

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: P831508

Luminaire Tested: S123DIP-S560D365U835-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831508
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D365U835-4F0-1E-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

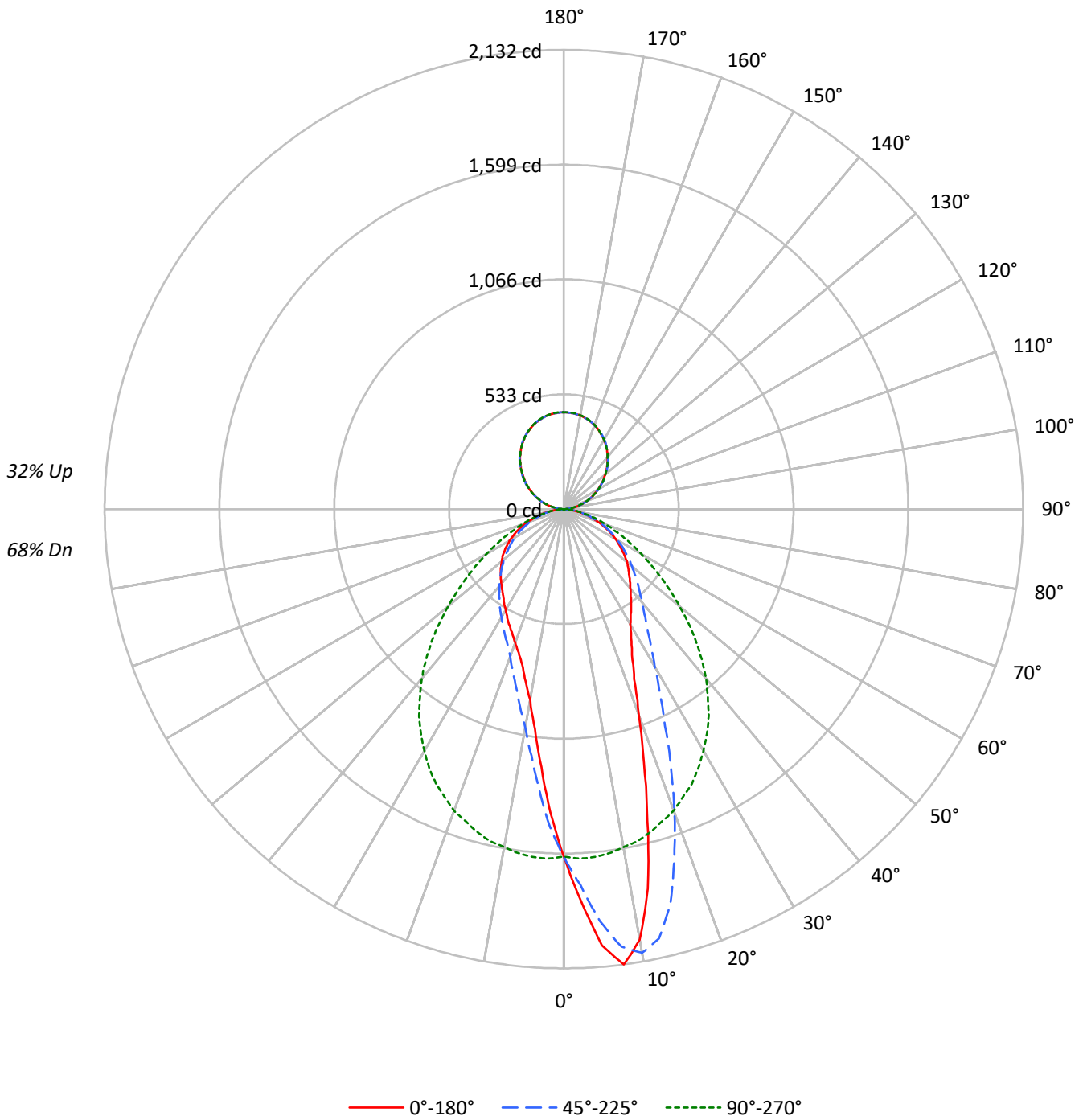
Lumens per Lamp: N/A
Luminaire Lumens: 3842.2 lumens
Efficiency: N/A
Efficacy: 129.8 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

