

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: P242581

Luminaire Tested: S123RDRP-S775D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242581
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-S775D930-X4F0-XX-UDD-A-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

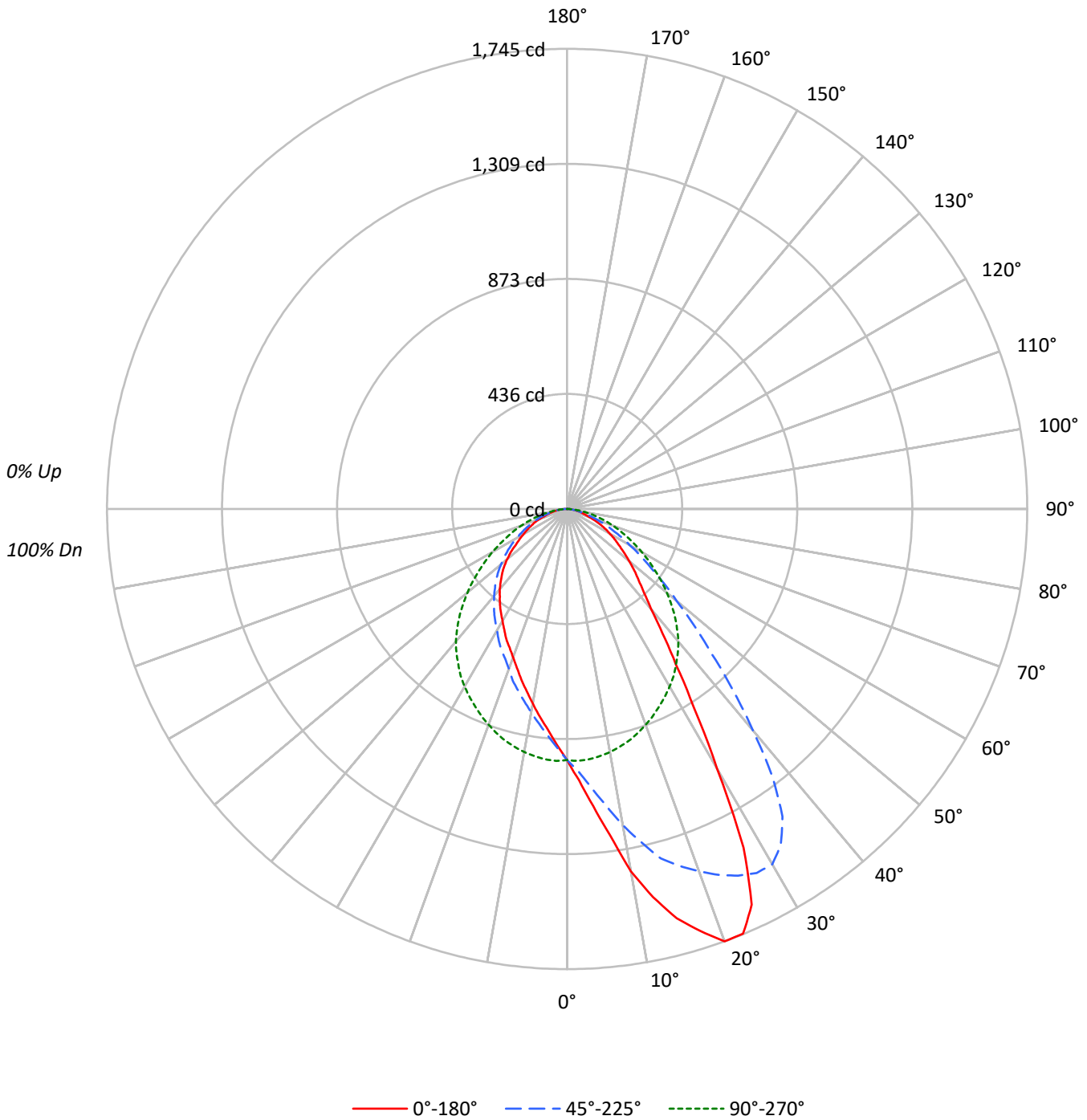
Lumens per Lamp: N/A
Luminaire Lumens: 2371.2 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.35
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (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	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°	11543	11543	11543	11543	11543
5°	13759	12906	11592	10467	10209
10°	17180	14993	11525	9643	9223
15°	20166	17219	11408	8967	8410
20°	22506	18857	11233	8334	7719
25°	22146	20522	11046	7895	7294
30°	15919	21773	10875	7440	6858
35°	10629	21064	10653	7131	6574
40°	7831	17364	10385	6818	6283
45°	6569	13249	9917	6528	5996
50°	5797	10217	9302	6172	5597
55°	5082	8149	8597	5807	5049
60°	4526	6652	7925	5336	4625
65°	3975	5449	7202	4922	4302
70°	3122	4377	6560	4522	3930
75°	2749	3227	5728	4084	3587
80°	2387	2757	4865	3588	3525
85°	1933	2100	3908	3630	3741

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 60°
 Vertical Angle: 45°
 Luminance: 18644 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	3.9
10°-20°	292.7	12.3
20°-30°	461.1	19.4
30°-40°	479.5	20.2
40°-50°	410.2	17.3
50°-60°	312.6	13.2
60°-70°	200.3	8.4
70°-80°	96.0	4.0
80°-90°	25.2	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°	847.3	35.7
0°-40°	1326.8	56.0
0°-60°	2049.7	86.4
0°-90°	2371.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2371.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	952	952	952	952	952	
5°	1131	1061	953	860	839	116
15°	1607	1372	909	715	670	456
25°	1656	1534	826	590	545	720
35°	718	1424	720	482	444	467
45°	383	773	578	381	350	301
55°	240	386	407	275	239	217
65°	139	190	251	172	150	136
75°	59	69	122	87	77	63
85°	14	15	28	26	27	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°	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3
