

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: P243613

Luminaire Tested: S124RDRP-H795D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243613
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-70)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-H795D930-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

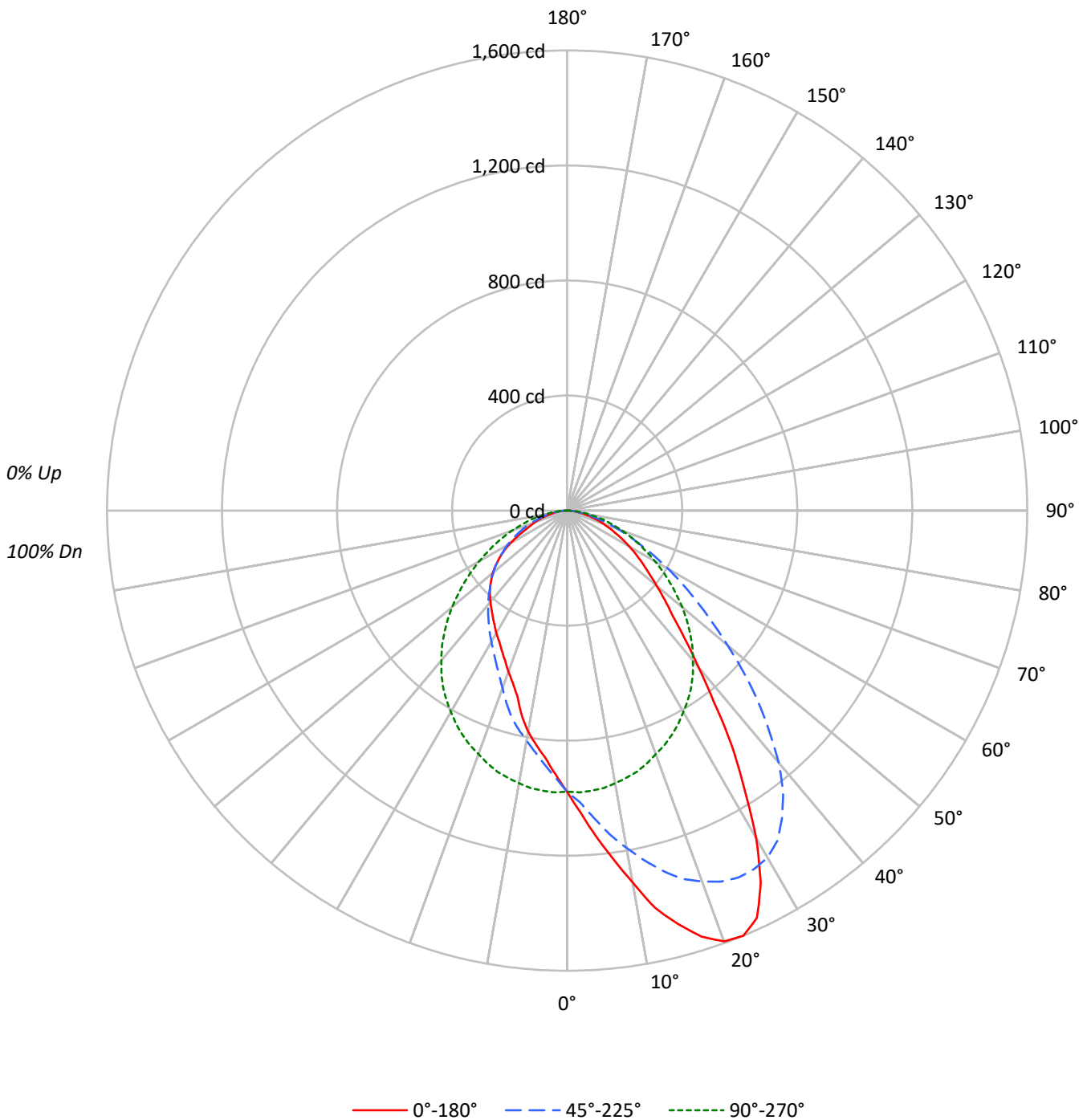
Lumens per Lamp: N/A
Luminaire Lumens: 2522.6 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 23.6
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88					86				
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75					73				
3	92	83	75	69	90	81	74	68	78	72	67	76	70	66	73	69	65					63				
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57					55				
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50					48				
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44					42				
7	68	55	46	41	66	54	46	40	53	45	40	51	45	40	50	44	40					38				
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36					34				
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32					31				
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30					28				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	8688	8688	8688	8688	8688
5°	10120	9574	8725	7920	7702
10°	11852	10749	8688	7328	7043
15°	13695	11951	8645	6848	6151
20°	15078	12979	8522	6218	5638
25°	15320	13808	8444	5738	5271
30°	13486	14298	8293	5399	5055
35°	10821	14137	8153	5159	4890
40°	8233	13280	7893	4951	4814
45°	6536	11799	7603	4779	4756
50°	5610	10059	7227	4627	4674
55°	4955	8541	6760	4465	4448
60°	4439	7220	6272	4263	4073
65°	3906	5940	5797	3971	3426
70°	3483	4896	5263	3641	3088
75°	3033	3843	4784	3204	2744
80°	2570	2943	4110	2708	2534
85°	2254	2407	3529	2642	2560

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 12699 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.8	3.8
10°-20°	287.6	11.4
20°-30°	448.9	17.8
30°-40°	500.5	19.8
40°-50°	449.9	17.8
50°-60°	355.5	14.1
60°-70°	236.1	9.4
70°-80°	118.4	4.7
80°-90°	30.8	1.2
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°	831.3	33.0
0°-40°	1331.8	52.8
0°-60°	2137.3	84.7
