

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: P832019

Luminaire Tested: S123RDIP-S1165D805U850-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832019
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D805U850-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

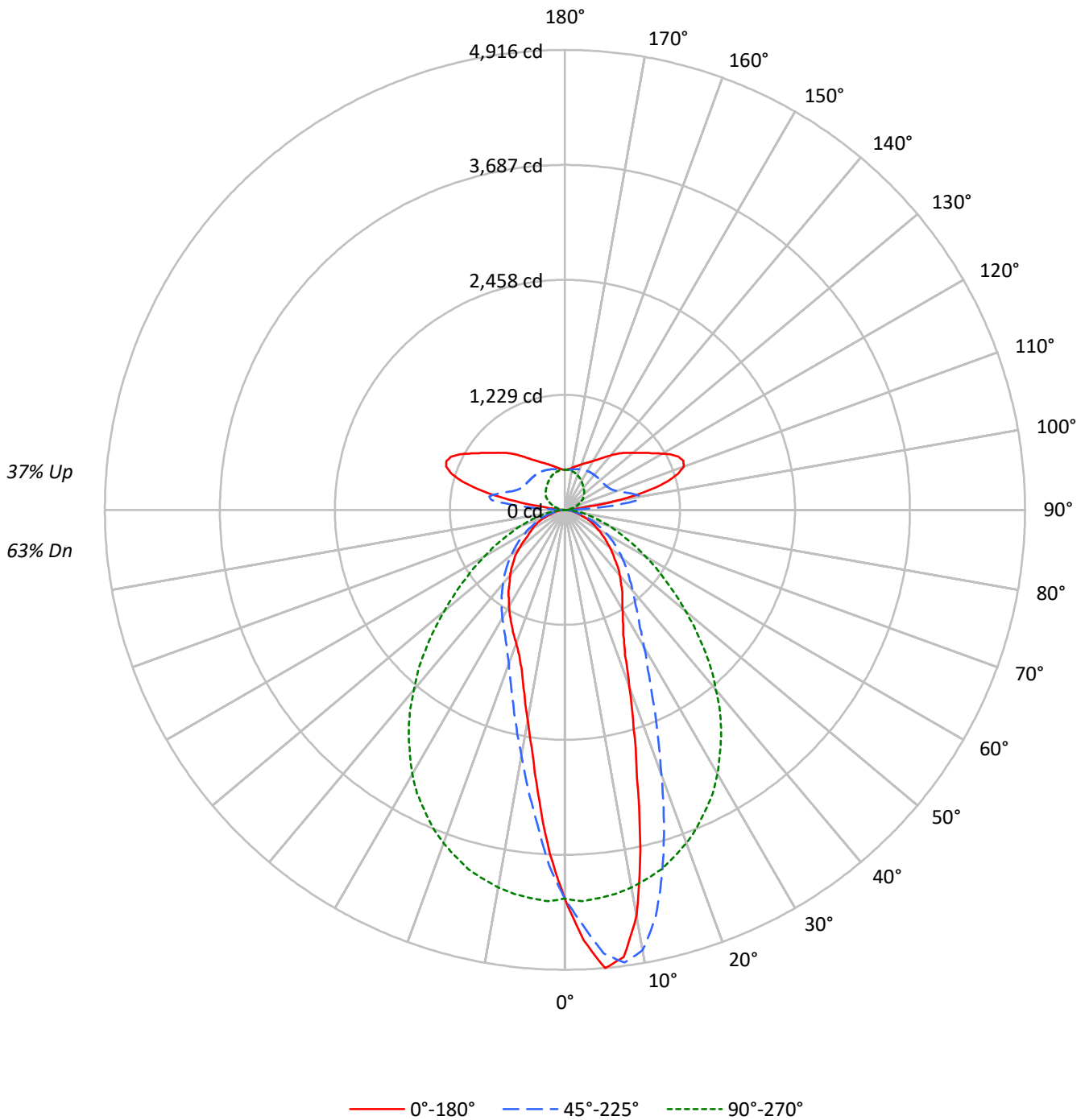
Lumens per Lamp: N/A
Luminaire Lumens: 8734.8 lumens
Efficiency: N/A
Efficacy: 139.1 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 62.8
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	0					
RCR																										
0	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63								
1	102	98	94	91	95	92	89	86	81	79	77	71	69	68	62	61	60	55								
2	94	87	81	76	88	82	77	72	72	68	65	64	61	58	56	54	52	48								
3	86	77	70	65	81	73	67	62	65	60	56	57	54	51	50	48	45	42								
4	79	69	62	56	74	65	59	54	58	53	49	52	48	45	46	43	40	37								
5	73	62	55	49	69	59	52	47	53	48	43	47	43	40	42	39	36	33								
6	68	57	49	43	64	54	47	42	48	43	39	43	39	35	39	35	32	30								
7	64	52	44	39	60	49	42	37	45	39	35	40	35	32	36	32	29	27								
8	59	48	40	35	56	45	39	34	41	35	31	37	33	29	33	30	27	25								
9	56	44	37	32	52	42	35	31	38	33	29	34	30	27	31	27	25	23								
10	52	41	34	29	49	39	32	28	35	30	26	32	28	25	29	26	23	21								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	44738	44738	44738	44738	44738
5°	53121	51427	45019	36392	33787
10°	48129	52235	44794	29159	25014
15°	33137	44787	44323	23832	19788
20°	23053	34482	43432	20096	17392
25°	17568	26281	42137	17861	16029
30°	15293	21011	40518	16584	14848
35°	14040	17724	38224	15507	13771
40°	12811	15827	35222	14450	12787
45°	11569	14475	31984	13451	11804
50°	10501	13355	28165	12471	10587
55°	9498	12264	24496	11513	9083
60°	8510	11151	21278	10456	8585
65°	7855	9895	18315	9396	8117
70°	6382	8554	15981	8500	6596
75°	5598	6804	13537	7053	5810
80°	5071	5759	11089	5914	5492
85°	4631	5051	8423	5372	5051

