2	334.8	334.4	334.0	334.4	334.8	335.2
145°	350.7	350.5	350.2	350.0	349.9	349.7	349.5	349.4	349.5	349.7	349.9
147.5°	364.6	364.4	364.1	363.9	363.5	363.2	362.9	362.6	362.9	363.2	363.5
150°	377.6	377.5	377.3	377.1	377.0	376.8	376.7	376.5	376.7	376.8	377.0
152.5°	389.2	389.1	389.0	388.9	388.6	388.4	388.2	387.9	388.2	388.4	388.6
155°	400.3	400.2	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1	400.1
157.5°	410.3	410.2	410.1	410.1	410.2	410.3	410.3	410.4	410.3	410.3	410.2
160°	419.3	419.3	419.3	419.4	419.6	419.7	419.9	420.0	419.9	419.7	419.6
162.5°	427.7	427.7	427.6	427.7	427.9	428.1	428.4	428.6	428.4	428.1	427.9
165°	434.7	434.7	434.7	434.8	435.0	435.3	435.5	435.7	435.5	435.3	435.0
167.5°	440.6	440.5	440.4	440.5	440.9	441.2	441.5	441.8	441.5	441.2	440.9
170°	445.4	445.4	445.4	445.5	445.9	446.2	446.5	446.8	446.5	446.2	445.9
172.5°	449.3	449.3	449.3	449.5	449.8	450.1	450.4	450.7	450.4	450.1	449.8
175°	451.8	451.8	451.8	452.0	452.3	452.6	452.9	453.2	452.9	452.6	452.3
177.5°	453.2	453.2	453.2	453.4	453.7	454.0	454.3	454.7	454.3	454.0	453.7
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