0°-90°	2522.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2522.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	977	977	977	977	977	
5°	1134	1073	978	888	863	114
15°	1488	1299	939	744	668	423
25°	1562	1408	861	585	537	699
35°	997	1303	751	475	451	620
45°	520	939	605	380	378	412
55°	320	551	436	288	287	288
65°	186	282	276	189	163	186
75°	88	112	139	93	80	94
85°	22	24	35	26	25	25
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°	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4
2.5°	1049.7	1045.9	1045.5	1040.6	1040.2	1035.3	1033.7	1029.6	1021.2	1014.7	1015.1
5°	1134.2	1131.2	1130.8	1125.9	1124.3	1118.2	1108.7	1097.3	1084.0	1073.0	1065.7
7.5°	1221.0	1226.3	1220.6	1220.6	1209.6	1202.4	1183.7	1174.2	1151.4	1135.4	1118.6
10°	1313.1	1318.1	1315.8	1311.2	1296.8	1281.9	1262.5	1243.8	1216.1	1190.9	1174.2
12.5°	1415.9	1401.0	1410.6	1396.5	1384.7	1361.1	1342.4	1305.1	1283.1	1246.5	1213.8
15°	1488.2	1482.5	1482.1	1472.6	1459.7	1433.8	1413.6	1374.8	1337.1	1298.7	1261.7
17.5°	1552.9	1553.7	1548.3	1533.1	1516.4	1491.2	1463.8	1429.2	1386.2	1343.6	1299.8
20°	1594.0	1594.4	1590.6	1582.6	1564.3	1541.5	1513.3	1468.0	1419.3	1372.1	1328.3
22.5°	1600.1	1601.2	1600.1	1595.2	1582.6	1563.9	1538.1	1499.6	1450.5	1396.5	1344.3
25°	1562.0	1565.8	1566.2	1573.1	1566.6	1559.4	1540.3	1508.0	1462.7	1407.9	1351.2
27.5°	1457.8	1468.4	1478.3	1490.5	1501.5	1511.4	1512.9	1495.8	1457.0	1406.0	1351.9
30°	1313.9	1326.4	1346.2	1359.2	1393.4	1415.1	1444.4	1450.9	1432.3	1393.0	1340.9
32.5°	1146.4	1159.7	1167.3	1210.0	1259.1	1294.5	1343.2	1372.1	1379.3	1360.7	1318.1
35°	997.2	999.5	1005.2	1053.5	1102.3	1155.9	1216.4	1266.7	1300.9	1302.8	1281.9
37.5°	837.4	840.0	862.5	899.4	941.6	1000.6	1070.3	1141.8	1204.6	1233.6	1227.5
40°	709.5	708.7	732.7	764.7	805.8	867.0	939.0	1017.0	1084.0	1144.5	1159.0
42.5°	605.9	608.6	629.2	647.8	687.4	730.4	807.3	888.4	974.4	1040.6	1084.8
45°	519.9	526.8	540.9	558.4	588.0	627.6	690.4	771.1	859.0	938.6	991.5
47.5°	460.5	462.4	469.7	491.4	511.2	543.1	596.8	665.3	743.3	832.4	902.1
50°	405.7	410.3	413.0	425.9	445.3	475.8	517.3	568.3	645.5	727.4	814.5
52.5°	358.5	361.2	366.2	377.9	393.2	414.5	447.2	492.1	556.5	632.2	714.4