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 33748 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.8	4.3
10°-20°	876.6	10.0
20°-30°	1005.8	11.5
30°-40°	991.4	11.3
40°-50°	874.3	10.0
50°-60°	672.6	7.7
60°-70°	442.2	5.1
70°-80°	214.8	2.5
80°-90°	56.5	0.6
90°-100°	232.4	2.7
100°-110°	680.5	7.8
110°-120°	664.5	7.6
120°-130°	529.2	6.1
130°-140°	417.5	4.8
140°-150°	311.5	3.6
150°-160°	217.2	2.5
160°-170°	127.6	1.5
170°-180°	41.5	0.5
0°-30°	2261.3	25.9
0°-40°	3252.7	37.2
0°-60°	4799.5	54.9
0°-90°	5513.0	63.1
90°-120°	1577.4	18.1
90°-150°	2835.6	32.5
90°-180°	3222.0	36.9
0°-180°	8734.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4156	4156	4156	4156	4156	
5°	4916	4760	4166	3368	3127	449
15°	2974	4019	3977	2139	1776	839
25°	1479	2213	3548	1504	1350	699
35°	1068	1349	2909	1180	1048	666
45°	760	951	2101	884	775	590
55°	506	654	1305	614	484	454
65°	308	388	719	369	319	302
75°	135	164	326	170	140	145
85°	38	41	68	44	41	40
90°	25	22	2	22	25	16
95°	101	514	30	514	101	163
105°	1103	697	101	697	1103	1100
115°	1341	533	178	533	1341	1308
125°	1058	498	247	498	1058	957
135°	858	491	290	491	858	665
145°	670	485	330	485	670	426
155°	556	469	375	469	556	259
165°	485	449	410	449	485	138
175°	436	431	427	431	436	42
180°	428	428	428	428	428	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4606.2	4591.7	4577.2	4572.9	4568.7	4555.0	4541.4	4510.7	4480.1	4448.5	4417.0
5°	4916.3	4918.0	4919.7	4915.5	4911.2	4893.3	4875.4	4837.9	4800.4	4759.5	4718.6
7.5°	4820.9	4848.1	4875.4	4880.5	4885.6	4899.3	4912.9	4904.4	4895.9	4880.5	4865.2
10°	4403.4	4401.7	4400.0	4430.6	4461.3	4552.5	4643.7	4690.5	4737.4	4779.1	4820.9
12.5°	3721.7	3724.3	3726.9	3827.4	3927.9	4014.0	4100.1	4219.3	4338.6	4467.3	4595.9
15°	2973.6	3015.4	3057.1	3146.6	3236.1	3365.6	3495.1	3655.3	3815.5	4019.1	4222.7
17.5°	2442.0	2459.9	2477.8	2563.8	2649.9	2772.6	2895.3	3076.7	3258.2	3520.7	3783.1
20°	2012.5	2028.7	2044.9	2107.1	2169.3	2286.9	2404.5	2577.4	2750.4	3010.3	3270.2
22.5°	1680.2	1711.8	1743.3	1785.0	1826.8	1912.0	1997.2	2173.6	2349.9	2586.8	2823.7
25°	1479.2	1493.6	1508.1	1543.9	1579.7	1661.5	1743.3	1860.0	1976.7	2212.8	2448.8
27.5°	1342.8	1347.1	1351.3	1377.8	1404.2	1457.0	1509.8	1618.0	1726.2	1920.5	2114.8
30°	1230.4	1238.0	1245.7	1266.1	1286.6	1324.9	1363.3	1440.0	1516.6	1690.5	1864.3
32.5°	1143.4	1147.7	1152.0	1169.0	1186.0	1214.2	1242.3	1302.8	1363.3	1496.2	1629.1
35°	1068.5	1069.3	1070.2	1083.0	1095.7	1123.0	1150.3	1200.5	1250.8	1348.8	1446.8
37.5°	983.3	989.2	995.2	1004.6	1013.9	1037.8	1061.7	1102.5	1143.4	1224.4	1305.3
40°	911.7	916.8	921.9	933.0	944.1	962.8	981.6	1019.0	1056.5	1126.4	1196.3
42.5°	840.1	843.5	846.9	858.0	869.1	892.1	915.1	944.9	974.7	1032.7	1090.6
45°	760.0	768.5	777.1	789.0	800.9	820.5	840.1	870.8	901.5	950.9	1000.3
47.5°	693.6	697.8	702.1	712.3	722.5	746.4	770.3	797.5	824.8	870.8	916.8
50°	627.1	628.8	630.5	639.9	649.3	670.6	691.9	723.4	754.9	797.5	840.1
52.5°	564.1	568.3	572.6	581.9	591.3	605.8	620.3	652.7	685.0	726.8	768.5
55°	506.1	508.7	511.2	518.0	524.9	541.9	558.9	587.1	615.2	653.5	691.9
57.5°	451.6	455.0	458.4	463.5	468.6	484.0	499.3	524.0	548.7	587.1	625.4
60°	395.3	399.6	403.9	409.8	415.8	427.7	439.7	461.8	484.0	518.0	552.1
62.5°	354.5	355.3	356.2	361.3	366.4	374.9	383.4	401.3	419.2	453.3	487.4
65°	308.4	311.0	313.6	316.1	318.7	325.5	332.3	347.6	363.0	388.5	414.1
