

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: P242636

Luminaire Tested: S124DRP-S1020D830-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242636
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S1020D830-X4F0-XX-UDD-A-W
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

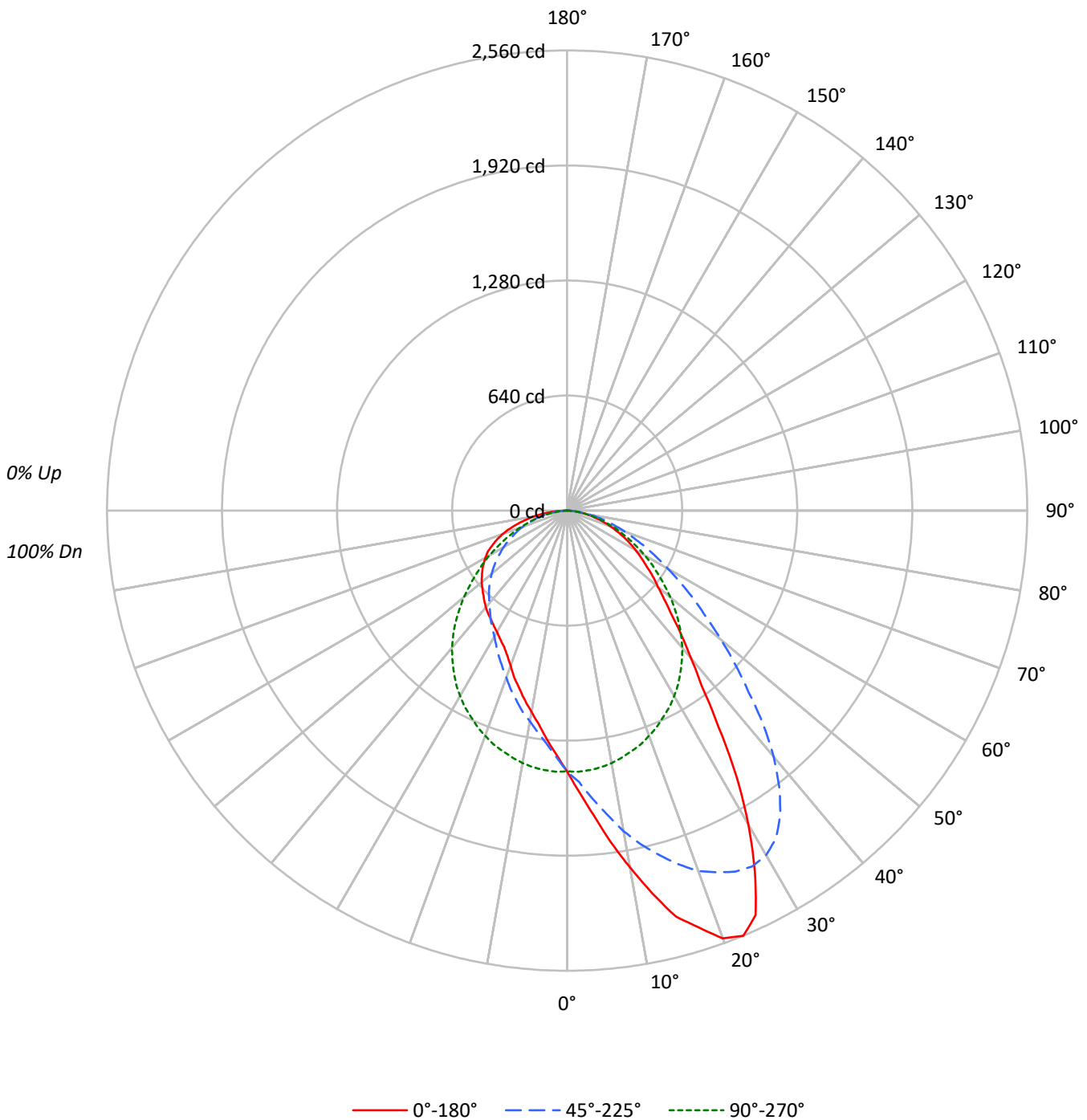
Lumens per Lamp: N/A
Luminaire Lumens: 4003.3 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62					62			
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46					46			
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	12896	12896	12896	12896	12896
5°	15187	14344	12929	11620	11411
10°	18183	16344	12873	10752	10274
15°	21514	18257	12743	10044	9435
20°	23957	20182	12609	9346	8687
25°	24344	21733	12414	8801	8170
30°	20714	22712	12227	8309	8007
35°	15925	22428	11921	8041	8008
40°	12414	20725	11562	7817	8160
45°	10351	17936	11022	7721	8295
50°	9109	15466	10363	7580	8577
55°	8345	13309	9574	7442	8922
60°	7820	11518	8868	7255	9339
65°	7282	10062	8077	7014	9684
70°	6653	8888	7295	6825	9902
75°	5945	7659	6419	6378	9785
80°	4986	6214	5262	5815	9475
85°	3682	4722	3804	5395	9067