2.5°	1029.7	1031.4	1026.1	1025.3	1019.1	1017.5	1017.5	1009.0	1003.7	996.7	992.6
5°	1130.8	1137.4	1134.1	1126.8	1114.5	1111.7	1103.9	1091.7	1077.8	1060.7	1052.6
7.5°	1246.6	1260.1	1257.6	1246.2	1233.2	1225.0	1203.4	1185.9	1159.4	1135.3	1116.6
10°	1395.8	1386.4	1379.1	1368.1	1356.3	1337.1	1314.3	1282.9	1246.6	1218.1	1186.3
12.5°	1507.5	1507.9	1498.1	1486.7	1468.8	1450.9	1421.5	1381.6	1337.9	1293.5	1256.0
15°	1607.0	1609.4	1603.3	1591.5	1567.9	1535.6	1493.3	1477.4	1417.0	1372.2	1327.3
17.5°	1677.9	1678.3	1677.1	1661.2	1635.5	1613.5	1574.0	1536.9	1479.8	1419.1	1359.1
20°	1744.8	1740.7	1741.5	1723.2	1705.2	1678.7	1640.4	1579.7	1534.8	1461.9	1399.5
22.5°	1743.1	1743.1	1746.8	1743.6	1731.7	1713.0	1684.8	1635.9	1575.6	1501.8	1429.7
25°	1655.9	1652.6	1671.8	1677.1	1697.9	1701.6	1692.6	1664.5	1610.2	1534.4	1447.6
27.5°	1448.0	1436.2	1476.1	1515.7	1568.3	1601.7	1635.9	1643.7	1618.0	1556.0	1465.1
30°	1137.4	1175.7	1193.6	1258.0	1329.8	1415.4	1490.4	1561.7	1579.3	1555.6	1484.3
32.5°	896.0	928.2	942.5	995.5	1061.1	1165.1	1287.0	1395.4	1480.2	1508.7	1472.9
35°	718.3	718.7	752.9	777.4	839.4	942.5	1051.8	1187.1	1321.6	1423.5	1434.1
37.5°	592.7	594.4	616.4	640.8	690.6	748.5	850.0	964.1	1126.0	1278.0	1357.1
40°	494.9	498.6	514.1	538.1	571.5	612.7	687.7	793.7	923.3	1097.4	1239.7
42.5°	432.1	438.6	444.8	461.9	479.4	517.3	574.4	650.2	765.2	927.4	1097.0
45°	383.2	386.5	392.6	401.1	419.9	446.8	487.6	542.6	640.4	772.9	937.2
47.5°	345.7	343.7	350.6	357.9	370.6	390.1	418.7	466.4	539.7	650.6	792.9
50°	307.4	307.0	311.5	316.8	328.6	342.0	364.4	398.3	453.7	541.8	669.4
52.5°	271.5	273.5	276.4	283.3	291.1	301.3	320.8	342.8	388.5	461.5	562.6
55°	240.5	241.7	246.2	249.9	256.0	267.0	279.7	300.0	332.6	385.6	473.3
57.5°	213.6	213.2	217.7	218.1	225.8	235.2	245.4	261.3	286.2	328.2	389.3
60°	186.7	185.5	189.2	192.0	195.7	203.0	211.2	226.7	245.4	274.4	324.9
62.5°	162.2	161.8	164.3	167.1	170.0	176.5	183.0	194.0	207.9	231.1	268.6
65°	138.6	139.8	141.0	142.3	143.9	148.0	154.5	162.7	172.8	190.0	218.9
67.5°	114.1	115.8	116.2	119.0	122.3	124.3	128.0	135.8	143.5	159.0	176.1