67.5°	260.7	263.3	265.8	270.1	274.4	280.3	286.3	296.5	306.7	330.6	354.5
70°	202.8	202.8	202.8	209.6	216.4	226.6	236.9	244.5	252.2	271.8	291.4
72.5°	165.3	166.1	167.0	167.9	168.7	174.7	180.6	193.4	206.2	218.1	230.1
75°	134.6	135.5	136.3	137.2	138.0	139.7	141.4	145.7	150.0	163.6	177.2
77.5°	107.4	108.2	109.1	109.9	110.8	112.5	114.2	115.9	117.6	122.7	127.8
80°	81.8	82.6	83.5	84.4	85.2	86.1	86.9	88.6	90.3	92.9	95.4
82.5°	59.6	59.6	59.6	59.6	59.6	61.3	63.1	63.1	63.1	64.8	66.5
85°	37.5	37.5	37.5	38.3	39.2	39.2	39.2	40.0	40.9	40.9	40.9
87.5°	17.0	16.2	15.3	16.2	17.0	17.0	17.0	17.9	18.7	18.7	18.7
90°	25.1	26.0	25.1	24.3	25.1	23.4	22.5	21.7	20.8	21.7	19.1
92.5°	46.0	47.7	46.8	50.3	52.0	58.1	66.8	85.8	120.5	161.3	178.6
95°	100.6	104.0	110.1	117.9	134.4	165.6	211.6	312.1	417.0	514.2	457.8
97.5°	206.4	215.9	236.7	269.6	327.7	426.6	541.0	717.0	817.6	790.7	590.5
100°	543.6	542.8	576.6	639.9	727.4	850.6	952.0	1022.2	991.9	821.1	554.9
102.5°	861.0	886.1	913.0	959.8	1023.1	1089.9	1138.4	1123.7	1000.6	764.7	502.9
105°	1102.9	1107.2	1135.0	1167.9	1207.8	1230.3	1213.9	1127.1	945.9	697.1	462.1
107.5°	1260.7	1270.2	1281.5	1297.1	1302.3	1278.9	1211.3	1075.1	867.9	637.3	432.7
110°	1350.8	1352.6	1354.3	1347.4	1323.1	1262.4	1153.2	993.6	795.1	587.9	417.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1369.1	1368.2	1359.5	1334.4	1285.0	1202.6	1076.9	913.0	731.8	554.9	408.4
115°	1341.3	1337.0	1319.6	1281.5	1216.5	1121.9	994.5	843.6	683.2	533.2	407.5
117.5°	1280.6	1274.5	1248.5	1206.1	1138.4	1040.4	923.4	789.9	651.1	518.5	408.4
120°	1200.8	1195.6	1174.8	1126.3	1057.8	970.2	866.2	749.1	626.9	509.0	411.8
122.5°	1126.3	1119.3	1095.9	1053.5	994.5	914.7	820.2	717.0	606.9	502.9	417.9
125°	1057.8	1051.7	1030.0	991.9	936.4	867.0	783.8	689.3	590.5	497.7	424.0
127.5°	998.8	993.6	973.7	940.7	890.4	826.3	750.0	664.2	574.8	495.1	430.9
130°	950.3	943.3	925.1	893.9	848.0	789.0	718.8	640.7	562.7	492.5	437.9
132.5°	902.6	898.3	882.6	851.4	808.9	753.5	689.3	619.1	551.4	491.6	443.1
135°	857.5	851.4	835.8	809.8	767.3	717.9	661.6	600.0	541.9	490.7	448.3
137.5°	809.8	804.6	791.6	764.7	728.3	684.1	633.8	581.8	533.2	489.0	451.7
140°	759.5	760.4	746.5	722.2	689.3	652.0	610.4	566.2	525.4	488.1	455.2
142.5°	712.7	713.6	701.4	680.6	653.7	622.5	587.9	551.4	518.5	486.4	457.8
145°	670.2	668.5	661.6	643.3	621.7	596.5	568.8	540.2	512.4	484.7	458.7
147.5°	633.8	632.9	626.0	613.0	595.7	577.4	554.0	530.6	506.4	482.1	458.7
150°	602.6	602.6	597.4	587.9	574.8	558.4	540.2	520.2	500.3	478.6	458.7
152.5°	576.6	576.6	574.0	565.3	555.8	542.8	527.2	510.7	493.3	474.3	456.1
155°	555.8	554.9	553.2	546.2	538.4	528.0	515.0	501.1	486.4	469.1	454.3
157.5°	535.8	535.8	534.1	528.9	522.0	513.3	502.9	490.7	478.6	464.7	451.7
160°	516.8	517.6	517.6	512.4	506.4	500.3	491.6	482.1	470.8	459.5	450.0
162.5°	499.4	500.3	500.3	495.9	492.5	487.3	479.5	471.7	463.0	454.3	446.5
165°	484.7	484.7	485.5	482.1	478.6	474.3	468.2	463.0	456.1	449.1	443.1
167.5°	469.9	469.9	470.8	468.2	466.5	463.0	459.5	455.2	449.1	443.9	439.6
170°	456.9	456.9	457.8	456.1	455.2	453.5	450.0	447.4	443.1	438.7	436.1
172.5°	444.8	445.7	447.4	445.7	445.7	444.8	442.2	440.5	437.0	434.4	433.5
175°	436.1	437.0	437.9	437.0	437.0	437.0	435.3	434.4	432.7	430.9	430.9
177.5°	430.1	430.1	431.8	430.9	431.8	431.8	430.9	430.1	429.2	428.3	429.2