55°	319.7	320.1	325.0	333.4	345.2	361.6	392.8	425.1	482.2	551.1	625.7
57.5°	284.7	282.4	287.0	291.9	303.3	317.4	337.6	370.7	415.3	473.9	541.2
60°	249.7	251.6	251.2	256.9	263.0	277.1	294.2	315.9	352.4	406.1	463.2
62.5°	217.0	216.6	220.4	223.8	228.0	239.4	253.5	271.4	299.9	339.5	394.7
65°	185.7	186.5	189.5	192.2	196.8	204.0	214.7	229.1	252.0	282.4	328.9
67.5°	157.6	160.2	161.8	162.5	166.7	172.0	181.2	193.0	208.6	232.9	271.8
70°	134.0	134.7	135.5	138.2	140.1	143.1	150.0	156.4	170.5	188.4	216.6
72.5°	111.9	111.1	113.4	114.2	114.9	118.0	122.2	125.6	134.7	150.0	167.5
75°	88.3	88.7	89.1	90.2	93.3	93.6	95.5	99.3	105.8	111.9	123.7
77.5°	66.2	67.4	67.0	68.1	69.3	70.4	71.2	74.6	79.2	84.1	89.8
80°	50.2	50.2	50.2	51.0	50.2	52.9	52.9	54.0	55.2	57.5	61.7
82.5°	34.3	35.0	35.4	35.8	36.2	36.2	36.5	37.3	38.8	39.6	40.7
85°	22.1	21.3	21.7	21.7	21.7	21.7	22.5	23.2	23.2	23.6	24.7
87.5°	9.9	9.9	9.9	9.9	9.5	9.9	10.3	10.3	10.7	10.7	11.4
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°	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4
2.5°	1012.8	1011.7	1006.0	999.9	994.2	988.5	986.6	980.8	974.0	967.9	961.1
5°	1058.1	1049.0	1036.4	1023.5	1010.2	998.0	988.5	977.8	965.6	951.2	939.7
7.5°	1103.8	1087.0	1066.5	1047.5	1024.6	1006.3	988.1	972.9	955.3	934.8	919.2
10°	1148.3	1120.5	1095.4	1065.3	1036.4	1011.3	988.1	962.6	939.4	917.3	895.6
12.5°	1183.7	1155.9	1119.8	1082.8	1045.5	1012.8	981.6	951.5	922.6	896.0	872.0
15°	1224.1	1184.1	1139.6	1098.8	1047.8	1007.5	971.7	939.4	906.2	873.9	847.6
17.5°	1253.7	1206.5	1151.4	1104.5	1055.4	1005.2	962.2	921.5	883.4	849.5	822.5
20°	1276.6	1220.6	1165.4	1106.1	1047.5	996.1	947.7	900.9	862.5	825.6	797.0
22.5°	1286.5	1227.5	1166.2	1101.9	1039.5	981.2	931.0	882.6	839.3	801.2	768.1
25°	1290.7	1226.0	1162.4	1089.3	1026.1	966.8	910.8	860.9	816.4	773.4	740.7
27.5°	1287.2	1218.0	1144.9	1076.0	1004.4	946.2	886.8	836.2	789.8	748.3	711.7
30°	1278.1	1199.7	1127.0	1049.7	980.8	919.6	861.7	808.0	761.2	719.0	682.8
32.5°	1254.5	1179.1	1096.5	1021.2	947.0	886.5	833.9	781.0	733.4	689.3	654.3
35°	1225.2	1151.4	1065.0	986.2	912.7	851.4	798.5	751.3	704.5	657.7	621.9
37.5°	1188.3	1113.3	1029.9	945.1	873.1	813.8	765.4	717.8	671.4	628.4	588.4