70°	88.1	87.6	88.1	89.3	93.8	98.2	103.5	108.8	113.3	123.5	137.4
72.5°	72.6	71.7	73.0	73.0	74.6	75.0	77.9	82.8	88.9	95.0	104.0
75°	58.7	58.7	58.7	58.7	60.3	61.1	62.4	63.6	65.6	68.9	76.2
77.5°	45.7	45.7	46.5	46.9	47.3	47.7	48.5	49.7	50.5	52.2	55.8
80°	34.2	34.7	34.2	34.7	34.7	35.5	35.9	37.1	37.5	39.5	40.8
82.5°	23.6	23.2	23.6	24.1	24.1	24.9	24.9	25.7	25.7	26.5	27.7
85°	13.9	13.0	13.9	13.5	14.3	13.5	13.9	14.7	14.7	15.1	16.7
87.5°	4.1	4.9	4.1	4.5	4.5	4.9	4.9	4.9	5.7	5.3	5.7
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°	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3
2.5°	991.0	989.8	984.1	977.6	969.0	963.3	958.8	956.4	949.0	940.1	933.9
5°	1044.0	1031.8	1018.7	1002.8	988.2	973.1	963.7	952.7	939.2	924.2	913.6
7.5°	1096.6	1075.4	1052.2	1028.1	1003.7	982.0	962.1	945.8	925.4	904.6	890.3
10°	1159.0	1123.9	1087.6	1050.5	1016.7	984.9	960.4	936.4	910.7	885.8	867.1
12.5°	1215.6	1166.7	1123.5	1075.8	1030.2	990.6	952.7	923.3	891.1	864.2	842.2
15°	1261.7	1214.4	1163.9	1094.6	1037.1	989.0	946.2	909.1	871.6	839.0	818.2
17.5°	1309.8	1238.1	1171.6	1117.8	1042.8	984.5	934.4	891.1	850.4	816.9	790.9
20°	1337.5	1268.6	1194.8	1121.1	1047.7	980.4	919.7	870.8	828.0	788.8	765.2
22.5°	1354.2	1273.9	1195.3	1114.5	1035.5	964.9	905.0	850.0	802.7	766.0	735.4
25°	1366.5	1273.5	1187.9	1109.6	1030.2	954.3	883.0	825.9	775.8	736.2	705.2
27.5°	1376.3	1268.6	1170.4	1085.2	1004.9	927.8	863.4	802.3	752.1	711.0	677.1
30°	1378.7	1262.5	1149.6	1055.4	973.5	904.2	834.9	777.0	723.2	678.8	647.8
32.5°	1382.0	1247.4	1121.5	1020.0	935.6	867.1	805.9	751.3	695.9	652.3	620.5
35°	1370.5	1243.8	1092.9	978.0	894.0	827.5	770.9	719.9	665.7	623.3	591.1
37.5°	1335.9	1223.8	1064.4	931.1	844.3	783.1	735.8	689.3	639.2	592.7	563.0
40°	1277.6	1191.2	1030.2	889.1	797.4	734.2	692.6	656.3	608.2	565.4	532.8
42.5°	1190.8	1146.7	997.5	845.1	744.4	684.0	650.6	617.2	576.4	532.8	502.6
45°	1080.7	1087.6	950.7	797.8	696.3	635.1	602.1	578.5	541.0	505.1	473.7
47.5°	947.0	1004.9	900.5	748.1	644.1	586.6	557.7	536.1	510.0	472.9	443.9