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					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	0		
RCR																										
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	68								
1	102	98	94	91	96	93	90	87	83	80	78	73	72	70	65	64	62	58								
2	94	87	81	76	88	82	77	72	73	69	66	65	62	60	58	56	54	50								
3	86	77	70	64	81	73	67	62	66	61	56	59	55	51	52	49	47	43								
4	79	69	61	55	75	65	58	53	59	53	49	53	49	45	47	44	41	38								
5	73	62	54	48	69	59	52	46	53	48	43	48	43	40	43	39	36	34								
6	68	56	48	43	64	54	46	41	49	43	38	44	39	35	40	36	33	30								
7	63	51	43	38	60	49	42	37	45	39	34	40	36	32	37	33	30	27								
8	59	47	39	34	56	45	38	33	41	35	31	37	33	29	34	30	27	25								
9	55	43	36	31	52	41	35	30	38	32	28	35	30	26	32	28	25	23								
10	52	40	33	28	49	38	32	27	35	30	26	32	28	24	30	26	23	21								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	17374	17374	17374	17374	17374
5°	21973	20738	17530	14126	12981
10°	22186	22857	17413	11261	9840
15°	16710	21222	17295	9536	8322
20°	11643	17172	17073	8339	7559
25°	8878	13206	16697	7672	7090
30°	7680	10491	16096	7201	6712
35°	7126	8858	15403	6861	6447
40°	6746	7946	14429	6535	6357
45°	6521	7354	13192	6282	6317
50°	6409	6886	11727	6052	6285
55°	6170	6544	10290	5833	6311
60°	5950	6176	8869	5627	6209
65°	5591	5827	7651	5407	6085
70°	5161	5385	6505	5045	5728
75°	4675	4828	5577	4687	5232
80°	3856	4228	4413	4085	4413
85°	3051	3421	3236	3470	3520

