

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: P831236

Luminaire Tested: S123DIP-S1165D365U830-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831236
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-S1165D365U830-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

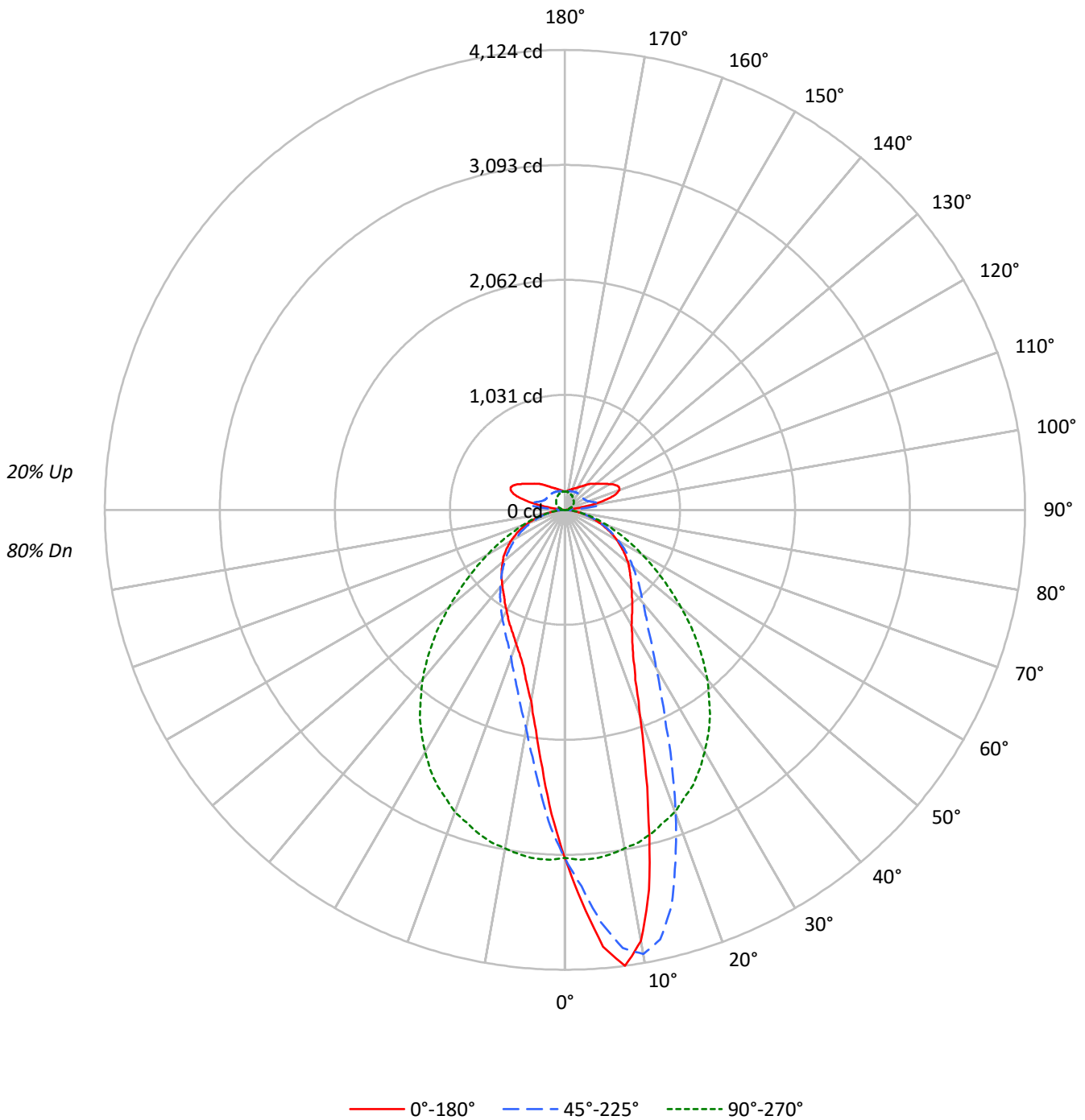
Lumens per Lamp: N/A
Luminaire Lumens: 6257.2 lumens
Efficiency: N/A
Efficacy: 119.9 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 52.2
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	114	114	114	114	109	109	109	109	100	100	100	92	92	92	84	84	84	80		
1	105	101	97	94	101	97	94	91	89	87	84	82	80	78	75	74	73	69		
2	97	89	83	78	92	86	81	76	79	75	71	73	70	67	68	65	62	59		
3	89	80	72	67	85	77	70	65	71	66	61	66	61	58	61	57	54	52		
4	82	71	64	58	78	69	62	56	64	58	53	59	54	51	55	51	48	45		
5	76	64	56	50	73	62	55	49	58	52	47	54	49	45	50	46	43	40		
6	71	59	50	45	67	57	49	44	53	47	42	49	44	40	46	42	38	36		
7	66	54	46	40	63	52	44	39	49	42	38	46	40	36	43	38	35	32		
8	61	49	41	36	59	48	40	35	45	39	34	42	37	33	40	35	31	29		
9	58	45	38	33	55	44	37	32	42	35	31	39	34	30	37	32	29	27		
10	54	42	35	30	52	41	34	30	39	33	29	37	31	28	35	30	27	25		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	33604	33604	33604	33604	33604
5°	42498	40112	33905	27323	25108
10°	42911	44208	33680	21780	19032
15°	32320	41045	33450	18444	16095
20°	22519	33214	33023	16129	14620
25°	17171	25542	32295	14840	13713
30°	14855	20293	31132	13928	12982
35°	13783	17132	29792	13268	12469
40°	13048	15369	27909	12641	12295
45°	12615	14224	25514	12151	12218
50°	12397	13318	22682	11705	12154
55°	11935	12656	19900	11282	12207
60°	11509	11944	17153	10884	12006
65°	10812	11273	14795	10460	11769
70°	9986	10417	12582	9756	11078
75°	9037	9337	10784	9066	10123
80°	7451	8170	8529	7903	8529
85°	5903	6620	6262	6706	6805

