

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242561

Luminaire Tested: S123RDRP-S775D927-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242561
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-30)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S775D927-X4F0-XX-UDD-A-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

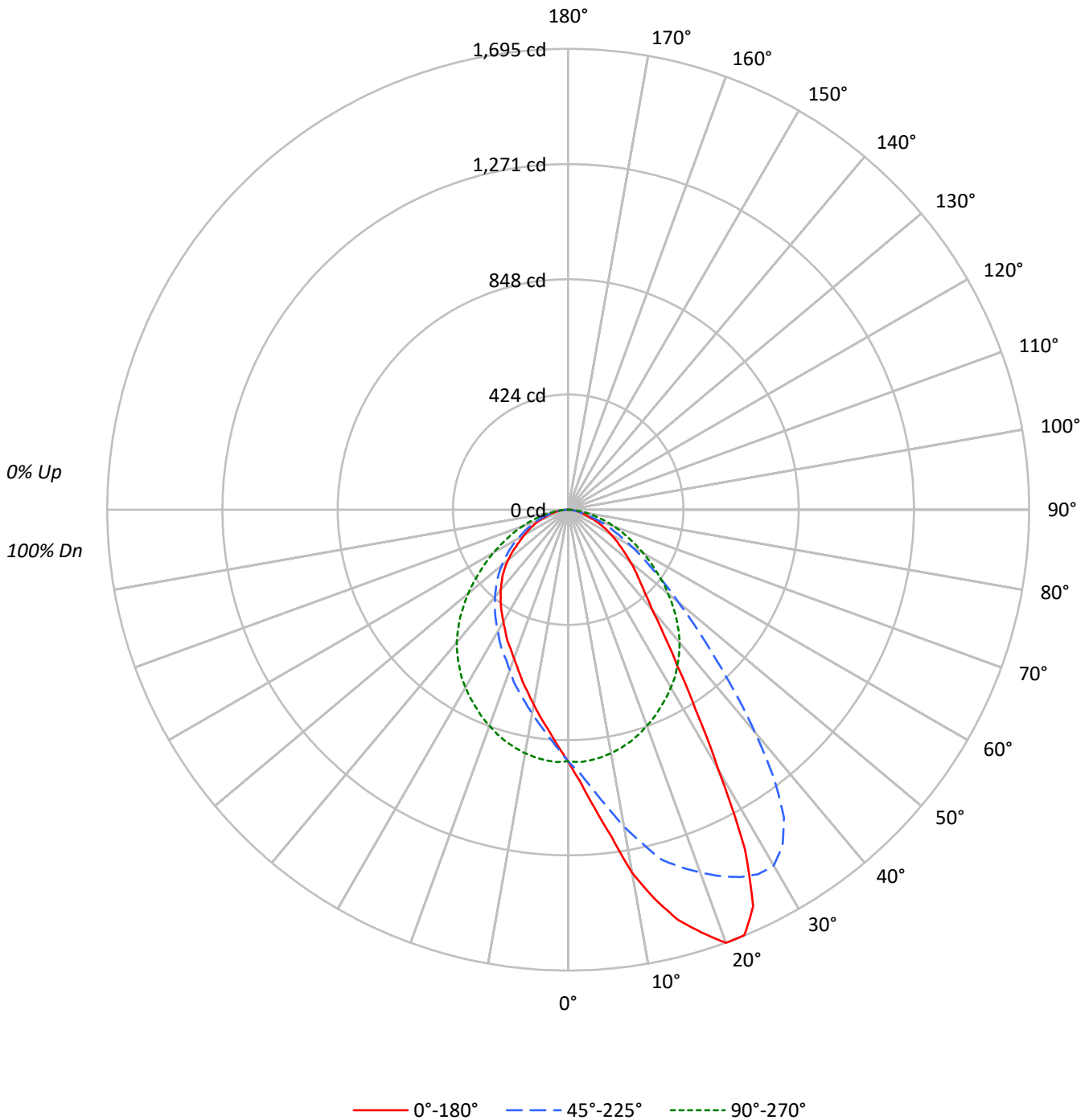
Lumens per Lamp: N/A
Luminaire Lumens: 2304.0 lumens
Efficiency: N/A
Efficacy: 87.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.35
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): 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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	74					74			
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66	64					64			
4	86	75	67	61	84	74	66	61	71	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	53	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46	44					44			
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41	39					39			
8	64	52	44	38	63	51	43	38	50	43	38	48	42	38	47	42	37	36					36			
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34	32					32			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	29					29			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	11216	11216	11216	11216	11216
5°	13370	12540	11263	10170	9919
10°	16692	14567	11198	9370	8960
15°	19594	16731	11084	8714	8172
20°	21868	18322	10914	8098	7501
25°	21519	19940	10733	7671	7088
30°	15467	21156	10567	7229	6664
35°	10327	20468	10351	6928	6388
40°	7609	16872	10090	6625	6105
45°	6382	12874	9636	6343	5827
50°	5633	9926	9038	5998	5438
55°	4939	7918	8354	5642	4905
60°	4398	6463	7702	5185	4495
65°	3863	5295	6998	4784	4182
70°	3034	4253	6372	4395	3817
75°	2669	3133	5564	3971	3489
80°	2324	2680	4726	3483	3427
85°	1878	2044	3797	3533	3630

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 60°
 Vertical Angle: 45°
 Luminance: 18116 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.9	3.9
10°-20°	284.4	12.3
20°-30°	448.0	19.4
30°-40°	465.9	20.2
40°-50°	398.6	17.3
50°-60°	303.8	13.2
60°-70°	194.6	8.4
70°-80°	93.2	4.0