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 15061 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.6	4.0
10°-20°	379.6	9.9
20°-30°	449.5	11.7
30°-40°	452.0	11.8
40°-50°	414.7	10.8
50°-60°	342.3	8.9
60°-70°	242.1	6.3
70°-80°	129.2	3.4
80°-90°	33.7	0.9
90°-100°	29.0	0.8
100°-110°	87.7	2.3
110°-120°	149.2	3.9
120°-130°	196.3	5.1
130°-140°	220.7	5.7
140°-150°	216.9	5.6
150°-160°	182.6	4.8
160°-170°	121.6	3.2
170°-180°	42.6	1.1
0°-30°	981.7	25.6
0°-40°	1433.7	37.3
0°-60°	2190.6	57.0
0°-90°	2595.7	67.6
90°-120°	265.8	6.9
90°-150°	899.7	23.4
90°-180°	1246.0	32.4
0°-180°	3842.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1614	1614	1614	1614	1614	
5°	2034	1919	1622	1307	1201	194
15°	1500	1904	1552	856	747	414
25°	748	1112	1406	646	597	353
35°	542	674	1172	522	491	341
45°	428	483	867	413	415	332
55°	329	349	548	311	336	294
65°	220	229	300	212	239	218
75°	112	116	134	113	126	118
85°	25	28	26	28	28	28
90°	11	8	0	8	11	7
95°	28	26	21	26	28	28
105°	84	83	80	83	84	89
115°	150	150	150	150	150	149
125°	217	220	220	220	217	194
135°	285	287	285	287	285	219
145°	346	348	346	348	346	216
155°	395	396	396	396	395	182
165°	430	430	432	430	430	121
175°	447	447	449	447	447	42
180°	450	450	450	450	450	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1
2.5°	1819.3	1817.5	1815.6	1806.2	1796.9	1792.4	1787.9	1774.4	1760.9	1745.9	1731.0
5°	2033.6	2038.8	2044.1	2038.1	2032.1	2013.7	1995.4	1971.0	1946.7	1919.3	1892.0
7.5°	2132.4	2135.4	2138.4	2134.7	2130.9	2126.1	2121.2	2099.5	2077.8	2049.7	2021.6
10°	2029.8	2036.6	2043.3	2057.9	2072.5	2089.0	2105.5	2102.5	2099.5	2091.2	2083.0
12.5°	1804.4	1812.6	1820.8	1850.1	1879.3	1916.7	1954.2	1986.4	2018.6	2041.1	2063.5
15°	1499.5	1522.4	1545.2	1571.8	1598.4	1653.4	1708.5	1776.3	1844.1	1904.4	1964.7
17.5°	1235.1	1243.7	1252.3	1280.8	1309.3	1378.6	1447.8	1526.1	1604.4	1704.4	1804.4
20°	1016.4	1024.3	1032.1	1069.6	1107.0	1161.3	1215.6	1303.7	1391.7	1499.1	1606.6
22.5°	853.9	866.2	878.6	899.6	920.5	972.6	1024.6	1102.9	1181.2	1299.9	1418.6
25°	747.5	756.5	765.5	778.2	791.0	832.5	874.1	938.5	1002.9	1111.9	1220.9
27.5°	674.9	678.6	682.3	695.1	707.8	734.8	761.7	817.2	872.6	965.1	1057.6
30°	617.9	620.6	623.2	634.4	645.6	664.0	682.3	722.4	762.5	844.1	925.8
32.5°	578.2	580.1	582.0	590.6	599.2	612.3	625.4	654.6	683.8	751.3	818.7
35°	542.3	543.4	544.5	550.9	557.3	567.0	576.7	598.8	620.9	674.1	727.3
37.5°	510.8	512.3	513.8	517.6	521.3	529.9	538.5	556.1	573.7	614.6	655.4
40°	480.1	482.7	485.4	488.0	490.6	497.7	504.8	518.3	531.8	565.5	599.2
42.5°	453.9	456.5	459.1	460.3	461.4	465.5	469.6	482.0	494.3	519.4	544.5
45°	428.4	429.6	430.7	431.8	432.9	436.3	439.7	450.5	461.4	483.1	504.8
47.5°	405.2	405.2	405.2	406.0	406.7	409.7	412.7	420.6	428.4	445.3	462.1
50°	382.7	382.7	382.7	381.6	380.5	382.4	384.2	390.2	396.2	411.2	426.2
52.5°	355.8	355.8	355.8	356.2	356.5	356.5	356.5	361.8	367.0	380.5	394.0
55°	328.8	330.3	331.8	330.7	329.6	330.3	331.1	334.4	337.8	348.7	359.5
57.5°	301.9	302.6	303.3	303.0	302.6	303.0	303.3	306.3	309.3	317.6	325.8
60°	276.4	276.4	276.4	275.6	274.9	275.6	276.4	277.9	279.4	286.9	294.4
62.5°	247.9	248.3	248.7	249.0	249.4	248.7	247.9	249.8	251.7	257.3	262.9
65°	219.5	219.8	220.2	221.3	222.5	221.7	221.0	222.8	224.7	228.8	232.9
67.5°	194.0	193.2	192.5	192.9	193.2	194.4	195.5	195.9	196.2	200.7	205.2
70°	164.0	164.8	165.5	165.2	164.8	165.2	165.5	166.7	167.8	171.1	174.5
72.5°	137.1	137.4	137.8	137.8	137.8	138.6	139.3	140.4	141.6	143.4	145.3
75°	112.4	112.4	112.4	113.1	113.8	114.2	114.6	114.6	114.6	116.1	117.6
77.5°	85.4	87.3	89.1	88.8	88.4	89.1	89.9	91.0	92.1	92.9	93.6
80°	62.2	62.2	62.2	62.5	62.9	64.0	65.2	65.9	66.7	68.2	69.7
82.5°	39.7	40.1	40.4	41.6	42.7	43.4	44.2	45.3	46.4	46.4	46.4
85°	24.7	24.0	23.2	24.0	24.7	25.5	26.2	26.6	27.0	27.7	28.5
87.5°	12.0	12.0	12.0	12.0	12.0	12.4	12.7	12.7	12.7	12.7	12.7
90°	10.6	10.4	10.3	10.1	10.0	9.7	9.4	9.1	8.8	8.5	7.5
92.5°	15.2	15.4	15.5	15.7	15.8	15.8	15.5	15.3	15.1	14.8	14.4
95°	27.6	27.6	27.6	27.6	27.6	27.4	27.1	26.8	26.5	26.2	25.5
97.5°	39.6	39.7	39.7	39.8	39.9	39.7	39.3	39.0	38.6	38.2	37.7
100°	53.7	53.6	53.4	53.2	53.1	52.9	52.7	52.4	52.2	51.9	51.6
102.5°	68.2	68.3	68.4	68.4	68.5	68.4	68.2	68.0	67.7	67.5	66.9
105°	84.1	84.0	83.8	83.6	83.5	83.4	83.4	83.4	83.4	83.4	82.7
107.5°	100.4	100.4	100.5	100.6	100.7	100.6	100.4	100.1	99.9	99.7	99.3
110°	117.0	117.1	117.3	117.4	117.6	117.5	117.2	116.9	116.6	116.3	116.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.6	134.6	134.6	134.6	134.6	134.4	134.1	133.7	133.3	132.9	132.9
115°	150.5	150.6	150.7	150.8	150.9	150.9	150.8	150.7	150.6	150.5	150.7
117.5°	166.8	167.0	167.3	167.5	167.7	167.9	167.9	167.9	167.9	167.9	168.0
120°	184.1	184.3	184.4	184.6	184.7	184.9	184.9	185.0	185.1	185.2	185.6
122.5°	200.7	201.0	201.2	201.4	201.7	201.9	202.1	202.4	202.6	202.8	203.0