180°	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4412.8	4408.5	4367.6	4326.7	4286.6	4246.6	4216.8	4187.0	4136.7	4086.4	4054.9
5°	4686.3	4653.9	4589.1	4524.4	4427.2	4330.1	4248.3	4166.5	4062.6	3958.6	3871.7
7.5°	4838.8	4812.4	4734.0	4655.6	4526.9	4398.3	4270.5	4142.7	3989.3	3835.9	3704.7
10°	4843.0	4865.2	4800.4	4735.7	4590.8	4446.0	4272.2	4098.3	3892.2	3686.0	3516.4
12.5°	4691.4	4786.8	4773.2	4759.5	4612.1	4464.7	4253.4	4042.1	3789.1	3536.0	3323.8
15°	4407.6	4592.5	4647.1	4701.6	4579.8	4457.9	4217.6	3977.4	3680.0	3382.6	3138.9
17.5°	4042.1	4301.1	4445.1	4589.1	4500.5	4411.9	4148.6	3885.3	3550.5	3215.6	2950.6
20°	3609.3	3948.4	4174.2	4400.0	4367.6	4335.2	4063.4	3791.6	3430.3	3069.1	2781.9
22.5°	3181.5	3539.4	3851.3	4163.1	4196.3	4229.6	3955.2	3680.8	3285.5	2890.1	2597.9
25°	2812.6	3176.4	3547.9	3919.4	3994.4	4069.4	3808.7	3547.9	3138.1	2728.3	2437.7
27.5°	2460.7	2806.6	3215.6	3624.6	3760.9	3897.3	3658.7	3420.1	2993.2	2566.4	2276.7
30°	2173.6	2482.9	2900.4	3317.9	3507.9	3697.9	3478.9	3259.9	2836.5	2413.0	2129.3
32.5°	1906.0	2182.9	2602.2	3021.4	3242.0	3462.7	3273.6	3084.4	2677.1	2269.9	1989.5
35°	1694.7	1942.7	2333.8	2724.8	2971.9	3219.0	3064.0	2908.9	2511.0	2113.1	1848.1
37.5°	1513.2	1721.1	2088.4	2455.6	2718.0	2980.5	2850.9	2721.4	2347.4	1973.3	1722.8
40°	1363.3	1530.3	1871.9	2213.6	2470.9	2728.3	2617.5	2506.7	2171.9	1837.0	1602.7
42.5°	1234.6	1378.6	1685.3	1992.1	2228.1	2464.1	2390.8	2317.6	2014.2	1710.9	1493.6
45°	1121.3	1242.3	1512.4	1782.5	1999.8	2217.0	2159.1	2101.1	1839.6	1578.0	1378.6
47.5°	1020.8	1124.7	1365.8	1607.0	1802.1	1997.2	1943.5	1889.8	1673.4	1457.0	1275.5
50°	928.7	1017.3	1218.4	1419.5	1595.0	1770.6	1726.2	1681.9	1503.0	1324.1	1167.3
52.5°	841.8	915.1	1095.7	1276.4	1417.8	1559.2	1525.2	1491.1	1353.1	1215.0	1072.7
55°	759.2	826.5	979.0	1131.5	1252.5	1373.5	1339.4	1305.3	1198.0	1090.6	965.4
57.5°	684.2	743.0	866.5	990.1	1086.4	1182.6	1166.5	1150.3	1060.8	971.3	868.2
60°	605.0	657.8	764.3	870.8	948.3	1025.9	1007.1	988.4	924.5	860.6	772.0
62.5°	534.2	581.1	666.3	751.5	814.6	877.6	864.0	850.3	801.8	753.2	679.9
65°	460.1	506.1	575.1	644.1	693.6	743.0	731.1	719.1	682.5	645.9	587.1
67.5°	392.8	431.1	490.8	550.4	583.7	616.9	610.1	603.2	575.1	547.0	501.0
70°	324.6	357.9	407.3	456.7	479.7	502.7	505.3	507.8	482.3	456.7	422.6
72.5°	256.5	282.9	328.9	374.9	392.8	410.7	409.8	409.0	393.6	378.3	347.6
75°	196.8	216.4	252.2	288.0	303.3	318.7	322.1	325.5	311.0	296.5	279.5
77.5°	141.4	155.1	182.3	209.6	226.6	243.7	245.4	247.1	240.3	233.5	217.3
80°	99.7	103.9	121.0	138.0	155.9	173.8	176.4	178.9	172.1	165.3	155.1
82.5°	69.0	71.6	77.5	83.5	98.0	112.5	115.9	119.3	115.9	112.5	101.4
85°	41.8	42.6	45.2	47.7	54.5	61.3	64.8	68.2	66.5	64.8	58.8
87.5°	18.7	18.7	19.6	20.4	22.2	23.9	28.1	32.4	29.8	27.3	24.7
90°	16.5	13.9	11.3	9.5	7.8	5.2	3.5	1.7	3.5	5.2	7.8
92.5°	133.5	87.6	59.8	44.2	35.5	27.7	19.1	13.0	19.1	27.7	35.5
95°	315.6	186.4	112.7	78.9	56.4	41.6	32.1	29.5	32.1	41.6	56.4
97.5°	351.2	201.2	128.3	91.0	68.5	55.5	47.7	46.8	47.7	55.5	68.5
100°	326.9	198.6	137.9	104.0	83.2	71.1	65.0	64.2	65.0	71.1	83.2
102.5°	306.1	202.0	149.1	118.8	100.6	89.3	84.1	82.4	84.1	89.3	100.6
105°	298.3	209.0	162.1	135.3	118.8	108.4	103.2	100.6	103.2	108.4	118.8
107.5°	296.5	220.2	178.6	153.5	137.9	127.5	122.3	119.7	122.3	127.5	137.9
110°	300.9	235.0	196.0	171.7	156.9	147.4	143.1	140.5	143.1	147.4	156.9