80°-90°	24.5	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	823.3	35.7
0°-40°	1289.2	56.0
0°-60°	1991.6	86.4
0°-90°	2304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2304.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	925	925	925	925	925	
5°	1099	1031	926	836	815	113
15°	1561	1333	883	694	651	443
25°	1609	1491	802	574	530	699
35°	698	1383	700	468	432	454
45°	372	751	562	370	340	292
55°	234	375	395	267	232	211
65°	135	185	244	167	146	133
75°	57	67	119	85	74	61
85°	14	15	27	25	26	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3
2.5°	1000.5	1002.1	997.0	996.2	990.2	988.7	988.7	980.3	975.2	968.5	964.5
5°	1098.8	1105.1	1101.9	1094.8	1082.9	1080.2	1072.6	1060.8	1047.3	1030.6	1022.7
7.5°	1211.3	1224.3	1222.0	1210.9	1198.2	1190.3	1169.3	1152.3	1126.5	1103.1	1084.9
10°	1356.2	1347.1	1340.0	1329.3	1317.8	1299.2	1277.0	1246.5	1211.3	1183.5	1152.6
12.5°	1464.8	1465.2	1455.7	1444.6	1427.1	1409.7	1381.2	1342.4	1300.0	1256.8	1220.4
15°	1561.4	1563.8	1557.9	1546.4	1523.4	1492.1	1450.9	1435.5	1376.8	1333.3	1289.7
17.5°	1630.3	1630.7	1629.6	1614.1	1589.1	1567.8	1529.3	1493.3	1437.8	1378.8	1320.6
20°	1695.3	1691.3	1692.1	1674.3	1656.9	1631.1	1593.9	1534.9	1491.3	1420.4	1359.8
22.5°	1693.7	1693.7	1697.3	1694.1	1682.6	1664.4	1637.1	1589.5	1530.9	1459.2	1389.1
25°	1609.0	1605.8	1624.4	1629.6	1649.8	1653.3	1644.6	1617.3	1564.6	1490.9	1406.5
27.5°	1406.9	1395.5	1434.3	1472.7	1523.8	1556.3	1589.5	1597.1	1572.1	1511.9	1423.6
30°	1105.1	1142.3	1159.8	1222.4	1292.1	1375.3	1448.1	1517.5	1534.5	1511.5	1442.2
32.5°	870.6	901.9	915.8	967.3	1031.0	1132.1	1250.5	1355.8	1438.2	1466.0	1431.1
35°	697.9	698.3	731.6	755.4	815.6	915.8	1021.9	1153.4	1284.2	1383.2	1393.5
37.5°	575.9	577.5	598.9	622.7	671.0	727.2	825.9	936.8	1094.0	1241.8	1318.6
40°	480.9	484.4	499.5	522.9	555.3	595.3	668.2	771.2	897.2	1066.3	1204.5
42.5°	419.9	426.2	432.1	448.8	465.8	502.6	558.1	631.8	743.5	901.1	1065.9
45°	372.3	375.5	381.4	389.8	408.0	434.1	473.7	527.2	622.3	751.0	910.6
47.5°	335.9	333.9	340.6	347.8	360.1	379.1	406.8	453.1	524.4	632.2	770.4
50°	298.7	298.3	302.6	307.8	319.3	332.3	354.1	387.0	440.9	526.4	650.4
52.5°	263.8	265.8	268.6	275.3	282.8	292.7	311.7	333.1	377.5	448.4	546.6