125°	217.3	217.6	218.0	218.3	218.6	218.9	219.2	219.5	219.8	220.2	220.3
127.5°	233.9	234.3	234.6	234.9	235.2	235.6	236.1	236.5	237.0	237.5	237.6
130°	250.2	250.8	251.3	251.9	252.4	252.8	253.1	253.5	253.8	254.1	254.3
132.5°	267.2	267.6	267.9	268.3	268.7	269.1	269.5	269.9	270.3	270.7	270.9
135°	284.8	285.0	285.1	285.3	285.5	285.7	286.0	286.3	286.6	287.0	287.0
137.5°	300.4	300.6	300.9	301.1	301.3	301.6	302.0	302.4	302.8	303.2	303.0
140°	315.6	316.1	316.7	317.2	317.8	318.1	318.2	318.2	318.3	318.4	318.3
142.5°	331.1	331.5	331.9	332.3	332.7	332.9	333.0	333.1	333.2	333.2	333.1
145°	346.0	346.3	346.6	346.9	347.2	347.4	347.5	347.6	347.7	347.7	347.5
147.5°	359.4	359.9	360.3	360.8	361.3	361.5	361.5	361.5	361.5	361.5	361.3
150°	372.1	372.6	373.1	373.5	374.0	374.2	374.2	374.2	374.2	374.2	374.1
152.5°	384.5	384.9	385.3	385.7	386.1	386.2	386.0	385.9	385.7	385.5	385.5
155°	395.4	396.0	396.5	397.1	397.6	397.8	397.4	397.1	396.8	396.5	396.4
157.5°	405.7	406.2	406.6	407.1	407.6	407.7	407.3	407.0	406.7	406.4	406.3
160°	415.6	415.9	416.2	416.5	416.8	416.8	416.4	416.0	415.6	415.2	415.2
162.5°	423.0	423.6	424.1	424.7	425.2	425.3	424.9	424.5	424.1	423.7	423.6
165°	430.1	430.6	431.2	431.7	432.3	432.3	431.8	431.4	430.9	430.4	430.4
167.5°	436.4	436.9	437.4	437.9	438.3	438.3	437.9	437.4	436.9	436.4	436.4
170°	441.0	441.6	442.1	442.7	443.2	443.2	442.7	442.1	441.6	441.0	441.0
172.5°	444.6	445.1	445.7	446.2	446.8	446.8	446.3	445.9	445.4	444.9	444.9
175°	447.0	447.6	448.1	448.7	449.2	449.3	448.8	448.3	447.9	447.4	447.4
177.5°	448.5	449.0	449.6	450.1	450.7	450.7	450.2	449.7	449.3	448.8	448.8
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1
2.5°	1726.5	1722.0	1705.5	1689.0	1670.3	1651.6	1637.7	1623.9	1603.3	1582.7	1565.8
5°	1871.0	1850.1	1815.2	1780.4	1733.2	1686.0	1654.2	1622.4	1579.7	1537.0	1502.9
7.5°	1985.6	1949.7	1901.0	1852.3	1790.5	1728.7	1670.3	1611.9	1546.7	1481.5	1428.4
10°	2058.7	2034.3	1978.1	1922.0	1839.2	1756.4	1674.8	1593.1	1509.3	1425.4	1355.0
12.5°	2065.8	2068.0	2016.3	1964.7	1871.0	1777.4	1678.2	1578.9	1473.3	1367.7	1285.7
15°	2003.2	2041.8	2013.3	1984.9	1890.5	1796.1	1674.0	1552.0	1430.2	1308.5	1213.8
17.5°	1887.1	1969.9	1974.0	1978.1	1883.8	1789.4	1654.2	1519.0	1381.2	1243.4	1143.7
20°	1728.7	1850.8	1892.8	1934.7	1857.9	1781.2	1635.8	1490.5	1336.2	1181.9	1077.5
22.5°	1566.9	1715.2	1792.0	1868.8	1811.9	1754.9	1600.3	1445.6	1282.7	1119.8	1013.8
25°	1382.7	1544.5	1662.4	1780.4	1745.6	1710.7	1558.3	1405.9	1232.5	1059.1	950.9
27.5°	1222.0	1386.4	1528.7	1671.0	1663.6	1656.1	1504.8	1353.5	1175.9	998.4	893.9
30°	1079.0	1232.1	1391.3	1550.5	1568.8	1587.2	1441.1	1295.0	1117.2	939.3	838.5
32.5°	952.4	1086.1	1256.8	1427.6	1463.6	1499.5	1367.7	1235.9	1059.9	883.8	786.8
35°	848.6	970.0	1140.7	1311.5	1356.5	1401.4	1286.8	1172.2	1000.7	829.2	736.7
37.5°	756.9	858.4	1025.0	1191.7	1246.7	1301.8	1199.2	1096.6	935.9	775.2	690.2
40°	680.9	762.5	915.7	1068.8	1132.5	1196.2	1111.5	1026.9	874.5	722.0	643.8
42.5°	617.2	689.8	828.8	967.7	1028.8	1089.8	1018.3	946.8	811.2	675.6	604.1
45°	562.9	620.9	747.1	873.3	931.4	989.4	928.0	866.6	747.1	627.7	561.0
47.5°	511.9	561.8	669.6	777.5	829.2	880.8	832.9	785.0	683.8	582.7	522.4
50°	466.3	506.3	600.7	695.1	740.0	785.0	742.6	700.3	617.2	534.0	481.6
52.5°	426.6	459.1	538.2	617.2	655.8	694.3	658.0	621.7	555.8	489.9	444.2
55°	387.2	415.0	483.5	552.0	578.2	604.5	576.4	548.3	495.1	441.9	403.3
57.5°	350.5	375.3	431.4	487.6	507.8	528.1	502.6	477.1	437.0	397.0	364.8
60°	314.6	334.8	381.6	428.4	440.8	453.2	432.6	412.0	383.9	355.8	326.9
62.5°	281.3	299.6	334.4	369.3	377.5	385.7	370.0	354.3	332.9	311.6	289.1
65°	246.8	260.7	289.1	317.6	322.8	328.1	314.2	300.4	284.2	268.1	251.7
67.5°	215.0	224.7	247.9	271.1	271.5	271.9	260.7	249.4	240.4	231.4	218.3
70°	183.9	193.2	208.6	224.0	224.3	224.7	215.7	206.7	200.0	193.2	183.5
72.5°	152.0	158.8	170.4	182.0	181.3	180.5	174.9	169.3	164.0	158.8	151.7
75°	123.2	128.8	136.7	144.6	142.3	140.1	137.1	134.1	129.6	125.1	120.6
77.5°	97.0	100.4	104.9	109.4	107.9	106.4	103.7	101.1	97.7	94.4	92.5
80°	71.2	72.7	75.7	78.6	77.9	77.1	74.2	71.2	70.4	69.7	67.0
82.5°	48.3	50.2	50.9	51.7	51.3	50.9	48.7	46.4	45.7	44.9	44.6
85°	28.8	29.2	29.6	30.0	28.8	27.7	27.0	26.2	26.2	26.2	25.8
87.5°	13.1	13.5	13.5	13.5	13.1	12.7	12.0	11.2	11.6	12.0	12.0
90°	6.4	5.4	4.4	3.5	2.7	1.9	1.1	0.4	1.1	1.9	2.7
92.5°	13.9	13.4	13.0	12.5	12.0	11.5	11.1	10.6	11.1	11.5	12.0
95°	24.9	24.3	23.6	23.0	22.5	21.9	21.4	20.9	21.4	21.9	22.5
97.5°	37.2	36.8	36.3	35.8	35.5	35.1	34.7	34.3	34.7	35.1	35.5
100°	51.2	50.8	50.4	49.9	49.5	49.0	48.5	48.1	48.5	49.0	49.5
102.5°	66.4	65.8	65.3	64.9	64.7	64.4	64.2	64.0	64.2	64.4	64.7
105°	82.0	81.3	80.6	80.1	80.0	79.8	79.7	79.5	79.7	79.8	80.0
107.5°	99.0	98.7	98.4	98.2	98.1	98.0	98.0	97.9	98.0	98.0	98.1
110°	116.0	115.8	115.6	115.5	115.3	115.2	115.0	114.9	115.0	115.2	115.3