50°	816.5	909.1	837.7	697.9	595.6	538.5	510.0	493.3	471.3	443.5	416.2
52.5°	696.3	797.4	761.9	642.1	543.0	492.0	464.3	451.3	435.0	409.3	385.2
55°	587.4	688.1	678.3	585.8	490.4	443.5	422.3	406.8	395.0	375.5	355.9
57.5°	492.9	590.3	592.3	523.4	444.8	397.1	378.7	366.5	358.3	342.8	323.7
60°	404.4	492.0	509.2	460.2	395.0	354.3	336.3	326.9	320.8	309.0	295.1
62.5°	331.0	402.4	422.3	390.5	347.3	309.8	296.8	287.8	284.1	274.4	262.5
65°	264.6	326.5	345.3	325.7	300.9	270.3	258.9	251.1	247.4	241.7	232.8
67.5°	208.7	256.8	277.2	260.9	251.5	229.9	222.2	217.7	214.4	210.4	202.6
70°	159.8	193.2	214.4	210.8	203.4	193.2	187.9	185.1	181.8	178.6	172.0
72.5°	120.7	141.0	160.6	163.9	158.2	158.2	153.7	152.9	151.2	147.2	144.3
75°	85.2	101.1	115.0	120.3	122.7	124.7	122.7	122.3	121.9	118.6	116.6
77.5°	59.1	69.3	78.7	88.1	91.3	94.2	94.6	96.2	95.0	92.9	92.1
80°	42.8	44.8	51.0	58.7	64.8	67.3	68.9	69.7	69.3	68.9	67.3
82.5°	28.1	29.8	31.8	36.7	41.6	46.1	46.9	46.5	47.7	48.1	46.9
85°	16.7	17.1	17.9	18.8	21.6	26.1	27.3	28.1	28.9	28.9	26.5
87.5°	6.5	6.1	6.9	6.9	8.2	8.6	11.0	13.0	13.5	11.8	11.8
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°	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3
2.5°	931.9	926.6	922.9	914.8	909.5	903.8	898.1	901.7	901.3	900.9	900.9
5°	904.6	895.2	886.7	875.6	868.7	860.2	853.6	852.8	854.5	848.7	845.5
7.5°	878.9	866.7	854.5	843.0	830.4	820.6	814.5	812.1	807.6	803.9	800.6
10°	851.6	836.5	824.7	809.6	795.7	783.5	775.8	770.5	767.6	764.8	759.5
12.5°	823.5	808.8	792.9	775.4	762.3	747.6	742.3	736.2	730.1	726.9	719.1
15°	796.2	777.0	761.1	743.2	728.5	714.6	706.5	694.6	693.0	688.9	681.6
17.5°	769.7	748.5	725.2	713.0	698.3	683.6	670.6	666.9	654.7	650.6	643.7
20°	737.0	717.9	701.2	683.6	659.6	646.1	636.4	631.1	621.7	616.0	611.9
22.5°	708.9	689.3	669.4	648.2	629.4	613.9	607.4	598.4	594.4	585.8	581.3
25°	682.4	661.2	638.0	616.0	601.7	590.3	578.9	571.5	564.2	560.5	552.4
27.5°	650.2	629.0	606.6	589.5	573.2	561.8	550.7	544.6	535.3	529.1	524.7
30°	624.5	598.4	579.7	564.6	542.2	531.6	523.8	515.7	509.2	502.6	498.2