TEST NUMBER: P832231

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4	1844.4
2.5°	1785.4	1763.8	1742.3	1726.8	1711.3	1692.0	1672.7	1672.0	1671.2	1656.8	1642.5
5°	1679.5	1642.1	1604.7	1568.0	1531.3	1494.6	1458.0	1449.6	1441.3	1428.8	1416.4
7.5°	1585.8	1526.0	1466.3	1419.4	1372.5	1335.8	1299.2	1274.2	1249.3	1230.0	1210.7
10°	1485.2	1411.1	1337.0	1280.3	1223.5	1183.8	1144.1	1115.4	1086.7	1073.1	1059.4
12.5°	1380.8	1300.3	1219.8	1164.2	1108.6	1061.0	1013.3	987.2	961.1	942.2	923.3
15°	1284.8	1198.2	1111.6	1052.6	993.7	949.0	904.4	878.3	852.2	833.3	814.4
17.5°	1191.8	1104.4	1017.1	957.4	897.6	857.2	816.7	791.4	766.0	754.3	742.6
20°	1107.1	1019.0	930.9	874.6	818.2	778.5	738.8	725.2	711.6	700.6	689.7
22.5°	1023.1	938.5	853.8	799.7	745.6	716.9	688.1	677.2	666.2	657.9	649.6
25°	952.8	868.5	784.2	736.9	689.7	667.4	645.0	637.9	630.7	622.4	614.0
27.5°	881.7	801.6	721.4	683.6	645.8	627.7	609.5	600.4	591.4	584.5	577.7
30°	819.0	744.9	670.8	639.4	608.0	592.1	576.2	566.4	556.6	550.1	543.7
32.5°	758.5	692.7	626.9	600.0	573.2	557.7	542.2	532.7	523.3	515.7	508.2
35°	702.5	645.4	588.3	563.8	539.2	523.7	508.2	498.7	489.3	481.7	474.1
37.5°	653.4	601.6	549.8	526.7	503.6	490.0	476.4	466.6	456.7	448.8	440.9
40°	607.2	561.5	515.7	493.4	471.1	456.4	441.6	432.9	424.2	417.0	409.9
42.5°	566.4	524.4	482.5	460.5	438.6	424.6	410.6	400.4	390.2	386.0	381.9
45°	523.3	486.2	449.2	428.0	406.8	392.1	377.3	368.6	360.0	356.2	352.4
47.5°	485.5	451.1	416.7	395.9	375.1	361.8	348.6	341.8	335.0	329.7	324.4
50°	448.4	415.2	381.9	361.8	341.8	330.5	319.1	310.8	302.5	298.7	294.9
52.5°	412.9	382.6	352.4	332.0	311.6	300.6	289.6	282.4	275.3	267.3	259.4
55°	372.8	346.3	319.9	301.7	283.6	272.2	260.9	252.6	244.3	235.9	227.6
57.5°	339.5	313.4	287.4	271.1	254.8	243.9	232.9	223.8	214.8	208.0	201.2
60°	303.2	280.6	257.9	242.0	226.1	215.5	204.9	196.2	187.5	184.1	180.7
62.5°	269.2	248.0	226.9	212.9	198.9	188.7	178.5	172.8	167.1	164.9	162.6
65°	234.4	216.3	198.1	185.3	172.4	163.7	155.0	152.4	149.7	147.8	145.9
67.5°	201.9	186.4	170.9	159.6	148.2	142.2	136.1	133.1	130.1	127.8	125.5
70°	172.4	158.8	145.2	135.4	125.5	119.9	114.2	111.5	108.9	104.7	100.6
72.5°	140.7	130.1	119.5	111.9	104.4	99.4	94.5	89.2	83.9	80.2	76.4
75°	116.5	105.9	95.3	88.1	80.9	75.2	69.6	67.7	65.8	64.7	63.5
77.5°	89.2	80.2	71.1	65.4	59.7	57.1	54.4	53.3	52.2	51.8	51.4
80°	64.3	56.7	49.2	46.1	43.1	42.3	41.6	40.8	40.1	39.7	39.3
82.5°	40.1	36.3	32.5	31.8	31.0	30.6	30.2	29.9	29.5	29.1	28.7
85°	23.4	21.9	20.4	20.0	19.7	19.3	18.9	18.9	18.9	18.9	18.9
87.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.5	9.1
90°	3.5	4.4	5.5	6.5	7.5	8.6	8.9	9.2	9.5	9.8	10.1
92.5°	12.6	13.1	13.6	14.0	14.5	15.0	15.2	15.5	15.7	15.9	16.0
95°	23.3	23.9	24.5	25.1	25.8	26.4	26.7	27.0	27.4	27.7	27.8
97.5°	36.2	36.6	37.1	37.6	38.1	38.5	38.9	39.3	39.7	40.1	40.3
100°	50.4	50.9	51.3	51.7	52.1	52.5	52.7	52.9	53.2	53.4	53.6
102.5°	65.5	65.9	66.5	67.1	67.6	68.2	68.4	68.6	68.9	69.1	69.2
105°	80.9	81.4	82.1	82.8	83.5	84.2	84.2	84.2	84.2	84.2	84.3
107.5°	99.2	99.4	99.7	100.0	100.3	100.6	100.9	101.1	101.4	101.6	101.7
110°	116.6	116.8	116.9	117.1	117.3	117.4	117.7	118.0	118.4	118.7	118.8