55°	233.7	234.9	239.2	242.8	248.8	259.4	271.7	291.5	323.2	374.7	459.9
57.5°	207.6	207.2	211.5	211.9	219.4	228.5	238.5	253.9	278.1	318.9	378.3
60°	181.4	180.2	183.8	186.6	190.1	197.3	205.2	220.2	238.5	266.6	315.7
62.5°	157.6	157.3	159.6	162.4	165.2	171.5	177.8	188.5	202.0	224.6	261.0
65°	134.7	135.9	137.1	138.2	139.8	143.8	150.1	158.0	167.9	184.6	212.7
67.5°	110.9	112.5	112.9	115.7	118.8	120.8	124.4	131.9	139.4	154.5	171.1
70°	85.6	85.2	85.6	86.7	91.1	95.5	100.6	105.8	110.1	120.0	133.5
72.5°	70.5	69.7	70.9	70.9	72.5	72.9	75.7	80.4	86.3	92.3	101.0
75°	57.0	57.0	57.0	57.0	58.6	59.4	60.6	61.8	63.8	66.9	74.1
77.5°	44.4	44.4	45.2	45.6	45.9	46.3	47.1	48.3	49.1	50.7	54.3
80°	33.3	33.7	33.3	33.7	33.7	34.5	34.9	36.0	36.4	38.4	39.6
82.5°	23.0	22.6	23.0	23.4	23.4	24.2	24.2	25.0	25.0	25.7	26.9
85°	13.5	12.7	13.5	13.1	13.9	13.1	13.5	14.3	14.3	14.7	16.2
87.5°	4.0	4.8	4.0	4.4	4.4	4.8	4.8	4.8	5.5	5.1	5.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3
2.5°	962.9	961.7	956.2	949.8	941.5	936.0	931.6	929.2	922.1	913.4	907.5
5°	1014.4	1002.5	989.9	974.4	960.1	945.5	936.4	925.7	912.6	898.0	887.7
7.5°	1065.5	1044.9	1022.3	999.0	975.2	954.2	934.8	918.9	899.1	878.9	865.1
10°	1126.1	1092.0	1056.8	1020.7	987.9	957.0	933.2	909.8	884.9	860.7	842.5
12.5°	1181.2	1133.6	1091.6	1045.3	1000.9	962.5	925.7	897.2	865.9	839.7	818.3
15°	1225.9	1180.0	1130.9	1063.5	1007.7	960.9	919.3	883.3	846.9	815.2	795.0
17.5°	1272.7	1203.0	1138.4	1086.1	1013.2	956.6	907.9	865.9	826.3	793.8	768.4
20°	1299.6	1232.7	1161.0	1089.3	1018.0	952.6	893.6	846.1	804.5	766.5	743.5
22.5°	1315.8	1237.8	1161.4	1082.9	1006.1	937.6	879.3	825.9	779.9	744.3	714.6
25°	1327.7	1237.4	1154.2	1078.2	1000.9	927.3	858.0	802.5	753.8	715.4	685.3
27.5°	1337.2	1232.7	1137.2	1054.4	976.4	901.5	838.9	779.5	730.8	690.8	657.9
30°	1339.6	1226.7	1117.0	1025.5	945.9	878.5	811.2	755.0	702.7	659.5	629.4
32.5°	1342.8	1212.1	1089.7	991.0	909.0	842.5	783.1	730.0	676.1	633.8	602.9
35°	1331.7	1208.5	1061.9	950.2	868.6	804.1	749.0	699.5	646.8	605.6	574.3
37.5°	1298.0	1189.1	1034.2	904.7	820.3	760.9	715.0	669.8	621.1	575.9	547.0