TEST NUMBER: P832019

CATALOG NUMBER: S123RDIP-S1165D805U850-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	309.5	249.7	214.2	190.7	176.0	166.5	162.1	159.5	162.1	166.5	176.0
115°	319.1	266.2	233.2	209.8	195.1	186.4	181.2	177.7	181.2	186.4	195.1
117.5°	331.2	283.5	250.6	228.9	212.4	204.6	200.3	196.0	200.3	204.6	212.4
120°	345.1	300.0	268.8	247.1	230.6	222.0	217.6	215.0	217.6	222.0	230.6
122.5°	358.1	317.3	287.0	263.6	248.0	238.4	234.1	231.5	234.1	238.4	248.0
125°	372.0	333.8	303.5	280.1	263.6	254.0	248.8	247.1	248.8	254.0	263.6
127.5°	383.2	348.5	319.1	295.7	277.5	267.9	261.8	259.2	261.8	267.9	277.5
130°	394.5	361.6	332.9	309.5	291.3	280.9	273.1	270.5	273.1	280.9	291.3
132.5°	404.9	372.8	345.1	322.5	304.3	291.3	282.7	279.2	282.7	291.3	304.3
135°	413.6	384.1	357.2	333.8	315.6	302.6	293.1	289.6	293.1	302.6	315.6
137.5°	420.5	391.9	365.9	344.2	326.0	312.1	302.6	299.1	302.6	312.1	326.0
140°	425.7	399.7	374.6	352.9	335.5	321.7	313.0	308.7	313.0	321.7	335.5
142.5°	430.9	405.8	381.5	361.6	344.2	332.1	322.5	319.1	322.5	332.1	344.2
145°	434.4	411.0	388.4	368.5	353.8	340.7	332.9	330.3	332.9	340.7	353.8
147.5°	437.0	415.3	394.5	377.2	362.4	351.2	343.3	341.6	343.3	351.2	362.4
150°	437.9	419.6	399.7	384.1	372.0	360.7	353.8	352.9	353.8	360.7	372.0
152.5°	439.6	422.2	405.8	391.0	380.6	371.1	364.2	364.2	364.2	371.1	380.6
155°	439.6	425.7	411.0	398.8	389.3	380.6	375.4	375.4	375.4	380.6	389.3
157.5°	440.5	427.4	415.3	405.8	397.1	389.3	385.0	384.1	385.0	389.3	397.1
160°	440.5	430.1	419.6	411.0	404.9	398.0	394.5	394.5	394.5	398.0	404.9
162.5°	439.6	430.9	422.2	415.3	410.1	404.9	402.3	402.3	402.3	404.9	410.1
165°	437.9	431.8	424.8	418.8	415.3	411.0	409.2	410.1	409.2	411.0	415.3
167.5°	437.0	431.8	426.6	422.2	419.6	416.2	415.3	416.2	415.3	416.2	419.6
170°	434.4	430.9	426.6	424.8	423.1	420.5	419.6	421.4	419.6	420.5	423.1
172.5°	433.5	430.9	427.4	426.6	425.7	424.0	424.0	424.8	424.0	424.0	425.7
175°	431.8	430.1	428.3	427.4	427.4	425.7	426.6	427.4	426.6	425.7	427.4
177.5°	430.9	429.2	428.3	428.3	428.3	427.4	428.3	429.2	428.3	427.4	428.3
180°	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3