32.5°	594.8	571.5	554.0	534.4	518.5	506.7	496.1	489.2	483.9	477.8	473.3
35°	563.4	543.4	525.1	506.3	493.7	481.9	470.0	463.9	458.6	452.9	448.8
37.5°	534.8	516.1	499.0	481.0	465.5	455.4	445.6	441.5	434.2	430.1	426.0
40°	508.8	490.4	471.7	454.5	438.2	430.9	422.3	415.4	408.9	406.0	401.5
42.5°	480.2	461.9	446.8	428.0	415.4	404.8	397.1	389.3	384.8	380.3	378.3
45°	452.1	435.8	420.3	402.0	389.3	380.8	371.8	364.9	360.4	357.5	353.0
47.5°	425.2	408.5	393.0	376.7	364.4	354.7	345.3	340.8	334.7	331.4	328.2
50°	395.4	380.8	364.0	349.4	337.1	327.3	320.0	313.9	308.6	304.1	302.1
52.5°	368.1	352.2	338.4	324.9	311.9	300.4	293.9	287.4	283.7	278.4	276.0
55°	337.5	322.5	310.2	296.8	284.1	274.8	266.6	260.9	256.8	251.1	247.9
57.5°	309.4	296.4	281.3	269.5	256.0	248.7	241.7	233.6	228.7	224.2	221.0
60°	280.9	265.4	252.7	241.7	230.3	220.1	214.0	207.9	202.6	198.1	195.3
62.5°	251.1	238.1	226.3	214.0	203.8	195.3	187.9	183.0	178.6	176.1	173.3
65°	220.5	209.9	197.7	187.9	178.1	171.6	165.9	161.4	158.2	156.1	153.7
67.5°	192.4	182.2	171.2	161.0	154.5	149.2	145.1	141.0	139.4	137.0	135.3
70°	165.1	154.5	145.1	137.8	131.3	127.6	125.2	122.3	120.7	117.4	115.8
72.5°	135.3	128.4	122.3	116.6	111.7	108.4	105.2	101.5	98.7	95.0	93.4
75°	111.3	104.4	99.1	95.0	91.7	87.2	82.8	79.1	77.9	76.6	76.2
77.5°	86.8	82.3	78.3	75.0	70.5	66.4	65.2	64.4	64.0	63.2	63.2
80°	64.8	60.7	57.9	53.8	51.4	51.4	51.4	50.5	51.0	51.0	51.0
82.5°	44.0	40.4	39.1	38.3	38.3	38.7	38.7	39.1	38.7	39.5	39.1
85°	24.9	25.3	26.1	25.7	26.1	26.1	26.9	26.5	26.9	26.1	26.9
87.5°	11.4	12.6	13.0	13.5	13.9	13.5	13.9	13.9	14.3	14.3	14.3
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: P242581

CATALOG NUMBER: S123RDRP-S775D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	952.3	952.3	952.3	952.3
2.5°	896.0	895.6	896.0	894.4
5°	844.3	843.9	842.6	839.0
7.5°	797.4	796.6	793.3	794.1
10°	756.6	757.0	752.1	749.3
12.5°	717.1	714.6	711.0	707.7
15°	683.2	679.2	669.4	670.2
17.5°	641.2	638.0	637.6	631.9
20°	605.4	603.3	604.1	598.4
22.5°	577.2	575.2	570.7	569.9
25°	549.9	546.7	543.4	545.4
27.5°	522.2	519.8	516.1	516.1