40°	1241.4	1157.4	1000.9	863.9	774.8	713.4	673.0	637.7	591.0	549.4	517.7
42.5°	1157.0	1114.2	969.3	821.1	723.3	664.7	632.2	599.7	560.1	517.7	488.4
45°	1050.1	1056.8	923.7	775.2	676.5	617.1	585.0	562.1	525.6	490.8	460.3
47.5°	920.1	976.4	875.0	726.8	625.8	570.0	541.9	520.9	495.5	459.5	431.4
50°	793.4	883.3	814.0	678.1	578.7	523.2	495.5	479.3	457.9	431.0	404.4
52.5°	676.5	774.8	740.3	623.9	527.6	478.1	451.2	438.5	422.6	397.7	374.3
55°	570.8	668.6	659.1	569.2	476.5	431.0	410.4	395.3	383.8	364.8	345.8
57.5°	478.9	573.6	575.5	508.6	432.1	385.8	368.0	356.1	348.2	333.1	314.5
60°	392.9	478.1	494.7	447.2	383.8	344.2	326.8	317.7	311.7	300.2	286.8
62.5°	321.6	390.9	410.4	379.5	337.5	301.0	288.4	279.6	276.1	266.6	255.1
65°	257.1	317.3	335.5	316.5	292.3	262.6	251.5	244.0	240.4	234.9	226.2
67.5°	202.8	249.5	269.3	253.5	244.4	223.4	215.9	211.5	208.3	204.4	196.9
70°	155.3	187.8	208.3	204.8	197.7	187.8	182.6	179.8	176.7	173.5	167.2
72.5°	117.2	137.1	156.1	159.2	153.7	153.7	149.3	148.5	147.0	143.0	140.2
75°	82.8	98.2	111.7	116.8	119.2	121.2	119.2	118.8	118.4	115.3	113.3
77.5°	57.4	67.3	76.4	85.6	88.7	91.5	91.9	93.5	92.3	90.3	89.5
80°	41.6	43.6	49.5	57.0	63.0	65.4	66.9	67.7	67.3	66.9	65.4
82.5°	27.3	28.9	30.9	35.6	40.4	44.8	45.6	45.2	46.3	46.7	45.6
85°	16.2	16.6	17.4	18.2	21.0	25.4	26.5	27.3	28.1	28.1	25.7
87.5°	6.3	5.9	6.7	6.7	7.9	8.3	10.7	12.7	13.1	11.5	11.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3
2.5°	905.5	900.3	896.8	888.8	883.7	878.2	872.6	876.2	875.8	875.4	875.4
5°	878.9	869.8	861.5	850.8	844.1	835.8	829.4	828.6	830.2	824.7	821.5
7.5°	854.0	842.1	830.2	819.1	806.9	797.3	791.4	789.0	784.7	781.1	777.9
10°	827.5	812.8	801.3	786.7	773.2	761.3	753.8	748.6	745.9	743.1	737.9
12.5°	800.1	785.9	770.4	753.4	740.7	726.4	721.3	715.4	709.4	706.2	698.7
15°	773.6	755.0	739.5	722.1	707.8	694.4	686.4	675.0	673.4	669.4	662.3
17.5°	747.8	727.2	704.7	692.8	678.5	664.3	651.6	648.0	636.1	632.2	625.4
20°	716.1	697.5	681.3	664.3	640.9	627.8	618.3	613.2	604.1	598.5	594.5
22.5°	688.8	669.8	650.4	629.8	611.6	596.5	590.2	581.5	577.5	569.2	564.8
25°	663.1	642.5	619.9	598.5	584.6	573.6	562.5	555.3	548.2	544.6	536.7