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 29131 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.1	4.7
10°-20°	734.3	11.7
20°-30°	869.4	13.9
30°-40°	874.2	14.0
40°-50°	802.0	12.8
50°-60°	662.0	10.6
60°-70°	468.3	7.5
70°-80°	250.0	4.0
80°-90°	64.3	1.0
90°-100°	89.3	1.4
100°-110°	261.4	4.2
110°-120°	255.3	4.1
120°-130°	203.3	3.2
130°-140°	160.4	2.6
140°-150°	119.7	1.9
150°-160°	83.4	1.3
160°-170°	49.0	0.8
170°-180°	15.9	0.3
0°-30°	1898.8	30.3
0°-40°	2773.0	44.3
0°-60°	4236.9	67.7
0°-90°	5019.5	80.2
90°-120°	606.0	9.7
90°-150°	1089.3	17.4
90°-180°	1238.0	19.8
0°-180°	6257.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3122	3122	3122	3122	3122	
5°	3933	3712	3138	2529	2324	375
15°	2900	3683	3002	1655	1444	801
25°	1446	2151	2719	1250	1155	682
35°	1049	1304	2267	1010	949	659
45°	829	934	1676	798	803	642
55°	636	674	1060	601	650	569
65°	424	443	581	411	462	422
75°	217	224	259	218	243	228
85°	48	54	51	54	55	53
90°	10	8	1	8	10	8
95°	39	198	11	198	39	63
105°	424	268	39	268	424	423
115°	515	205	68	205	515	502
125°	406	191	95	191	406	368
135°	329	188	111	188	329	255
145°	258	186	127	186	258	164
155°	214	180	144	180	214	99
165°	186	172	158	172	186	53
175°	168	166	164	166	168	16
180°	164	164	164	164	164	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9
2.5°	3518.9	3515.2	3511.6	3493.5	3475.4	3466.7	3458.0	3431.9	3405.9	3376.9	3347.9
5°	3933.2	3943.3	3953.5	3941.9	3930.3	3894.8	3859.3	3812.2	3765.1	3712.3	3659.4
7.5°	4124.4	4130.2	4136.0	4128.8	4121.5	4112.1	4102.7	4060.7	4018.7	3964.3	3910.0
10°	3926.0	3939.0	3952.0	3980.3	4008.5	4040.4	4072.3	4066.5	4060.7	4044.7	4028.8
12.5°	3489.9	3505.8	3521.8	3578.3	3634.8	3707.2	3779.6	3841.9	3904.2	3947.7	3991.1
15°	2900.3	2944.5	2988.6	3040.1	3091.5	3198.0	3304.5	3435.6	3566.7	3683.3	3799.9
17.5°	2388.9	2405.6	2422.2	2477.3	2532.3	2666.3	2800.3	2951.7	3103.1	3296.5	3489.9
20°	1965.9	1981.1	1996.3	2068.7	2141.2	2246.2	2351.2	2521.4	2691.7	2899.6	3107.4
22.5°	1651.5	1675.4	1699.3	1739.9	1780.4	1881.1	1981.8	2133.2	2284.6	2514.2	2743.8
25°	1445.8	1463.2	1480.6	1505.2	1529.8	1610.2	1690.6	1815.2	1939.8	2150.6	2361.4
27.5°	1305.3	1312.5	1319.8	1344.4	1369.0	1421.2	1473.3	1580.5	1687.7	1866.6	2045.6
30°	1195.2	1200.2	1205.3	1227.0	1248.8	1284.3	1319.8	1397.3	1474.8	1632.7	1790.6
32.5°	1118.4	1122.0	1125.6	1142.3	1159.0	1184.3	1209.7	1266.2	1322.7	1453.0	1583.4
35°	1048.9	1051.0	1053.2	1065.5	1077.8	1096.7	1115.5	1158.2	1201.0	1303.8	1406.7
37.5°	988.0	990.9	993.8	1001.0	1008.3	1024.9	1041.6	1075.7	1109.7	1188.7	1267.6
40°	928.6	933.7	938.8	943.8	948.9	962.7	976.4	1002.5	1028.6	1093.8	1159.0
42.5°	877.9	883.0	888.0	890.2	892.4	900.4	908.3	932.2	956.1	1004.7	1053.2
45°	828.7	830.8	833.0	835.2	837.3	843.9	850.4	871.4	892.4	934.4	976.4
47.5°	783.7	783.7	783.7	785.2	786.6	792.4	798.2	813.4	828.7	861.2	893.8
50°	740.3	740.3	740.3	738.1	735.9	739.6	743.2	754.8	766.4	795.3	824.3
52.5°	688.1	688.1	688.1	688.9	689.6	689.6	689.6	699.7	709.9	735.9	762.0
55°	636.0	638.9	641.8	639.6	637.4	638.9	640.3	646.8	653.4	674.4	695.4
57.5°	583.8	585.3	586.7	586.0	585.3	586.0	586.7	592.5	598.3	614.2	630.2
60°	534.6	534.6	534.6	533.1	531.7	533.1	534.6	537.5	540.4	554.8	569.3
62.5°	479.5	480.2	481.0	481.7	482.4	481.0	479.5	483.1	486.8	497.6	508.5