40°	1138.4	1069.9	986.2	900.9	828.6	771.5	723.9	680.2	639.1	596.8	553.8
42.5°	1076.4	1024.2	937.8	853.7	782.9	726.2	684.0	644.8	605.2	561.8	523.0
45°	1010.2	965.6	887.2	802.3	735.0	679.8	639.4	604.8	567.5	529.1	488.3
47.5°	935.5	902.4	834.7	750.6	679.8	632.6	595.3	563.7	529.8	495.6	456.0
50°	851.4	831.3	773.4	696.9	629.5	581.6	550.7	522.6	493.7	459.4	425.5
52.5°	767.3	763.5	709.5	642.1	578.5	534.0	503.9	478.1	454.5	422.1	393.6
55°	679.0	690.4	645.5	583.5	526.8	483.8	457.1	436.2	415.6	388.2	360.8
57.5°	600.6	613.6	582.7	525.6	472.7	436.2	413.3	394.3	376.4	351.3	333.0
60°	513.8	537.4	521.1	468.9	422.1	389.4	368.1	352.8	338.0	316.3	300.3
62.5°	445.3	461.7	452.2	413.3	371.9	345.2	326.2	312.1	300.3	283.6	268.0
65°	371.9	392.4	387.5	362.0	325.4	301.1	286.6	275.6	263.4	250.1	237.1
67.5°	305.6	326.9	325.8	308.3	281.3	261.1	247.4	239.4	229.5	216.6	208.6
70°	245.9	265.7	266.4	257.7	238.6	219.6	209.7	202.5	194.9	185.4	179.6
72.5°	191.1	209.0	212.0	207.8	195.6	183.1	174.3	169.4	162.9	154.9	150.0
75°	142.7	155.7	162.9	161.0	156.1	147.7	142.7	139.3	132.8	127.1	122.9
77.5°	101.6	111.9	119.1	122.2	119.9	116.5	111.9	109.2	102.4	99.7	97.4
80°	68.1	77.3	83.7	85.6	86.8	86.0	81.8	80.3	76.9	75.7	73.5
82.5°	41.9	46.8	51.4	56.3	58.6	58.6	56.3	56.7	53.7	52.1	51.4
85°	25.5	26.6	27.4	31.2	34.3	35.4	34.3	34.6	33.5	32.4	31.2
87.5°	11.8	11.8	12.2	12.9	13.7	16.0	16.7	17.9	16.4	16.4	13.7
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4
2.5°	956.9	951.9	948.1	942.0	937.1	929.1	926.4	926.4	927.9	926.0	927.9
5°	931.7	922.6	912.7	904.0	894.4	887.6	880.7	879.2	878.5	873.9	874.3
7.5°	906.6	894.4	881.9	870.5	858.7	848.0	840.8	837.7	835.1	832.0	828.6
10°	879.6	865.5	850.7	837.7	826.3	811.9	804.6	802.3	794.7	793.2	787.9
12.5°	851.1	836.6	821.7	805.0	794.0	779.9	769.2	764.3	757.0	751.7	743.7
15°	828.6	810.3	790.5	774.2	759.7	744.1	729.6	720.1	710.6	695.8	688.5
17.5°	800.8	779.9	762.8	745.2	724.3	701.5	684.3	670.3	660.0	647.8	640.6
20°	770.7	751.3	730.0	705.3	683.2	657.3	641.7	629.9	621.9	614.7	610.9
22.5°	744.1	721.6	692.3	668.7	637.9	617.4	604.8	597.2	589.6	582.0	578.2
25°	715.2	688.9	653.1	624.2	601.0	585.0	572.8	565.6	557.6	553.0	547.3