27.5°	631.8	611.2	589.4	572.8	556.9	545.8	535.1	529.2	520.1	514.1	509.8
30°	606.8	581.5	563.3	548.6	526.8	516.5	509.0	501.1	494.7	488.4	484.0
32.5°	577.9	555.3	538.3	519.3	503.8	492.4	482.1	475.3	470.2	464.2	459.9
35°	547.4	528.0	510.2	492.0	479.7	468.2	456.7	450.8	445.6	440.1	436.1
37.5°	519.7	501.5	484.8	467.4	452.3	442.4	432.9	429.0	421.8	417.9	413.9
40°	494.3	476.5	458.3	441.7	425.8	418.7	410.4	403.6	397.3	394.5	390.2
42.5°	466.6	448.8	434.1	415.9	403.6	393.3	385.8	378.3	373.9	369.6	367.6
45°	439.3	423.4	408.4	390.6	378.3	370.0	361.2	354.5	350.2	347.4	343.0
47.5°	413.1	396.9	381.8	366.0	354.1	344.6	335.5	331.1	325.2	322.0	318.9
50°	384.2	370.0	353.7	339.5	327.6	318.1	310.9	305.0	299.8	295.5	293.5
52.5°	357.7	342.2	328.8	315.7	303.0	291.9	285.6	279.2	275.7	270.5	268.2
55°	328.0	313.3	301.4	288.4	276.1	267.0	259.0	253.5	249.5	244.0	240.8
57.5°	300.6	288.0	273.3	261.8	248.8	241.6	234.9	227.0	222.2	217.9	214.7
60°	272.9	257.9	245.6	234.9	223.8	213.9	208.0	202.0	196.9	192.5	189.7
62.5°	244.0	231.3	219.8	208.0	198.0	189.7	182.6	177.8	173.5	171.1	168.3
65°	214.3	204.0	192.1	182.6	173.1	166.8	161.2	156.9	153.7	151.7	149.3
67.5°	187.0	177.1	166.4	156.5	150.1	145.0	141.0	137.1	135.5	133.1	131.5
70°	160.4	150.1	141.0	133.9	127.5	124.0	121.6	118.8	117.2	114.1	112.5
72.5°	131.5	124.8	118.8	113.3	108.5	105.4	102.2	98.6	95.9	92.3	90.7
75°	108.1	101.4	96.3	92.3	89.1	84.8	80.4	76.8	75.7	74.5	74.1
77.5°	84.4	80.0	76.1	72.9	68.5	64.6	63.4	62.6	62.2	61.4	61.4
80°	63.0	59.0	56.2	52.3	49.9	49.9	49.9	49.1	49.5	49.5	49.5
82.5°	42.8	39.2	38.0	37.2	37.2	37.6	37.6	38.0	37.6	38.4	38.0
85°	24.2	24.6	25.4	25.0	25.4	25.4	26.1	25.7	26.1	25.4	26.1
87.5°	11.1	12.3	12.7	13.1	13.5	13.1	13.5	13.5	13.9	13.9	13.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242561

CATALOG NUMBER: S123RDRP-S775D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	925.3	925.3	925.3	925.3
2.5°	870.6	870.2	870.6	869.0
5°	820.3	819.9	818.7	815.2
7.5°	774.8	774.0	770.8	771.6
10°	735.2	735.6	730.8	728.0
12.5°	696.7	694.4	690.8	687.6
15°	663.9	659.9	650.4	651.2
17.5°	623.1	619.9	619.5	614.0
20°	588.2	586.2	587.0	581.5
22.5°	560.9	558.9	554.5	553.7