65°	424.5	425.2	425.9	428.1	430.3	428.8	427.4	431.0	434.6	442.6	450.5
67.5°	375.2	373.8	372.3	373.0	373.8	375.9	378.1	378.8	379.6	388.2	396.9
70°	317.3	318.7	320.2	319.4	318.7	319.4	320.2	322.3	324.5	331.0	337.5
72.5°	265.1	265.8	266.6	266.6	266.6	268.0	269.5	271.6	273.8	277.4	281.0
75°	217.3	217.3	217.3	218.8	220.2	220.9	221.6	221.6	221.6	224.5	227.4
77.5°	165.2	168.8	172.4	171.7	170.9	172.4	173.8	176.0	178.2	179.6	181.1
80°	120.2	120.2	120.2	121.0	121.7	123.9	126.0	127.5	128.9	131.8	134.7
82.5°	76.8	77.5	78.2	80.4	82.6	84.0	85.5	87.6	89.8	89.8	89.8
85°	47.8	46.4	44.9	46.4	47.8	49.3	50.7	51.4	52.2	53.6	55.1
87.5°	23.2	23.2	23.2	23.2	23.2	23.9	24.6	24.6	24.6	24.6	24.6
90°	9.7	10.0	9.7	9.3	9.7	9.0	8.7	8.3	8.0	8.3	7.3
92.5°	17.7	18.3	18.0	19.3	20.0	22.3	25.6	33.0	46.3	62.0	68.6
95°	38.6	40.0	42.3	45.3	51.6	63.6	81.3	119.9	160.2	197.5	175.9
97.5°	79.3	82.9	90.9	103.6	125.9	163.9	207.8	275.5	314.1	303.8	226.8
100°	208.8	208.5	221.5	245.8	279.5	326.7	365.7	392.7	381.0	315.4	213.2
102.5°	330.7	340.4	350.7	368.7	393.0	418.7	437.3	431.7	384.4	293.8	193.2
105°	423.7	425.3	436.0	448.7	464.0	472.6	466.3	433.0	363.4	267.8	177.5
107.5°	484.3	488.0	492.3	498.3	500.3	491.3	465.3	413.0	333.4	244.8	166.2
110°	518.9	519.6	520.3	517.6	508.3	485.0	443.0	381.7	305.4	225.8	160.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	525.9	525.6	522.3	512.6	493.6	462.0	413.7	350.7	281.1	213.2	156.9
115°	515.3	513.6	506.9	492.3	467.3	431.0	382.0	324.1	262.5	204.8	156.5
117.5°	492.0	489.6	479.6	463.3	437.3	399.7	354.7	303.4	250.1	199.2	156.9
120°	461.3	459.3	451.3	432.7	406.4	372.7	332.7	287.8	240.8	195.5	158.2
122.5°	432.7	430.0	421.0	404.7	382.0	351.4	315.1	275.5	233.2	193.2	160.5
125°	406.4	404.0	395.7	381.0	359.7	333.1	301.1	264.8	226.8	191.2	162.9
127.5°	383.7	381.7	374.0	361.4	342.1	317.4	288.1	255.1	220.8	190.2	165.5
130°	365.1	362.4	355.4	343.4	325.7	303.1	276.1	246.1	216.2	189.2	168.2
132.5°	346.7	345.1	339.1	327.1	310.8	289.4	264.8	237.8	211.8	188.9	170.2
135°	329.4	327.1	321.1	311.1	294.8	275.8	254.1	230.5	208.2	188.5	172.2
137.5°	311.1	309.1	304.1	293.8	279.8	262.8	243.5	223.5	204.8	187.9	173.5
140°	291.8	292.1	286.8	277.5	264.8	250.5	234.5	217.5	201.8	187.5	174.9
142.5°	273.8	274.1	269.5	261.5	251.1	239.1	225.8	211.8	199.2	186.9	175.9
145°	257.5	256.8	254.1	247.1	238.8	229.2	218.5	207.5	196.8	186.2	176.2
147.5°	243.5	243.1	240.5	235.5	228.8	221.8	212.8	203.8	194.5	185.2	176.2
150°	231.5	231.5	229.5	225.8	220.8	214.5	207.5	199.8	192.2	183.9	176.2
152.5°	221.5	221.5	220.5	217.2	213.5	208.5	202.5	196.2	189.5	182.2	175.2
155°	213.5	213.2	212.5	209.8	206.8	202.8	197.8	192.5	186.9	180.2	174.5
157.5°	205.8	205.8	205.2	203.2	200.5	197.2	193.2	188.5	183.9	178.5	173.5
160°	198.5	198.8	198.8	196.8	194.5	192.2	188.9	185.2	180.9	176.5	172.9
162.5°	191.9	192.2	192.2	190.5	189.2	187.2	184.2	181.2	177.9	174.5	171.5
165°	186.2	186.2	186.5	185.2	183.9	182.2	179.9	177.9	175.2	172.5	170.2
167.5°	180.5	180.5	180.9	179.9	179.2	177.9	176.5	174.9	172.5	170.5	168.9
170°	175.5	175.5	175.9	175.2	174.9	174.2	172.9	171.9	170.2	168.5	167.5
172.5°	170.9	171.2	171.9	171.2	171.2	170.9	169.9	169.2	167.9	166.9	166.5
175°	167.5	167.9	168.2	167.9	167.9	167.9	167.2	166.9	166.2	165.5	165.5
177.5°	165.2	165.2	165.9	165.5	165.9	165.9	165.5	165.2	164.9	164.5	164.9