TEST NUMBER: P832231

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	134.1	134.2	134.2	134.2	134.2	134.2	134.6	135.0	135.4	135.8	136.0
115°	152.6	152.7	152.5	152.3	152.2	152.0	152.1	152.2	152.3	152.3	152.3
117.5°	170.2	170.2	170.0	169.8	169.7	169.5	169.5	169.5	169.5	169.5	169.4
120°	188.6	188.6	188.2	187.8	187.4	187.0	186.9	186.8	186.8	186.7	186.6
122.5°	205.4	205.5	205.3	205.2	205.0	204.8	204.6	204.4	204.1	203.9	203.7
125°	222.9	223.0	222.8	222.7	222.5	222.3	222.0	221.7	221.4	221.1	220.7
127.5°	240.3	240.5	240.3	240.1	240.0	239.8	239.3	238.9	238.4	237.9	237.5
130°	257.3	257.5	257.3	257.1	256.8	256.6	256.3	256.0	255.6	255.3	254.9
132.5°	273.8	274.0	273.8	273.7	273.5	273.4	273.0	272.6	272.2	271.8	271.4
135°	289.9	290.1	290.0	289.9	289.9	289.8	289.5	289.2	288.8	288.5	288.3
137.5°	304.9	305.2	305.5	305.7	306.0	306.2	305.8	305.4	305.0	304.6	304.3
140°	321.0	321.2	321.3	321.4	321.5	321.5	321.5	321.4	321.3	321.2	320.9
142.5°	335.6	335.9	336.1	336.2	336.4	336.5	336.5	336.4	336.3	336.2	336.0
145°	350.0	350.2	350.5	350.7	350.9	351.2	351.1	351.0	350.9	350.9	350.7
147.5°	363.9	364.1	364.4	364.6	364.8	365.1	365.1	365.1	365.1	365.1	364.8
150°	377.1	377.3	377.5	377.6	377.8	377.9	377.9	377.9	377.9	377.9	377.7
152.5°	388.9	389.0	389.1	389.2	389.3	389.4	389.5	389.7	389.8	390.0	389.9
155°	400.1	400.1	400.2	400.3	400.3	400.4	400.7	401.1	401.4	401.7	401.6
157.5°	410.1	410.1	410.2	410.3	410.3	410.4	410.7	411.0	411.4	411.7	411.6
160°	419.4	419.3	419.3	419.3	419.3	419.3	419.7	420.1	420.5	420.9	421.0
162.5°	427.7	427.6	427.7	427.7	427.8	427.9	428.3	428.7	429.1	429.5	429.4
165°	434.8	434.7	434.7	434.7	434.7	434.7	435.2	435.6	436.1	436.6	436.5
167.5°	440.5	440.4	440.5	440.6	440.7	440.7	441.2	441.7	442.2	442.6	442.6
170°	445.5	445.4	445.4	445.4	445.4	445.4	445.9	446.5	447.0	447.6	447.6
172.5°	449.5	449.3	449.3	449.3	449.3	449.3	449.8	450.3	450.7	451.2	451.2
175°	452.0	451.8	451.8	451.8	451.8	451.8	452.3	452.8	453.2	453.7	453.7
177.5°	453.4	453.2	453.2	453.2	453.2	453.2	453.7	454.2	454.7	455.1	455.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



TEST NUMBER: P832231

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1844.4	1844.4	1844.4	1844.4
2.5°	1638.7	1634.9	1633.4	1631.9
5°	1404.7	1392.9	1390.3	1387.6
7.5°	1205.8	1200.9	1184.6	1168.3
10°	1044.3	1029.2	1022.4	1015.6
12.5°	909.3	895.3	893.1	890.8
15°	804.6	794.8	791.4	788.0
17.5°	735.8	729.0	724.8	720.7
20°	684.7	679.8	676.8	673.8
22.5°	645.8	642.0	639.7	637.5
25°	608.4	602.7	600.8	598.9
27.5°	572.8	567.9	566.0	564.1
30°	539.6	535.4	532.7	530.1
32.5°	503.3	498.3	496.8	495.3
35°	471.1	468.1	466.6	465.1
37.5°	437.1	433.3	431.0	428.8
40°	408.0	406.1	404.9	403.8
42.5°	378.5	375.1	374.7	374.3
45°	349.0	345.6	344.8	344.1
47.5°	321.4	318.4	318.0	317.6
50°	290.8	286.6	283.6	280.6
52.5°	255.6	251.8	249.2	246.5
55°	223.5	219.3	217.0	214.8
57.5°	199.3	197.4	196.2	195.1
60°	179.6	178.5	177.7	177.0
62.5°	161.4	160.3	160.3	160.3
65°	144.8	143.7	142.5	141.4
67.5°	123.3	121.0	120.6	120.2
70°	97.2	93.8	93.4	93.0
72.5°	76.0	75.6	74.9	74.1
75°	62.8	62.0	62.0	62.0
77.5°	50.7	49.9	49.9	49.9
80°	38.9	38.6	38.9	39.3
82.5°	28.7	28.7	28.4	28.0
85°	18.5	18.1	18.1	18.1
87.5°	9.1	9.1	9.1	9.1
90°	10.2	10.4	10.5	10.7
92.5°	15.8	15.7	15.5	15.3
95°	27.8	27.8	27.8	27.8
97.5°	40.2	40.1	40.0	40.0
100°	53.8	53.9	54.1	54.2
102.5°	69.1	69.0	69.0	68.9
105°	84.5	84.6	84.8	84.9
107.5°	101.6	101.5	101.4	101.4
110°	118.6	118.4	118.3	118.1