TEST NUMBER: P831508

CATALOG NUMBER: S123DIP-S560D365U835-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	132.9	132.9	132.9	132.8	132.8	132.7	132.6	132.5	132.6	132.7	132.8
115°	150.9	151.0	151.2	151.1	150.9	150.7	150.4	150.2	150.4	150.7	150.9
117.5°	168.2	168.3	168.5	168.5	168.4	168.4	168.3	168.2	168.3	168.4	168.4
120°	186.0	186.4	186.7	186.7	186.2	185.8	185.3	184.8	185.3	185.8	186.2
122.5°	203.2	203.3	203.5	203.4	203.1	202.8	202.5	202.1	202.5	202.8	203.1
125°	220.5	220.6	220.8	220.8	220.5	220.3	220.0	219.8	220.0	220.3	220.5
127.5°	237.8	238.0	238.1	238.0	237.5	237.0	236.5	236.1	236.5	237.0	237.5
130°	254.6	254.8	255.0	254.8	254.2	253.6	252.9	252.3	252.9	253.6	254.2
132.5°	271.0	271.2	271.3	271.1	270.5	269.8	269.2	268.6	269.2	269.8	270.5
135°	287.1	287.2	287.3	287.1	286.6	286.1	285.7	285.2	285.7	286.1	286.6
137.5°	302.7	302.5	302.3	302.0	301.6	301.2	300.8	300.4	300.8	301.2	301.6
140°	318.2	318.2	318.1	317.9	317.5	317.1	316.7	316.3	316.7	317.1	317.5
142.5°	332.9	332.8	332.6	332.3	332.0	331.6	331.2	330.8	331.2	331.6	332.0
145°	347.3	347.0	346.8	346.6	346.4	346.3	346.1	346.0	346.1	346.3	346.4
147.5°	361.0	360.8	360.6	360.3	360.0	359.7	359.4	359.0	359.4	359.7	360.0
150°	373.9	373.8	373.6	373.5	373.3	373.1	373.0	372.8	373.0	373.1	373.3
152.5°	385.4	385.3	385.2	385.1	384.8	384.6	384.4	384.1	384.4	384.6	384.8
155°	396.3	396.3	396.2	396.2	396.2	396.2	396.2	396.2	396.2	396.2	396.2
157.5°	406.2	406.2	406.1	406.1	406.2	406.2	406.3	406.4	406.3	406.2	406.2
160°	415.2	415.2	415.2	415.3	415.5	415.6	415.8	415.9	415.8	415.6	415.5
162.5°	423.6	423.5	423.4	423.5	423.7	424.0	424.2	424.4	424.2	424.0	423.7
165°	430.4	430.4	430.4	430.5	430.8	431.0	431.3	431.5	431.3	431.0	430.8
167.5°	436.3	436.2	436.1	436.2	436.6	436.9	437.2	437.5	437.2	436.9	436.6
170°	441.0	441.0	441.0	441.2	441.5	441.8	442.1	442.4	442.1	441.8	441.5
172.5°	444.9	444.9	444.9	445.1	445.4	445.7	446.0	446.3	446.0	445.7	445.4
175°	447.4	447.4	447.4	447.6	447.9	448.2	448.5	448.8	448.5	448.2	447.9
177.5°	448.8	448.8	448.8	449.0	449.3	449.6	449.9	450.2	449.9	449.6	449.3
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