180°	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9
2.5°	3339.2	3330.5	3298.7	3266.8	3230.6	3194.4	3167.6	3140.8	3100.9	3061.1	3028.5
5°	3618.8	3578.3	3510.9	3443.5	3352.3	3261.0	3199.4	3137.9	3055.3	2972.7	2906.8
7.5°	3840.5	3770.9	3676.8	3582.6	3463.1	3343.6	3230.6	3117.6	2991.5	2865.5	2762.7
10°	3981.7	3934.6	3826.0	3717.3	3557.3	3397.2	3239.3	3081.4	2919.1	2756.9	2620.7
12.5°	3995.5	3999.8	3899.9	3799.9	3618.8	3437.7	3245.8	3053.8	2849.6	2645.3	2486.7
15°	3874.5	3949.1	3894.1	3839.0	3656.5	3474.0	3237.8	3001.7	2766.3	2530.9	2347.6
17.5°	3650.0	3810.1	3818.0	3826.0	3643.5	3460.9	3199.4	2937.9	2671.4	2404.8	2212.2
20°	3343.6	3579.7	3660.8	3742.0	3593.5	3445.0	3163.9	2882.9	2584.5	2286.0	2083.9
22.5°	3030.7	3317.5	3466.0	3614.5	3504.4	3394.3	3095.1	2796.0	2480.9	2165.8	1960.8
25°	2674.3	2987.2	3215.4	3443.5	3376.2	3308.8	3014.0	2719.2	2383.8	2048.4	1839.1
27.5°	2363.5	2681.5	2956.8	3232.0	3217.5	3203.1	2910.4	2617.8	2274.4	1931.1	1729.0
30°	2086.8	2383.1	2690.9	2998.8	3034.3	3069.8	2787.3	2504.8	2160.7	1816.7	1621.8
32.5°	1842.0	2100.6	2430.9	2761.2	2830.7	2900.3	2645.3	2390.3	2049.9	1709.5	1521.8
35°	1641.4	1876.1	2206.4	2536.7	2623.6	2710.5	2488.9	2267.2	1935.5	1603.7	1424.8
37.5°	1463.9	1660.2	1982.5	2304.9	2411.3	2517.8	2319.4	2120.9	1810.1	1499.4	1335.0
40°	1316.9	1474.8	1771.0	2067.3	2190.4	2313.6	2149.9	1986.2	1691.3	1396.5	1245.1
42.5°	1193.7	1334.2	1603.0	1871.7	1989.8	2107.8	1969.5	1831.1	1568.9	1306.7	1168.4
45°	1088.7	1201.0	1445.1	1689.2	1801.4	1913.7	1794.9	1676.1	1445.1	1214.0	1085.1
47.5°	990.2	1086.5	1295.1	1503.7	1603.7	1703.7	1610.9	1518.2	1322.7	1127.1	1010.5
50°	901.8	979.3	1161.9	1344.4	1431.3	1518.2	1436.4	1354.5	1193.7	1032.9	931.5
52.5°	825.0	888.0	1040.9	1193.7	1268.3	1342.9	1272.7	1202.4	1074.9	947.4	859.1
55°	749.0	802.6	935.1	1067.7	1118.4	1169.1	1114.8	1060.4	957.6	854.7	780.1
57.5°	678.0	725.8	834.4	943.1	982.2	1021.3	972.1	922.8	845.3	767.8	705.5
60°	608.5	647.6	738.1	828.7	852.6	876.5	836.6	796.8	742.5	688.1	632.4
62.5°	544.0	579.5	646.8	714.2	730.1	746.1	715.7	685.2	643.9	602.7	559.2
65°	477.3	504.1	559.2	614.2	624.4	634.5	607.7	580.9	549.8	518.6	486.8
67.5°	415.8	434.6	479.5	524.4	525.2	525.9	504.1	482.4	465.0	447.6	422.3
70°	355.7	373.8	403.5	433.2	433.9	434.6	417.2	399.8	386.8	373.8	354.9
72.5°	294.1	307.1	329.6	352.0	350.6	349.1	338.3	327.4	317.3	307.1	293.4
75°	238.3	249.2	264.4	279.6	275.3	270.9	265.1	259.3	250.6	241.9	233.2
77.5°	187.6	194.1	202.8	211.5	208.6	205.7	200.6	195.6	189.1	182.5	178.9
80°	137.6	140.5	146.3	152.1	150.7	149.2	143.4	137.6	136.2	134.7	129.7
82.5°	93.4	97.1	98.5	100.0	99.2	98.5	94.2	89.8	88.4	86.9	86.2
85°	55.8	56.5	57.2	57.9	55.8	53.6	52.2	50.7	50.7	50.7	50.0
87.5°	25.4	26.1	26.1	26.1	25.4	24.6	23.2	21.7	22.5	23.2	23.2
90°	6.3	5.3	4.3	3.7	3.0	2.0	1.3	0.7	1.3	2.0	3.0
92.5°	51.3	33.6	23.0	17.0	13.7	10.7	7.3	5.0	7.3	10.7	13.7
95°	121.2	71.6	43.3	30.3	21.6	16.0	12.3	11.3	12.3	16.0	21.6
97.5°	134.9	77.3	49.3	35.0	26.3	21.3	18.3	18.0	18.3	21.3	26.3
100°	125.6	76.3	53.0	40.0	32.0	27.3	25.0	24.6	25.0	27.3	32.0
102.5°	117.6	77.6	57.3	45.6	38.6	34.3	32.3	31.6	32.3	34.3	38.6
105°	114.6	80.3	62.3	52.0	45.6	41.6	39.6	38.6	39.6	41.6	45.6
107.5°	113.9	84.6	68.6	59.0	53.0	49.0	47.0	46.0	47.0	49.0	53.0
110°	115.6	90.3	75.3	65.9	60.3	56.6	55.0	54.0	55.0	56.6	60.3