27.5°	686.6	652.8	617.0	590.7	572.4	553.8	543.5	537.8	531.7	525.2	520.7
30°	652.0	613.6	583.9	559.9	541.6	526.0	518.4	510.0	504.7	500.9	498.2
32.5°	615.8	578.9	551.9	531.3	513.4	501.6	492.1	486.8	482.2	478.1	475.0
35°	582.0	546.2	523.3	503.6	488.7	475.4	468.2	463.2	459.4	456.0	454.5
37.5°	548.5	518.0	493.3	477.7	462.1	451.4	444.6	440.0	437.7	434.3	434.7
40°	515.4	487.9	468.2	450.3	435.8	426.7	421.3	419.4	416.0	414.9	416.0
42.5°	485.7	460.5	441.5	424.8	412.2	403.5	399.3	396.6	395.5	395.1	395.5
45°	456.7	433.1	414.9	401.2	388.2	380.2	376.8	374.9	373.8	375.7	376.0
47.5°	427.8	406.5	390.1	374.1	363.5	357.8	354.4	352.8	354.0	354.7	357.4
50°	399.3	379.5	362.3	348.3	339.9	334.6	333.4	330.8	332.7	333.8	335.7
52.5°	370.3	352.4	337.2	323.9	315.1	311.7	309.1	307.9	310.6	310.6	312.5
55°	341.0	325.4	311.3	299.2	292.3	288.1	286.2	284.7	286.2	286.6	286.2
57.5°	313.6	298.8	283.9	273.7	268.0	263.4	261.5	260.7	260.3	261.9	261.5
60°	284.7	270.6	258.8	248.2	242.5	239.8	235.6	236.4	236.4	236.4	232.6
62.5°	255.8	241.7	231.4	224.2	217.3	212.8	212.0	210.9	208.6	208.2	203.2
65°	226.1	215.4	206.7	199.4	192.6	188.8	187.6	184.2	181.6	176.6	173.2
67.5°	198.7	191.1	180.8	174.7	169.0	164.4	160.2	157.6	152.2	147.3	144.3
70°	171.3	163.3	156.4	150.0	144.3	140.1	135.1	130.2	126.7	123.7	121.4
72.5°	143.9	137.0	131.3	125.2	119.1	114.9	111.1	107.3	105.8	104.3	103.1
75°	118.4	111.9	106.6	101.6	98.2	93.3	91.3	89.8	88.3	86.4	84.1
77.5°	93.6	88.7	84.5	80.3	77.3	74.6	73.1	68.5	64.7	63.9	63.2
80°	69.7	65.8	63.2	60.1	56.7	52.9	51.8	50.2	49.5	49.5	49.9
82.5°	48.7	46.4	43.4	40.7	39.6	38.1	38.1	37.7	37.3	37.7	37.7
85°	29.7	26.6	25.9	25.5	25.9	25.9	25.9	25.9	25.5	25.9	25.1
87.5°	12.9	14.1	14.5	13.3	13.7	12.9	13.3	13.3	13.3	13.7	13.3
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: P243613

CATALOG NUMBER: S124RDRP-H795D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	977.4	977.4	977.4	977.4
2.5°	925.7	925.7	921.8	918.8
5°	873.5	868.6	867.8	863.2
7.5°	824.8	824.0	822.1	822.1
10°	786.0	783.3	780.6	780.3
12.5°	731.2	735.0	730.4	729.3
15°	683.2	680.2	676.4	668.4
17.5°	638.7	633.0	631.4	628.0
20°	603.7	599.5	597.9	596.0