TEST NUMBER: P831508

CATALOG NUMBER: S123DIP-S560D365U835-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1	1614.1
2.5°	1549.0	1534.4	1519.7	1508.5	1497.3	1478.2	1459.1	1454.6	1450.1	1443.7	1437.4
5°	1468.8	1432.9	1396.9	1364.7	1332.5	1307.4	1282.3	1265.8	1249.4	1237.4	1225.4
7.5°	1375.2	1321.3	1267.3	1229.1	1190.9	1154.6	1118.3	1106.7	1095.1	1079.3	1063.6
10°	1284.6	1225.0	1165.5	1115.7	1065.8	1030.3	994.7	980.5	966.2	946.4	926.5
12.5°	1203.7	1138.5	1073.3	1023.2	973.0	938.5	904.1	883.5	862.9	851.6	840.4
15°	1119.0	1049.4	979.7	933.3	886.8	855.7	824.7	806.7	788.7	777.8	767.0
17.5°	1044.1	975.2	906.3	861.7	817.2	788.7	760.2	744.5	728.8	720.5	712.3
20°	973.0	905.6	838.1	794.7	751.3	728.0	704.8	694.7	684.6	677.9	671.1
22.5°	907.8	841.5	775.2	738.2	701.1	682.3	663.6	656.5	649.4	643.8	638.2
25°	842.6	783.5	724.3	692.8	661.4	646.0	630.7	623.6	616.4	610.8	605.2
27.5°	789.5	732.9	676.4	649.4	622.4	610.4	598.5	592.8	587.2	582.0	576.7
30°	737.8	687.2	636.7	613.4	590.2	579.4	568.5	562.9	557.3	552.4	547.5
32.5°	689.8	646.4	603.0	581.6	560.3	551.3	542.3	535.5	528.8	525.1	521.3
35°	644.2	605.2	566.3	548.7	531.0	522.1	513.1	507.5	501.8	498.8	495.8
37.5°	605.2	570.4	535.5	518.7	501.8	493.2	484.6	479.7	474.9	473.7	472.6
40°	565.5	535.5	505.6	489.1	472.6	465.1	457.6	454.7	451.7	450.9	450.2
42.5°	532.5	503.3	474.1	459.1	444.2	437.8	431.4	429.9	428.4	429.6	430.7
45°	494.3	470.0	445.7	431.8	417.9	412.7	407.5	406.3	405.2	407.5	409.7
47.5°	462.1	439.7	417.2	404.1	391.0	387.2	383.5	383.1	382.7	385.7	388.7
50°	429.2	407.5	385.7	375.3	364.8	361.4	358.0	359.2	360.3	365.1	370.0
52.5°	398.5	378.3	358.0	348.3	338.6	336.3	334.1	336.7	339.3	344.5	349.8
55°	364.8	346.4	328.1	320.6	313.1	310.8	308.6	313.8	319.1	323.9	328.8
57.5°	332.6	316.5	300.4	293.6	286.9	286.5	286.1	291.0	295.9	301.1	306.3
60°	298.1	284.6	271.1	265.9	260.7	261.4	262.2	267.8	273.4	277.5	281.6
62.5°	266.6	255.4	244.2	239.3	234.4	236.3	238.2	243.8	249.4	254.3	259.2
65°	235.2	225.8	216.5	213.1	209.7	212.3	215.0	219.8	224.7	228.1	231.4
67.5°	205.2	197.4	189.5	186.9	184.3	186.9	189.5	194.4	199.2	202.6	206.0
70°	173.8	167.4	161.0	159.2	157.3	160.3	163.3	167.4	171.5	174.9	178.3
72.5°	144.6	139.7	134.8	134.4	134.1	136.7	139.3	143.4	147.6	149.8	152.0
75°	116.1	113.5	110.9	110.5	110.1	112.7	115.3	117.6	119.8	121.7	123.6
77.5°	90.6	88.4	86.1	86.5	86.9	88.8	90.6	92.9	95.1	96.2	97.4
80°	64.4	63.7	62.9	63.7	64.4	65.9	67.4	68.9	70.4	71.2	71.9
82.5°	44.2	43.4	42.7	43.8	44.9	46.1	47.2	48.3	49.4	49.8	50.2
85°	25.5	26.6	27.7	27.7	27.7	28.1	28.5	28.8	29.2	28.8	28.5
87.5°	12.0	12.4	12.7	12.7	12.7	13.1	13.5	13.5	13.5	13.1	12.7
90°	3.5	4.4	5.4	6.4	7.5	8.5	8.8	9.1	9.4	9.7	10.0
92.5°	12.5	13.0	13.4	13.9	14.4	14.8	15.1	15.3	15.5	15.8	15.8
95°	23.0	23.6	24.3	24.9	25.5	26.2	26.5	26.8	27.1	27.4	27.6
97.5°	35.8	36.3	36.8	37.2	37.7	38.2	38.6	39.0	39.3	39.7	39.9
100°	49.9	50.4	50.8	51.2	51.6	51.9	52.2	52.4	52.7	52.9	53.1
102.5°	64.9	65.3	65.8	66.4	66.9	67.5	67.7	68.0	68.2	68.4	68.5
105°	80.1	80.6	81.3	82.0	82.7	83.4	83.4	83.4	83.4	83.4	83.5
107.5°	98.2	98.4	98.7	99.0	99.3	99.7	99.9	100.1	100.4	100.6	100.7
110°	115.5	115.6	115.8	116.0	116.1	116.3	116.6	116.9	117.2	117.5	117.6