TEST NUMBER: P831236

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	118.9	95.9	82.3	73.3	67.6	64.0	62.3	61.3	62.3	64.0	67.6
115°	122.6	102.3	89.6	80.6	74.9	71.6	69.6	68.3	69.6	71.6	74.9
117.5°	127.2	108.9	96.3	87.9	81.6	78.6	76.9	75.3	76.9	78.6	81.6
120°	132.6	115.2	103.3	94.9	88.6	85.3	83.6	82.6	83.6	85.3	88.6
122.5°	137.6	121.9	110.2	101.3	95.3	91.6	89.9	88.9	89.9	91.6	95.3
125°	142.9	128.2	116.6	107.6	101.3	97.6	95.6	94.9	95.6	97.6	101.3
127.5°	147.2	133.9	122.6	113.6	106.6	102.9	100.6	99.6	100.6	102.9	106.6
130°	151.5	138.9	127.9	118.9	111.9	107.9	104.9	103.9	104.9	107.9	111.9
132.5°	155.5	143.2	132.6	123.9	116.9	111.9	108.6	107.3	108.6	111.9	116.9
135°	158.9	147.6	137.2	128.2	121.2	116.2	112.6	111.2	112.6	116.2	121.2
137.5°	161.5	150.6	140.6	132.2	125.2	119.9	116.2	114.9	116.2	119.9	125.2
140°	163.5	153.5	143.9	135.6	128.9	123.6	120.2	118.6	120.2	123.6	128.9
142.5°	165.5	155.9	146.6	138.9	132.2	127.6	123.9	122.6	123.9	127.6	132.2
145°	166.9	157.9	149.2	141.6	135.9	130.9	127.9	126.9	127.9	130.9	135.9
147.5°	167.9	159.5	151.5	144.9	139.2	134.9	131.9	131.2	131.9	134.9	139.2
150°	168.2	161.2	153.5	147.6	142.9	138.6	135.9	135.6	135.9	138.6	142.9
152.5°	168.9	162.2	155.9	150.2	146.2	142.6	139.9	139.9	139.9	142.6	146.2
155°	168.9	163.5	157.9	153.2	149.6	146.2	144.2	144.2	144.2	146.2	149.6
157.5°	169.2	164.2	159.5	155.9	152.5	149.6	147.9	147.6	147.9	149.6	152.5
160°	169.2	165.2	161.2	157.9	155.5	152.9	151.5	151.5	151.5	152.9	155.5
162.5°	168.9	165.5	162.2	159.5	157.5	155.5	154.5	154.5	154.5	155.5	157.5
165°	168.2	165.9	163.2	160.9	159.5	157.9	157.2	157.5	157.2	157.9	159.5
167.5°	167.9	165.9	163.9	162.2	161.2	159.9	159.5	159.9	159.5	159.9	161.2
170°	166.9	165.5	163.9	163.2	162.5	161.5	161.2	161.9	161.2	161.5	162.5
172.5°	166.5	165.5	164.2	163.9	163.5	162.9	162.9	163.2	162.9	162.9	163.5
175°	165.9	165.2	164.5	164.2	164.2	163.5	163.9	164.2	163.9	163.5	164.2
177.5°	165.5	164.9	164.5	164.5	164.5	164.2	164.5	164.9	164.5	164.2	164.5
180°	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5