22.5°	570.5	569.8	565.2	564.1
25°	546.2	542.4	539.3	537.4
27.5°	519.5	516.9	515.4	512.3
30°	495.2	494.4	492.5	492.5
32.5°	473.1	470.8	470.8	470.4
35°	452.9	453.7	451.4	450.6
37.5°	433.9	432.8	433.1	432.4
40°	415.3	414.5	414.5	414.9
42.5°	396.2	396.6	397.4	397.4
45°	377.2	377.6	378.3	378.3
47.5°	359.3	358.5	359.3	358.5
50°	336.5	338.7	338.4	338.0
52.5°	313.2	312.5	314.0	313.6
55°	288.1	287.0	288.5	287.0
57.5°	260.0	260.3	260.3	259.6
60°	231.8	230.7	229.1	229.1
62.5°	199.1	195.6	193.4	194.9
65°	167.5	164.8	164.0	162.9
67.5°	142.3	139.3	138.2	137.8
70°	120.7	119.1	118.8	118.8
72.5°	102.4	102.4	101.2	100.5
75°	83.4	81.8	79.9	79.9
77.5°	62.4	62.0	61.7	61.7
80°	48.7	48.7	49.1	49.5
82.5°	36.5	36.9	37.3	37.3
85°	24.7	24.7	25.1	25.1
87.5°	13.3	13.3	13.3	12.9
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P243613
 CATALOG NUMBER: S124RDRP-H795D930-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	16.85	18.39	17.22	18.70	19.01	18.55	20.08	18.91	20.40	20.71
	3H	18.08	19.46	18.46	19.79	20.15	20.03	21.41	20.41	21.74	22.10
	4H	18.52	19.81	18.92	20.16	20.54	20.57	21.86	20.97	22.21	22.59
	6H	18.80	19.99	19.21	20.36	20.75	20.96	22.15	21.37	22.52	22.91
	8H	18.88	20.02	19.31	20.41	20.81	21.08	22.22	21.50	22.61	23.01
	12H	18.93	20.02	19.36	20.41	20.83	21.16	22.24	21.59	22.63	23.06
4H	2H	18.06	19.35	18.46	19.70	20.08	19.08	20.37	19.48	20.72	21.09
	3H	19.33	20.40	19.74	20.80	21.20	20.85	21.92	21.26	22.32	22.73
	4H	19.80	20.77	20.23	21.18	21.62	21.51	22.48	21.94	22.89	23.33
	6H	20.13	20.97	20.59	21.41	21.87	22.01	22.85	22.46	23.29	23.75
	8H	20.23	21.02	20.70	21.46	21.93	22.16	22.95	22.63	23.39	23.86
	12H	20.31	21.01	20.79	21.49	21.96	22.28	22.98	22.76	23.46	23.93
8H	4H	20.21	21.00	20.67	21.44	21.91	21.64	22.42	22.10	22.87	23.33
	6H	20.61	21.26	21.10	21.75	22.23	22.23	22.88	22.73	23.37	23.85
	8H	20.75	21.34	21.27	21.85	22.33	22.45	23.04	22.97	23.55	24.03
	12H	20.88	21.39	21.39	21.88	22.45	22.63	23.15	23.14	23.64	24.21
12H	4H	20.25	20.96	20.74	21.43	21.90	21.63	22.33	22.11	22.81	23.28
	6H	20.66	21.25	21.18	21.76	22.24	22.23	22.81	22.74	23.32	23.81
	8H	20.86	21.37	21.37	21.86	22.43	22.49	23.00	23.00	23.50	24.06