TEST NUMBER: P832019

CATALOG NUMBER: S123RDIP-S1165D805U850-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3	4156.3
2.5°	4023.4	3974.8	3926.2	3891.3	3856.4	3812.9	3769.5	3767.8	3766.0	3733.7	3701.3
5°	3784.8	3700.4	3616.1	3533.4	3450.8	3368.1	3285.5	3266.7	3248.0	3219.9	3191.8
7.5°	3573.5	3438.9	3304.2	3198.6	3092.9	3010.3	2927.6	2871.4	2815.2	2771.7	2728.3
10°	3346.8	3179.8	3012.8	2885.0	2757.2	2667.8	2578.3	2513.5	2448.8	2418.1	2387.4
12.5°	3111.7	2930.2	2748.7	2623.5	2498.2	2390.8	2283.5	2224.7	2165.9	2123.3	2080.7
15°	2895.3	2700.1	2505.0	2372.1	2239.2	2138.6	2038.1	1979.3	1920.5	1877.9	1835.3
17.5°	2685.7	2488.8	2292.0	2157.4	2022.8	1931.6	1840.4	1783.3	1726.2	1699.8	1673.4
20°	2494.8	2296.3	2097.7	1970.8	1843.8	1754.4	1664.9	1634.2	1603.6	1578.8	1554.1
22.5°	2305.6	2114.8	1923.9	1802.1	1680.2	1615.5	1550.7	1526.0	1501.3	1482.6	1463.8
25°	2147.2	1957.2	1767.1	1660.6	1554.1	1503.9	1453.6	1437.4	1421.2	1402.5	1383.7
27.5°	1987.0	1806.3	1625.7	1540.5	1455.3	1414.4	1373.5	1353.1	1332.6	1317.3	1301.9
30°	1845.5	1678.5	1511.5	1440.8	1370.1	1334.3	1298.5	1276.4	1254.2	1239.7	1225.2
32.5°	1709.2	1561.0	1412.7	1352.2	1291.7	1256.8	1221.8	1200.5	1179.2	1162.2	1145.2
35°	1583.1	1454.4	1325.8	1270.4	1215.0	1180.1	1145.2	1123.9	1102.5	1085.5	1068.5
37.5°	1472.3	1355.6	1238.9	1186.9	1134.9	1104.3	1073.6	1051.4	1029.3	1011.4	993.5
40°	1368.4	1265.3	1162.2	1111.9	1061.7	1028.4	995.2	975.6	956.0	939.8	923.6
42.5°	1276.4	1181.8	1087.2	1037.8	988.4	956.8	925.3	902.3	879.3	869.9	860.6
45°	1179.2	1095.7	1012.2	964.5	916.8	883.6	850.3	830.7	811.1	802.6	794.1
47.5°	1094.0	1016.5	939.0	892.1	845.2	815.4	785.6	770.3	754.9	743.0	731.1
50°	1010.5	935.5	860.6	815.4	770.3	744.7	719.1	700.4	681.6	673.1	664.6
52.5°	930.4	862.3	794.1	748.1	702.1	677.4	652.7	636.5	620.3	602.4	584.5
55°	840.1	780.5	720.8	679.9	639.0	613.5	587.9	569.2	550.4	531.7	512.9
57.5°	765.1	706.3	647.6	610.9	574.3	549.6	524.9	504.4	484.0	468.6	453.3
60°	683.3	632.2	581.1	545.3	509.5	485.7	461.8	442.2	422.6	414.9	407.3
62.5°	606.7	558.9	511.2	479.7	448.2	425.2	402.2	389.4	376.6	371.5	366.4
65°	528.3	487.4	446.5	417.5	388.5	368.9	349.3	343.4	337.4	333.2	328.9
67.5°	455.0	420.1	385.1	359.6	334.0	320.4	306.7	299.9	293.1	288.0	282.9
70°	388.5	357.9	327.2	305.0	282.9	270.1	257.3	251.4	245.4	236.0	226.6
72.5°	317.0	293.1	269.2	252.2	235.2	224.1	213.0	201.1	189.2	180.6	172.1
75°	262.4	238.6	214.7	198.5	182.3	169.6	156.8	152.5	148.3	145.7	143.1
77.5°	201.1	180.6	160.2	147.4	134.6	128.7	122.7	120.1	117.6	116.7	115.9
80°	144.8	127.8	110.8	103.9	97.1	95.4	93.7	92.0	90.3	89.5	88.6
82.5°	90.3	81.8	73.3	71.6	69.9	69.0	68.2	67.3	66.5	65.6	64.8
85°	52.8	49.4	46.0	45.2	44.3	43.5	42.6	42.6	42.6	42.6	42.6
87.5°	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	21.3	20.4
90°	9.5	11.3	13.9	16.5	19.1	21.7	20.8	21.7	22.5	23.4	25.1
92.5°	44.2	59.8	87.6	133.5	178.6	161.3	120.5	85.8	66.8	58.1	52.0
95°	78.9	112.7	186.4	315.6	457.8	514.2	417.0	312.1	211.6	165.6	134.4
97.5°	91.0	128.3	201.2	351.2	590.5	790.7	817.6	717.0	541.0	426.6	327.7
100°	104.0	137.9	198.6	326.9	554.9	821.1	991.9	1022.2	952.0	850.6	727.4
102.5°	118.8	149.1	202.0	306.1	502.9	764.7	1000.6	1123.7	1138.4	1089.9	1023.1
105°	135.3	162.1	209.0	298.3	462.1	697.1	945.9	1127.1	1213.9	1230.3	1207.8
107.5°	153.5	178.6	220.2	296.5	432.7	637.3	867.9	1075.1	1211.3	1278.9	1302.3
110°	171.7	196.0	235.0	300.9	417.0	587.9	795.1	993.6	1153.2	1262.4	1323.1