TEST NUMBER: P831236

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9	3121.9
2.5°	2995.9	2967.6	2939.4	2917.7	2895.9	2859.0	2822.0	2813.4	2804.7	2792.4	2780.0
5°	2840.9	2771.3	2701.8	2639.5	2577.2	2528.7	2480.2	2448.3	2416.4	2393.2	2370.1
7.5°	2659.8	2555.5	2451.2	2377.3	2303.4	2233.2	2162.9	2140.4	2118.0	2087.6	2057.1
10°	2484.5	2369.3	2254.2	2157.8	2061.5	1992.7	1923.9	1896.3	1868.8	1830.4	1792.0
12.5°	2328.0	2202.0	2076.0	1978.9	1881.8	1815.2	1748.6	1708.7	1668.9	1647.2	1625.4
15°	2164.3	2029.6	1894.9	1805.1	1715.2	1655.1	1595.0	1560.2	1525.5	1504.5	1483.5
17.5°	2019.5	1886.2	1752.9	1666.7	1580.5	1525.5	1470.4	1440.0	1409.6	1393.6	1377.7
20°	1881.8	1751.5	1621.1	1537.1	1453.0	1408.1	1363.2	1343.7	1324.1	1311.1	1298.0
22.5°	1755.8	1627.6	1499.4	1427.7	1356.0	1319.8	1283.5	1269.8	1256.0	1245.1	1234.3
25°	1629.8	1515.3	1400.9	1340.0	1279.2	1249.5	1219.8	1206.0	1192.3	1181.4	1170.5
27.5°	1526.9	1417.5	1308.2	1256.0	1203.9	1180.7	1157.5	1146.6	1135.8	1125.6	1115.5
30°	1427.0	1329.2	1231.4	1186.5	1141.6	1120.6	1099.6	1088.7	1077.8	1068.4	1059.0
32.5°	1334.2	1250.2	1166.2	1124.9	1083.6	1066.2	1048.9	1035.8	1022.8	1015.5	1008.3
35°	1245.9	1170.5	1095.2	1061.2	1027.1	1009.7	992.4	981.5	970.6	964.8	959.0
37.5°	1170.5	1103.2	1035.8	1003.2	970.6	954.0	937.3	927.9	918.5	916.3	914.1
40°	1093.8	1035.8	977.9	946.0	914.1	899.6	885.2	879.4	873.6	872.1	870.7
42.5°	1030.0	973.5	917.0	888.0	859.1	846.8	834.4	831.5	828.7	830.8	833.0
45°	956.1	909.1	862.0	835.2	808.4	798.2	788.1	785.9	783.7	788.1	792.4
47.5°	893.8	850.4	806.9	781.6	756.2	749.0	741.7	741.0	740.3	746.1	751.9
50°	830.1	788.1	746.1	725.8	705.5	699.0	692.5	694.6	696.8	706.2	715.7
52.5°	770.7	731.6	692.5	673.6	654.8	650.5	646.1	651.2	656.3	666.4	676.5
55°	705.5	670.0	634.5	620.0	605.6	601.2	596.9	607.0	617.1	626.6	636.0
57.5°	643.2	612.1	580.9	567.9	554.8	554.1	553.4	562.8	572.2	582.4	592.5
60°	576.6	550.5	524.4	514.3	504.1	505.6	507.0	517.9	528.8	536.7	544.7
62.5°	515.7	494.0	472.3	462.9	453.4	457.1	460.7	471.5	482.4	491.8	501.2
65°	454.9	436.8	418.7	412.2	405.6	410.7	415.8	425.2	434.6	441.1	447.6
67.5°	396.9	381.7	366.5	361.4	356.4	361.4	366.5	375.9	385.4	391.9	398.4
70°	336.1	323.8	311.5	307.8	304.2	310.0	315.8	323.8	331.8	338.3	344.8
72.5°	279.6	270.2	260.8	260.0	259.3	264.4	269.5	277.4	285.4	289.7	294.1
75°	224.5	219.5	214.4	213.7	213.0	218.0	223.1	227.4	231.8	235.4	239.0
77.5°	175.3	170.9	166.6	167.3	168.0	171.7	175.3	179.6	184.0	186.2	188.3
80°	124.6	123.1	121.7	123.1	124.6	127.5	130.4	133.3	136.2	137.6	139.1
82.5°	85.5	84.0	82.6	84.7	86.9	89.1	91.3	93.4	95.6	96.3	97.1
85°	49.3	51.4	53.6	53.6	53.6	54.3	55.1	55.8	56.5	55.8	55.1
87.5°	23.2	23.9	24.6	24.6	24.6	25.4	26.1	26.1	26.1	25.4	24.6
90°	3.7	4.3	5.3	6.3	7.3	8.3	8.0	8.3	8.7	9.0	9.7
92.5°	17.0	23.0	33.6	51.3	68.6	62.0	46.3	33.0	25.6	22.3	20.0
95°	30.3	43.3	71.6	121.2	175.9	197.5	160.2	119.9	81.3	63.6	51.6
97.5°	35.0	49.3	77.3	134.9	226.8	303.8	314.1	275.5	207.8	163.9	125.9
100°	40.0	53.0	76.3	125.6	213.2	315.4	381.0	392.7	365.7	326.7	279.5
102.5°	45.6	57.3	77.6	117.6	193.2	293.8	384.4	431.7	437.3	418.7	393.0
105°	52.0	62.3	80.3	114.6	177.5	267.8	363.4	433.0	466.3	472.6	464.0
107.5°	59.0	68.6	84.6	113.9	166.2	244.8	333.4	413.0	465.3	491.3	500.3
110°	65.9	75.3	90.3	115.6	160.2	225.8	305.4	381.7	443.0	485.0	508.3