TEST NUMBER: P831508

CATALOG NUMBER: S123DIP-S560D365U835-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	132.8	132.9	132.9	132.9	132.9	132.9	133.3	133.7	134.1	134.4	134.6
115°	151.1	151.2	151.0	150.9	150.7	150.5	150.6	150.7	150.8	150.9	150.9
117.5°	168.5	168.5	168.3	168.2	168.0	167.9	167.9	167.9	167.9	167.9	167.7
120°	186.7	186.7	186.4	186.0	185.6	185.2	185.1	185.0	184.9	184.9	184.7
122.5°	203.4	203.5	203.3	203.2	203.0	202.8	202.6	202.4	202.1	201.9	201.7
125°	220.8	220.8	220.6	220.5	220.3	220.2	219.8	219.5	219.2	218.9	218.6
127.5°	238.0	238.1	238.0	237.8	237.6	237.5	237.0	236.5	236.1	235.6	235.2
130°	254.8	255.0	254.8	254.6	254.3	254.1	253.8	253.5	253.1	252.8	252.4
132.5°	271.1	271.3	271.2	271.0	270.9	270.7	270.3	269.9	269.5	269.1	268.7
135°	287.1	287.3	287.2	287.1	287.0	287.0	286.6	286.3	286.0	285.7	285.5
137.5°	302.0	302.3	302.5	302.7	303.0	303.2	302.8	302.4	302.0	301.6	301.3
140°	317.9	318.1	318.2	318.2	318.3	318.4	318.3	318.2	318.2	318.1	317.8
142.5°	332.3	332.6	332.8	332.9	333.1	333.2	333.2	333.1	333.0	332.9	332.7
145°	346.6	346.8	347.0	347.3	347.5	347.7	347.7	347.6	347.5	347.4	347.2
147.5°	360.3	360.6	360.8	361.0	361.3	361.5	361.5	361.5	361.5	361.5	361.3
150°	373.5	373.6	373.8	373.9	374.1	374.2	374.2	374.2	374.2	374.2	374.0
152.5°	385.1	385.2	385.3	385.4	385.5	385.5	385.7	385.9	386.0	386.2	386.1
155°	396.2	396.2	396.3	396.3	396.4	396.5	396.8	397.1	397.4	397.8	397.6
157.5°	406.1	406.1	406.2	406.2	406.3	406.4	406.7	407.0	407.3	407.7	407.6
160°	415.3	415.2	415.2	415.2	415.2	415.2	415.6	416.0	416.4	416.8	416.8
162.5°	423.5	423.4	423.5	423.6	423.6	423.7	424.1	424.5	424.9	425.3	425.2
165°	430.5	430.4	430.4	430.4	430.4	430.4	430.9	431.4	431.8	432.3	432.3
167.5°	436.2	436.1	436.2	436.3	436.4	436.4	436.9	437.4	437.9	438.3	438.3
170°	441.2	441.0	441.0	441.0	441.0	441.0	441.6	442.1	442.7	443.2	443.2
172.5°	445.1	444.9	444.9	444.9	444.9	444.9	445.4	445.9	446.3	446.8	446.8
175°	447.6	447.4	447.4	447.4	447.4	447.4	447.9	448.3	448.8	449.3	449.2
177.5°	449.0	448.8	448.8	448.8	448.8	448.8	449.3	449.7	450.2	450.7	450.7
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