25°	534.3	531.2	528.0	530.0
27.5°	507.4	505.0	501.5	501.5
30°	482.1	479.7	478.1	476.1
32.5°	456.3	456.3	453.1	453.1
35°	434.5	432.1	431.4	431.7
37.5°	413.5	410.4	408.8	407.2
40°	390.6	387.4	386.6	385.8
42.5°	364.8	364.0	363.6	362.0
45°	341.8	341.4	339.1	339.9
47.5°	317.3	315.3	314.1	315.3
50°	291.9	291.1	287.6	288.4
52.5°	266.6	263.0	262.2	261.4
55°	238.1	234.5	232.9	232.1
57.5°	209.9	208.7	207.2	208.3
60°	185.8	185.8	185.8	185.4
62.5°	167.2	166.0	165.6	166.4
65°	148.1	147.7	146.2	145.8
67.5°	130.7	129.1	129.1	128.3
70°	110.5	109.7	107.3	107.7
72.5°	88.7	87.9	87.9	87.1
75°	73.7	73.3	72.9	74.5
77.5°	61.4	61.4	61.8	61.0
80°	49.5	49.5	49.1	49.1
82.5°	37.2	37.6	38.0	37.2
85°	26.1	25.7	26.5	26.1
87.5°	14.7	13.9	13.9	14.3
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242561
 CATALOG NUMBER: S123RDRP-S775D927-X4F0-XX-UDD-A-W

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	16.04	17.53	16.40	17.84	18.16	19.43	20.93	19.80	21.24	21.55
	3H	17.13	18.47	17.51	18.79	19.16	20.84	22.18	21.22	22.51	22.87
	4H	17.46	18.72	17.86	19.07	19.44	21.34	22.60	21.74	22.94	23.32
	6H	17.71	18.87	18.12	19.23	19.63	21.69	22.85	22.11	23.22	23.61
	8H	17.78	18.88	18.21	19.27	19.67	21.79	22.89	22.22	23.28	23.69
	12H	17.82	18.87	18.25	19.25	19.68	21.86	22.91	22.29	23.29	23.72
4H	2H	17.01	18.27	17.42	18.62	19.00	19.67	20.92	20.07	21.27	21.65
	3H	18.18	19.22	18.60	19.62	20.02	21.36	22.40	21.78	22.80	23.20
	4H	18.57	19.50	19.01	19.92	20.36	21.98	22.91	22.41	23.33	23.77
	6H	18.88	19.69	19.34	20.14	20.60	22.44	23.25	22.90	23.70	24.16
	8H	18.97	19.73	19.44	20.17	20.64	22.59	23.34	23.05	23.79	24.26
	12H	19.03	19.71	19.51	20.19	20.66	22.69	23.36	23.17	23.84	24.31
8H	4H	18.94	19.69	19.40	20.14	20.61	22.03	22.79	22.50	23.23	23.70
	6H	19.31	19.94	19.81	20.43	20.91	22.57	23.19	23.06	23.68	24.16
	8H	19.45	20.01	19.96	20.52	21.00	22.76	23.32	23.27	23.83	24.32
	12H	19.55	20.04	20.06	20.53	21.10	22.92	23.41	23.43	23.90	24.47
12H	4H	18.97	19.64	19.45	20.12	20.59	22.02	22.69	22.50	23.17	23.64
	6H	19.36	19.92	19.87	20.43	20.92	22.55	23.11	23.07	23.62	24.11
	8H	19.53	20.03	20.04	20.52	21.09	22.79	23.28	23.30	23.77	24.34