TEST NUMBER: P831236

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	73.3	82.3	95.9	118.9	156.9	213.2	281.1	350.7	413.7	462.0	493.6
115°	80.6	89.6	102.3	122.6	156.5	204.8	262.5	324.1	382.0	431.0	467.3
117.5°	87.9	96.3	108.9	127.2	156.9	199.2	250.1	303.4	354.7	399.7	437.3
120°	94.9	103.3	115.2	132.6	158.2	195.5	240.8	287.8	332.7	372.7	406.4
122.5°	101.3	110.2	121.9	137.6	160.5	193.2	233.2	275.5	315.1	351.4	382.0
125°	107.6	116.6	128.2	142.9	162.9	191.2	226.8	264.8	301.1	333.1	359.7
127.5°	113.6	122.6	133.9	147.2	165.5	190.2	220.8	255.1	288.1	317.4	342.1
130°	118.9	127.9	138.9	151.5	168.2	189.2	216.2	246.1	276.1	303.1	325.7
132.5°	123.9	132.6	143.2	155.5	170.2	188.9	211.8	237.8	264.8	289.4	310.8
135°	128.2	137.2	147.6	158.9	172.2	188.5	208.2	230.5	254.1	275.8	294.8
137.5°	132.2	140.6	150.6	161.5	173.5	187.9	204.8	223.5	243.5	262.8	279.8
140°	135.6	143.9	153.5	163.5	174.9	187.5	201.8	217.5	234.5	250.5	264.8
142.5°	138.9	146.6	155.9	165.5	175.9	186.9	199.2	211.8	225.8	239.1	251.1
145°	141.6	149.2	157.9	166.9	176.2	186.2	196.8	207.5	218.5	229.2	238.8
147.5°	144.9	151.5	159.5	167.9	176.2	185.2	194.5	203.8	212.8	221.8	228.8
150°	147.6	153.5	161.2	168.2	176.2	183.9	192.2	199.8	207.5	214.5	220.8
152.5°	150.2	155.9	162.2	168.9	175.2	182.2	189.5	196.2	202.5	208.5	213.5
155°	153.2	157.9	163.5	168.9	174.5	180.2	186.9	192.5	197.8	202.8	206.8
157.5°	155.9	159.5	164.2	169.2	173.5	178.5	183.9	188.5	193.2	197.2	200.5
160°	157.9	161.2	165.2	169.2	172.9	176.5	180.9	185.2	188.9	192.2	194.5
162.5°	159.5	162.2	165.5	168.9	171.5	174.5	177.9	181.2	184.2	187.2	189.2
165°	160.9	163.2	165.9	168.2	170.2	172.5	175.2	177.9	179.9	182.2	183.9
167.5°	162.2	163.9	165.9	167.9	168.9	170.5	172.5	174.9	176.5	177.9	179.2
170°	163.2	163.9	165.5	166.9	167.5	168.5	170.2	171.9	172.9	174.2	174.9
172.5°	163.9	164.2	165.5	166.5	166.5	166.9	167.9	169.2	169.9	170.9	171.2
175°	164.2	164.5	165.2	165.9	165.5	165.5	166.2	166.9	167.2	167.9	167.9
177.5°	164.5	164.5	164.9	165.5	164.9	164.5	164.9	165.2	165.5	165.9	165.9
180°	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5