TEST NUMBER: P831508

CATALOG NUMBER: S123DIP-S560D365U835-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1614.1	1614.1	1614.1	1614.1
2.5°	1434.7	1432.1	1421.6	1411.1
5°	1216.4	1207.4	1204.4	1201.4
7.5°	1062.8	1062.1	1046.4	1030.6
10°	927.7	928.8	914.5	900.3
12.5°	831.0	821.7	820.5	819.4
15°	758.4	749.8	748.3	746.8
17.5°	707.1	701.8	700.3	698.8
20°	668.1	665.1	662.5	659.9
22.5°	634.4	630.7	628.4	626.2
25°	601.8	598.5	597.7	597.0
27.5°	572.6	568.5	568.5	568.5
30°	544.9	542.3	541.2	540.0
32.5°	519.1	516.8	516.8	516.8
35°	494.7	493.6	492.1	490.6
37.5°	472.6	472.6	471.9	471.1
40°	451.3	452.4	452.4	452.4
42.5°	431.8	432.9	432.9	432.9
45°	411.6	413.5	414.2	415.0
47.5°	391.7	394.7	395.5	396.2
50°	372.3	374.5	374.9	375.3
52.5°	352.4	355.0	356.9	358.8
55°	331.4	334.1	335.2	336.3
57.5°	309.0	311.6	312.0	312.3
60°	284.2	286.9	287.6	288.4
62.5°	260.7	262.2	262.9	263.7
65°	233.7	235.9	237.4	238.9
67.5°	207.9	209.7	209.7	209.7
70°	179.0	179.8	180.9	182.0
72.5°	152.4	152.8	152.8	152.8
75°	124.3	125.1	125.5	125.8
77.5°	97.7	98.1	98.1	98.1
80°	71.5	71.2	71.2	71.2
82.5°	49.1	47.9	47.9	47.9
85°	28.1	27.7	28.1	28.5
87.5°	12.7	12.7	12.7	12.7
90°	10.1	10.3	10.4	10.6
92.5°	15.7	15.5	15.4	15.2
95°	27.6	27.6	27.6	27.6
97.5°	39.8	39.7	39.7	39.6
100°	53.2	53.4	53.6	53.7
102.5°	68.4	68.4	68.3	68.2
105°	83.6	83.8	84.0	84.1
107.5°	100.6	100.5	100.4	100.4
110°	117.4	117.3	117.1	117.0



TEST NUMBER: P831508

CATALOG NUMBER: S123DIP-S560D365U835-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	134.6	134.6	134.6	134.6
115°	150.8	150.7	150.6	150.5
117.5°	167.5	167.3	167.0	166.8
120°	184.6	184.4	184.3	184.1
122.5°	201.4	201.2	201.0	200.7
125°	218.3	218.0	217.6	217.3
127.5°	234.9	234.6	234.3	233.9
130°	251.9	251.3	250.8	250.2
132.5°	268.3	267.9	267.6	267.2
135°	285.3	285.1	285.0	284.8
137.5°	301.1	300.9	300.6	300.4
140°	317.2	316.7	316.1	315.6
142.5°	332.3	331.9	331.5	331.1
145°	346.9	346.6	346.3	346.0
147.5°	360.8	360.3	359.9	359.4
150°	373.5	373.1	372.6	372.1
152.5°	385.7	385.3	384.9	384.5
155°	397.1	396.5	396.0	395.4
157.5°	407.1	406.6	406.2	405.7
160°	416.5	416.2	415.9	415.6
162.5°	424.7	424.1	423.6	423.0
165°	431.7	431.2	430.6	430.1
167.5°	437.9	437.4	436.9	436.4
170°	442.7	442.1	441.6	441.0
172.5°	446.2	445.7	445.1	444.6
175°	448.7	448.1	447.6	447.0
177.5°	450.1	449.6	449.0	448.5
180°	449.9	449.9	449.9	449.9



TEST NUMBER: P831508

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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	14.99	15.98	15.79	16.80	17.80	17.23	18.22	18.03	19.03	20.03
	3H	16.65	17.53	17.46	18.36	19.39	18.66	19.55	19.47	20.37	21.40
	4H	17.23	18.07	18.06	18.90	19.94	19.12	19.95	19.95	20.79	21.83
	6H	17.61	18.38	18.45	19.22	20.27	19.40	20.17	20.24	21.01	22.06
	8H	17.71	18.44	18.56	19.30	20.35	19.47	20.20	20.32	21.06	22.11
	12H	17.76	18.46	18.61	19.31	20.39	19.49	20.19	20.34	21.04	22.12
4H	2H	15.58	16.42	16.41	17.25	18.29	17.41	18.24	18.24	19.08	20.12
	3H	17.42	18.12	18.26	18.98	20.04	19.04	19.73	19.88	20.60	21.65
	4H	18.12	18.76	18.98	19.62	20.70	19.62	20.26	20.48	21.12	22.20
	6H	18.61	19.15	19.48	20.04	21.13	20.04	20.58	20.91	21.47	22.56
	8H	18.74	19.26	19.62	20.14	21.24	20.15	20.66	21.03	21.54	22.64
	12H	18.82	19.28	19.71	20.18	21.28	20.20	20.66	21.10	21.56	22.67
8H	4H	18.40	18.91	19.27	19.79	20.89	19.74	20.25	20.61	21.13	22.23
	6H	18.99	19.41	19.90	20.34	21.44	20.25	20.67	21.15	21.59	22.69
	8H	19.20	19.57	20.11	20.49	21.61	20.43	20.80	21.34	21.72	22.83
	12H	19.33	19.66	20.25	20.57	21.74	20.53	20.86	21.45	21.77	22.94
12H	4H	18.41	18.86	19.30	19.77	20.87	19.72	20.18	20.62	21.08	22.19
	6H	19.04	19.42	19.96	20.34	21.45	20.26	20.63	21.17	21.55	22.67
	8H	19.28	19.61	20.20	20.52	21.69	20.47	20.80	21.38	21.70	22.87