30°	496.1	493.7	492.0	490.0
32.5°	469.6	469.6	466.4	466.4
35°	447.2	444.8	443.9	444.3
37.5°	425.6	422.3	420.7	419.1
40°	402.0	398.7	397.9	397.1
42.5°	375.5	374.6	374.2	372.6
45°	351.8	351.4	349.0	349.8
47.5°	326.5	324.5	323.3	324.5
50°	300.4	299.6	296.0	296.8
52.5°	274.4	270.7	269.9	269.1
55°	245.0	241.3	239.7	238.9
57.5°	216.1	214.8	213.2	214.4
60°	191.2	191.2	191.2	190.8
62.5°	172.0	170.8	170.4	171.2
65°	152.5	152.1	150.4	150.0
67.5°	134.5	132.9	132.9	132.1
70°	113.7	112.9	110.5	110.9
72.5°	91.3	90.5	90.5	89.7
75°	75.8	75.4	75.0	76.6
77.5°	63.2	63.2	63.6	62.8
80°	51.0	51.0	50.5	50.5
82.5°	38.3	38.7	39.1	38.3
85°	26.9	26.5	27.3	26.9
87.5°	15.1	14.3	14.3	14.7
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242581
 CATALOG NUMBER: S123RDRP-S775D930-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	16.14	17.63	16.50	17.94	18.26	19.53	21.03	19.90	21.34	21.65
	3H	17.23	18.57	17.61	18.89	19.26	20.94	22.28	21.32	22.61	22.97
	4H	17.56	18.82	17.96	19.17	19.55	21.44	22.70	21.84	23.04	23.42
	6H	17.81	18.97	18.22	19.33	19.73	21.79	22.95	22.21	23.32	23.71
	8H	17.88	18.98	18.31	19.37	19.77	21.90	23.00	22.32	23.38	23.79
	12H	17.92	18.97	18.35	19.35	19.78	21.96	23.01	22.39	23.39	23.82
4H	2H	17.12	18.37	17.52	18.72	19.10	19.77	21.03	20.17	21.37	21.75
	3H	18.28	19.32	18.70	19.72	20.12	21.46	22.50	21.88	22.90	23.30
	4H	18.67	19.60	19.11	20.02	20.46	22.08	23.01	22.51	23.43	23.87
	6H	18.98	19.79	19.44	20.24	20.70	22.54	23.35	23.00	23.80	24.26
	8H	19.07	19.83	19.54	20.27	20.74	22.69	23.44	23.15	23.89	24.36
	12H	19.13	19.81	19.61	20.28	20.76	22.79	23.46	23.27	23.94	24.41
8H	4H	19.04	19.79	19.50	20.24	20.71	22.13	22.89	22.60	23.33	23.80
	6H	19.41	20.04	19.91	20.53	21.01	22.67	23.29	23.16	23.78	24.26
	8H	19.55	20.10	20.06	20.62	21.10	22.86	23.42	23.37	23.93	24.42
	12H	19.65	20.14	20.16	20.63	21.20	23.02	23.51	23.53	24.00	24.57
12H	4H	19.07	19.74	19.55	20.22	20.69	22.12	22.79	22.60	23.27	23.74
	6H	19.46	20.02	19.97	20.53	21.02	22.65	23.21	23.17	23.72	24.21
	8H	19.63	20.13	20.14	20.62	21.19	22.89	23.38	23.40	23.87	24.44