TEST NUMBER: P832019

CATALOG NUMBER: S123RDIP-S1165D805U850-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	190.7	214.2	249.7	309.5	408.4	554.9	731.8	913.0	1076.9	1202.6	1285.0
115°	209.8	233.2	266.2	319.1	407.5	533.2	683.2	843.6	994.5	1121.9	1216.5
117.5°	228.9	250.6	283.5	331.2	408.4	518.5	651.1	789.9	923.4	1040.4	1138.4
120°	247.1	268.8	300.0	345.1	411.8	509.0	626.9	749.1	866.2	970.2	1057.8
122.5°	263.6	287.0	317.3	358.1	417.9	502.9	606.9	717.0	820.2	914.7	994.5
125°	280.1	303.5	333.8	372.0	424.0	497.7	590.5	689.3	783.8	867.0	936.4
127.5°	295.7	319.1	348.5	383.2	430.9	495.1	574.8	664.2	750.0	826.3	890.4
130°	309.5	332.9	361.6	394.5	437.9	492.5	562.7	640.7	718.8	789.0	848.0
132.5°	322.5	345.1	372.8	404.9	443.1	491.6	551.4	619.1	689.3	753.5	808.9
135°	333.8	357.2	384.1	413.6	448.3	490.7	541.9	600.0	661.6	717.9	767.3
137.5°	344.2	365.9	391.9	420.5	451.7	489.0	533.2	581.8	633.8	684.1	728.3
140°	352.9	374.6	399.7	425.7	455.2	488.1	525.4	566.2	610.4	652.0	689.3
142.5°	361.6	381.5	405.8	430.9	457.8	486.4	518.5	551.4	587.9	622.5	653.7
145°	368.5	388.4	411.0	434.4	458.7	484.7	512.4	540.2	568.8	596.5	621.7
147.5°	377.2	394.5	415.3	437.0	458.7	482.1	506.4	530.6	554.0	577.4	595.7
150°	384.1	399.7	419.6	437.9	458.7	478.6	500.3	520.2	540.2	558.4	574.8
152.5°	391.0	405.8	422.2	439.6	456.1	474.3	493.3	510.7	527.2	542.8	555.8
155°	398.8	411.0	425.7	439.6	454.3	469.1	486.4	501.1	515.0	528.0	538.4
157.5°	405.8	415.3	427.4	440.5	451.7	464.7	478.6	490.7	502.9	513.3	522.0
160°	411.0	419.6	430.1	440.5	450.0	459.5	470.8	482.1	491.6	500.3	506.4
162.5°	415.3	422.2	430.9	439.6	446.5	454.3	463.0	471.7	479.5	487.3	492.5
165°	418.8	424.8	431.8	437.9	443.1	449.1	456.1	463.0	468.2	474.3	478.6
167.5°	422.2	426.6	431.8	437.0	439.6	443.9	449.1	455.2	459.5	463.0	466.5
170°	424.8	426.6	430.9	434.4	436.1	438.7	443.1	447.4	450.0	453.5	455.2
172.5°	426.6	427.4	430.9	433.5	433.5	434.4	437.0	440.5	442.2	444.8	445.7
175°	427.4	428.3	430.1	431.8	430.9	430.9	432.7	434.4	435.3	437.0	437.0
177.5°	428.3	428.3	429.2	430.9	429.2	428.3	429.2	430.1	430.9	431.8	431.8
180°	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3	428.3