TEST NUMBER: P832231

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	136.0	136.0	136.0	136.0
115°	152.3	152.2	152.1	152.0
117.5°	169.2	168.9	168.7	168.4
120°	186.4	186.3	186.1	185.9
122.5°	203.4	203.2	202.9	202.7
125°	220.4	220.1	219.8	219.5
127.5°	237.2	236.9	236.6	236.3
130°	254.3	253.8	253.2	252.7
132.5°	271.0	270.6	270.2	269.8
135°	288.1	288.0	287.8	287.6
137.5°	304.1	303.8	303.6	303.3
140°	320.4	319.8	319.2	318.7
142.5°	335.6	335.2	334.8	334.4
145°	350.3	350.0	349.7	349.4
147.5°	364.4	363.9	363.4	362.9
150°	377.2	376.7	376.3	375.8
152.5°	389.5	389.1	388.7	388.3
155°	401.0	400.5	399.9	399.3
157.5°	411.1	410.6	410.2	409.7
160°	420.6	420.3	420.0	419.7
162.5°	428.8	428.3	427.7	427.2
165°	436.0	435.4	434.9	434.3
167.5°	442.2	441.7	441.2	440.7
170°	447.0	446.5	445.9	445.4
172.5°	450.6	450.1	449.5	449.0
175°	453.1	452.6	452.0	451.5
177.5°	454.5	454.0	453.4	452.9
180°	454.3	454.3	454.3	454.3



TEST NUMBER: P832231

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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	12.52	13.47	13.34	14.30	15.33	17.18	18.13	18.00	18.96	19.99
	3H	13.75	14.60	14.58	15.44	16.50	18.69	19.54	19.52	20.38	21.44
	4H	14.14	14.94	14.99	15.78	16.85	19.19	19.99	20.04	20.83	21.90
	6H	14.42	15.16	15.29	16.02	17.10	19.50	20.24	20.37	21.10	22.18
	8H	14.52	15.21	15.38	16.09	17.17	19.59	20.28	20.46	21.16	22.24
	12H	14.57	15.23	15.44	16.10	17.21	19.62	20.29	20.50	21.15	22.26
4H	2H	13.26	14.06	14.11	14.90	15.97	17.19	17.99	18.05	18.84	19.91
	3H	14.64	15.30	15.50	16.18	17.26	18.86	19.52	19.73	20.41	21.49
	4H	15.10	15.70	15.97	16.58	17.69	19.47	20.07	20.35	20.95	22.06
	6H	15.47	15.99	16.36	16.89	18.00	19.92	20.43	20.81	21.34	22.45
	8H	15.60	16.08	16.49	16.98	18.10	20.05	20.53	20.94	21.43	22.55
	12H	15.68	16.11	16.59	17.03	18.16	20.12	20.55	21.03	21.47	22.60
8H	4H	15.42	15.90	16.31	16.80	17.92	19.45	19.93	20.34	20.83	21.95
	6H	15.89	16.28	16.81	17.22	18.35	19.95	20.35	20.87	21.29	22.41
	8H	16.08	16.43	17.01	17.36	18.51	20.13	20.49	21.06	21.42	22.56
	12H	16.22	16.53	17.16	17.46	18.65	20.25	20.56	21.19	21.49	22.68
12H	4H	15.44	15.87	16.35	16.79	17.92	19.40	19.84	20.32	20.75	21.88
	6H	15.94	16.30	16.88	17.23	18.37	19.92	20.27	20.85	21.21	22.35
	8H	16.17	16.48	17.10	17.40	18.60	20.12	20.43	21.05	21.35	22.55