TEST NUMBER: P831236

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3121.9	3121.9	3121.9	3121.9
2.5°	2775.0	2769.9	2749.6	2729.3
5°	2352.7	2335.3	2329.5	2323.7
7.5°	2055.7	2054.2	2023.8	1993.4
10°	1794.2	1796.4	1768.9	1741.3
12.5°	1607.3	1589.2	1587.0	1584.9
15°	1466.8	1450.1	1447.2	1444.3
17.5°	1367.6	1357.4	1354.5	1351.6
20°	1292.2	1286.4	1281.4	1276.3
22.5°	1227.0	1219.8	1215.5	1211.1
25°	1164.0	1157.5	1156.1	1154.6
27.5°	1107.5	1099.6	1099.6	1099.6
30°	1053.9	1048.9	1046.7	1044.5
32.5°	1003.9	999.6	999.6	999.6
35°	956.9	954.7	951.8	948.9
37.5°	914.1	914.1	912.7	911.2
40°	872.8	875.0	875.0	875.0
42.5°	835.2	837.3	837.3	837.3
45°	796.1	799.7	801.1	802.6
47.5°	757.7	763.5	764.9	766.4
50°	720.0	724.3	725.1	725.8
52.5°	681.6	686.7	690.3	693.9
55°	641.0	646.1	648.3	650.5
57.5°	597.6	602.7	603.4	604.1
60°	549.8	554.8	556.3	557.7
62.5°	504.1	507.0	508.5	509.9
65°	452.0	456.3	459.2	462.1
67.5°	402.0	405.6	405.6	405.6
70°	346.2	347.7	349.9	352.0
72.5°	294.8	295.5	295.5	295.5
75°	240.5	241.9	242.7	243.4
77.5°	189.1	189.8	189.8	189.8
80°	138.3	137.6	137.6	137.6
82.5°	94.9	92.7	92.7	92.7
85°	54.3	53.6	54.3	55.1
87.5°	24.6	24.6	24.6	24.6
90°	9.3	9.7	10.0	9.7
92.5°	19.3	18.0	18.3	17.7
95°	45.3	42.3	40.0	38.6
97.5°	103.6	90.9	82.9	79.3
100°	245.8	221.5	208.5	208.8
102.5°	368.7	350.7	340.4	330.7
105°	448.7	436.0	425.3	423.7
107.5°	498.3	492.3	488.0	484.3
110°	517.6	520.3	519.6	518.9



TEST NUMBER: P831236

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	512.6	522.3	525.6	525.9
115°	492.3	506.9	513.6	515.3
117.5°	463.3	479.6	489.6	492.0
120°	432.7	451.3	459.3	461.3
122.5°	404.7	421.0	430.0	432.7
125°	381.0	395.7	404.0	406.4
127.5°	361.4	374.0	381.7	383.7
130°	343.4	355.4	362.4	365.1
132.5°	327.1	339.1	345.1	346.7
135°	311.1	321.1	327.1	329.4
137.5°	293.8	304.1	309.1	311.1
140°	277.5	286.8	292.1	291.8
142.5°	261.5	269.5	274.1	273.8
145°	247.1	254.1	256.8	257.5
147.5°	235.5	240.5	243.1	243.5
150°	225.8	229.5	231.5	231.5
152.5°	217.2	220.5	221.5	221.5
155°	209.8	212.5	213.2	213.5
157.5°	203.2	205.2	205.8	205.8
160°	196.8	198.8	198.8	198.5
162.5°	190.5	192.2	192.2	191.9
165°	185.2	186.5	186.2	186.2
167.5°	179.9	180.9	180.5	180.5
170°	175.2	175.9	175.5	175.5
172.5°	171.2	171.9	171.2	170.9
175°	167.9	168.2	167.9	167.5
177.5°	165.5	165.9	165.2	165.2
180°	164.5	164.5	164.5	164.5

TEST NUMBER: P831236

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-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	18.25	19.40	18.91	20.06	20.83	20.49	21.64	21.14	22.30	23.06
	3H	19.92	20.95	20.59	21.62	22.42	21.93	22.96	22.60	23.64	24.44
	4H	20.51	21.48	21.20	22.16	22.98	22.40	23.37	23.08	24.05	24.86
	6H	20.89	21.79	21.59	22.48	23.31	22.69	23.58	23.39	24.28	25.10
	8H	21.00	21.85	21.71	22.56	23.39	22.76	23.61	23.47	24.32	25.15
	12H	21.05	21.86	21.77	22.57	23.43	22.78	23.60	23.50	24.30	25.16
4H	2H	18.86	19.83	19.55	20.51	21.33	20.69	21.65	21.37	22.34	23.15
	3H	20.71	21.52	21.41	22.24	23.07	22.33	23.13	23.03	23.86	24.69
	4H	21.42	22.15	22.14	22.88	23.74	22.92	23.65	23.64	24.38	25.24
	6H	21.91	22.54	22.65	23.29	24.17	23.34	23.97	24.08	24.72	25.60
	8H	22.05	22.64	22.80	23.39	24.27	23.46	24.05	24.20	24.80	25.68
	12H	22.13	22.66	22.90	23.43	24.32	23.52	24.05	24.28	24.82	25.71
8H	4H	21.71	22.30	22.45	23.05	23.93	23.05	23.64	23.79	24.39	25.27
	6H	22.31	22.80	23.08	23.58	24.47	23.56	24.05	24.33	24.84	25.72
	8H	22.52	22.95	23.30	23.74	24.64	23.74	24.18	24.53	24.97	25.87
	12H	22.65	23.03	23.44	23.81	24.78	23.86	24.24	24.64	25.02	25.98
12H	4H	21.72	22.25	22.48	23.02	23.91	23.04	23.57	23.80	24.34	25.22
	6H	22.36	22.79	23.14	23.58	24.48	23.58	24.01	24.36	24.80	25.70
	8H	22.61	22.99	23.39	23.77	24.73	23.79	24.17	24.57	24.95	25.91