TEST NUMBER: P832019

CATALOG NUMBER: S123RDIP-S1165D805U850-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	4156.3	4156.3	4156.3	4156.3
2.5°	3692.8	3684.3	3680.8	3677.4
5°	3165.4	3138.9	3133.0	3127.0
7.5°	2717.2	2706.1	2669.5	2632.8
10°	2353.4	2319.3	2303.9	2288.6
12.5°	2049.2	2017.6	2012.5	2007.4
15°	1813.2	1791.0	1783.3	1775.7
17.5°	1658.1	1642.7	1633.4	1624.0
20°	1543.1	1532.0	1525.2	1518.3
22.5°	1455.3	1446.8	1441.7	1436.6
25°	1370.9	1358.2	1353.9	1349.6
27.5°	1290.9	1279.8	1275.5	1271.3
30°	1215.9	1206.5	1200.5	1194.6
32.5°	1134.1	1123.0	1119.6	1116.2
35°	1061.7	1054.8	1051.4	1048.0
37.5°	985.0	976.4	971.3	966.2
40°	919.4	915.1	912.5	910.0
42.5°	852.9	845.2	844.4	843.5
45°	786.4	778.8	777.1	775.4
47.5°	724.2	717.4	716.6	715.7
50°	655.2	645.9	639.0	632.2
52.5°	576.0	567.5	561.5	555.5
55°	503.6	494.2	489.1	484.0
57.5°	449.0	444.8	442.2	439.7
60°	404.7	402.2	400.5	398.8
62.5°	363.8	361.3	361.3	361.3
65°	326.3	323.8	321.2	318.7
67.5°	277.8	272.7	271.8	271.0
70°	219.0	211.3	210.5	209.6
72.5°	171.3	170.4	168.7	167.0
75°	141.4	139.7	139.7	139.7
77.5°	114.2	112.5	112.5	112.5
80°	87.8	86.9	87.8	88.6
82.5°	64.8	64.8	63.9	63.1
85°	41.8	40.9	40.9	40.9
87.5°	20.4	20.4	20.4	20.4
90°	24.3	25.1	26.0	25.1
92.5°	50.3	46.8	47.7	46.0
95°	117.9	110.1	104.0	100.6
97.5°	269.6	236.7	215.9	206.4
100°	639.9	576.6	542.8	543.6
102.5°	959.8	913.0	886.1	861.0
105°	1167.9	1135.0	1107.2	1102.9
107.5°	1297.1	1281.5	1270.2	1260.7
110°	1347.4	1354.3	1352.6	1350.8



TEST NUMBER: P832019

CATALOG NUMBER: S123RDIP-S1165D805U850-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1334.4	1359.5	1368.2	1369.1
115°	1281.5	1319.6	1337.0	1341.3
117.5°	1206.1	1248.5	1274.5	1280.6
120°	1126.3	1174.8	1195.6	1200.8
122.5°	1053.5	1095.9	1119.3	1126.3
125°	991.9	1030.0	1051.7	1057.8
127.5°	940.7	973.7	993.6	998.8
130°	893.9	925.1	943.3	950.3
132.5°	851.4	882.6	898.3	902.6
135°	809.8	835.8	851.4	857.5
137.5°	764.7	791.6	804.6	809.8
140°	722.2	746.5	760.4	759.5
142.5°	680.6	701.4	713.6	712.7
145°	643.3	661.6	668.5	670.2
147.5°	613.0	626.0	632.9	633.8
150°	587.9	597.4	602.6	602.6
152.5°	565.3	574.0	576.6	576.6
155°	546.2	553.2	554.9	555.8
157.5°	528.9	534.1	535.8	535.8
160°	512.4	517.6	517.6	516.8
162.5°	495.9	500.3	500.3	499.4
165°	482.1	485.5	484.7	484.7
167.5°	468.2	470.8	469.9	469.9
170°	456.1	457.8	456.9	456.9
172.5°	445.7	447.4	445.7	444.8
175°	437.0	437.9	437.0	436.1
177.5°	430.9	431.8	430.1	430.1
180°	428.3	428.3	428.3	428.3



TEST NUMBER: P832019

CATALOG NUMBER: S123RDIP-S1165D805U850-4F0-1E-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	15.10	16.02	15.95	16.89	17.96	19.77	20.69	20.62	21.55	22.63
	3H	16.33	17.15	17.19	18.02	19.13	21.28	22.10	22.14	22.97	24.07
	4H	16.72	17.49	17.60	18.37	19.48	21.77	22.54	22.65	23.42	24.53
	6H	17.00	17.72	17.89	18.60	19.73	22.09	22.80	22.97	23.68	24.81
	8H	17.09	17.77	17.99	18.67	19.80	22.17	22.84	23.06	23.75	24.87
	12H	17.15	17.79	18.05	18.69	19.84	22.20	22.85	23.10	23.74	24.89
4H	2H	15.84	16.61	16.72	17.49	18.60	19.78	20.55	20.66	21.43	22.54
	3H	17.22	17.86	18.11	18.77	19.90	21.44	22.08	22.33	22.99	24.12
	4H	17.67	18.26	18.58	19.16	20.32	22.05	22.63	22.95	23.54	24.70
	6H	18.05	18.55	18.96	19.48	20.64	22.49	23.00	23.41	23.92	25.08
	8H	18.17	18.64	19.09	19.57	20.74	22.63	23.09	23.55	24.02	25.19
	12H	18.25	18.67	19.19	19.62	20.79	22.69	23.11	23.63	24.06	25.23
8H	4H	17.99	18.46	18.91	19.39	20.56	22.02	22.49	22.94	23.42	24.59
	6H	18.46	18.85	19.41	19.81	20.98	22.52	22.91	23.47	23.88	25.04
	8H	18.65	19.00	19.61	19.95	21.14	22.71	23.05	23.67	24.01	25.19
	12H	18.80	19.10	19.76	20.05	21.28	22.83	23.13	23.79	24.08	25.31
12H	4H	18.01	18.43	18.95	19.37	20.55	21.98	22.40	22.92	23.34	24.52
	6H	18.52	18.86	19.48	19.82	21.01	22.50	22.84	23.45	23.80	24.98
	8H	18.74	19.04	19.70	19.99	21.23	22.69	22.99	23.65	23.94	25.18