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 19802 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.2	3.5
10°-20°	435.8	10.9
20°-30°	692.4	17.3
30°-40°	769.3	19.2
40°-50°	699.6	17.5
50°-60°	571.7	14.3
60°-70°	408.1	10.2
70°-80°	224.5	5.6
80°-90°	60.7	1.5
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°	1269.4	31.7
0°-40°	2038.7	50.9
0°-60°	3310.0	82.7
0°-90°	4003.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4003.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1451	1451	1451	1451	1451	
5°	1702	1608	1449	1302	1279	172
15°	2338	1984	1385	1091	1025	661
25°	2482	2216	1266	897	833	1101
35°	1468	2067	1099	741	738	929
45°	823	1427	877	614	660	647
55°	538	859	618	480	576	486
65°	346	478	384	334	460	343
75°	173	223	187	186	285	184
85°	36	46	37	53	89	44
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°	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8
2.5°	1567.4	1566.8	1560.8	1559.6	1555.4	1550.0	1548.8	1539.1	1519.9	1510.9	1508.5
5°	1702.0	1714.0	1698.4	1695.4	1693.6	1673.8	1663.5	1651.5	1623.9	1607.6	1595.0
7.5°	1859.5	1860.1	1853.5	1846.8	1835.4	1818.6	1795.8	1769.3	1737.5	1705.0	1682.2
10°	2014.5	2019.3	2011.5	2010.3	1979.7	1960.4	1922.0	1889.5	1852.3	1810.8	1772.9
12.5°	2178.0	2168.4	2165.4	2133.5	2134.1	2095.1	2048.8	2015.1	1952.6	1903.3	1849.8
15°	2337.9	2324.6	2316.2	2280.8	2263.3	2214.7	2167.2	2130.5	2055.4	1983.9	1929.8
17.5°	2430.4	2446.6	2425.0	2410.6	2363.1	2331.2	2283.8	2208.6	2152.7	2063.8	2001.9
20°	2532.6	2533.8	2523.0	2507.9	2472.5	2429.2	2376.3	2292.2	2221.9	2133.5	2039.8
22.5°	2560.2	2560.2	2557.2	2543.4	2518.8	2485.7	2432.2	2365.5	2276.6	2178.6	2084.8
25°	2482.1	2479.7	2485.1	2500.7	2490.5	2479.7	2449.0	2396.8	2317.4	2215.9	2114.9
27.5°	2260.9	2276.6	2309.0	2347.5	2375.1	2399.8	2398.0	2375.7	2319.2	2231.5	2123.9
30°	2018.1	2038.6	2061.4	2099.9	2174.4	2217.1	2263.9	2299.4	2279.6	2212.8	2114.3
32.5°	1751.3	1752.5	1789.1	1834.2	1900.9	1992.9	2074.0	2155.2	2190.0	2163.0	2084.8
35°	1467.6	1476.0	1512.7	1556.0	1639.5	1739.9	1851.7	1951.4	2033.8	2066.8	2024.7
37.5°	1229.6	1256.1	1283.7	1333.0	1409.3	1500.1	1620.3	1744.7	1865.5	1938.8	1946.6
40°	1069.8	1084.8	1103.4	1138.9	1201.4	1290.3	1390.1	1537.9	1668.3	1786.1	1824.6
42.5°	943.6	950.8	960.4	991.6	1035.5	1123.9	1212.8	1338.4	1469.4	1616.1	1687.0
45°	823.4	832.4	851.6	870.2	906.3	967.6	1052.3	1159.3	1290.9	1426.8	1545.7
47.5°	733.2	739.2	751.2	771.7	804.1	845.6	917.7	1008.5	1137.1	1268.7	1396.1
50°	658.7	663.5	672.5	690.5	714.0	750.0	806.5	890.1	985.6	1118.4	1242.8
52.5°	599.8	601.0	607.0	617.8	635.2	664.1	708.0	773.5	860.6	975.4	1099.2
55°	538.5	540.9	546.9	555.9	572.1	591.4	626.8	678.5	756.0	858.8	966.4
57.5°	488.0	490.4	495.2	498.8	513.2	529.5	558.3	595.6	656.3	747.6	845.6
60°	439.9	438.7	444.7	447.7	456.8	470.0	491.0	526.5	577.6	647.9	736.2
62.5°	393.0	391.2	396.1	400.3	404.5	415.3	431.5	457.4	496.4	558.3	631.6
65°	346.2	343.8	346.8	351.6	356.4	362.4	375.0	399.7	432.7	478.4	536.7
67.5°	298.1	301.1	301.1	304.1	307.1	315.5	324.5	343.8	367.2	404.5	456.2
70°	256.0	256.6	259.0	259.0	260.8	268.0	275.3	285.5	308.3	342.0	382.2
72.5°	214.0	217.0	215.2	217.6	218.8	223.0	227.8	237.4	256.0	278.9	311.3
75°	173.1	174.9	174.9	175.5	177.3	179.1	183.3	190.5	204.3	223.0	246.4
77.5°	133.4	133.4	134.6	137.0	137.0	140.0	143.6	149.0	156.9	170.7	185.7
80°	97.4	98.6	98.0	99.2	99.2	101.6	102.8	110.0	113.0	121.4	132.8
82.5°	64.9	66.1	66.1	67.9	69.1	69.1	70.9	72.7	75.7	82.9	85.9
85°	36.1	37.3	36.1	37.3	39.1	39.7	41.5	42.1	44.5	46.3	50.5
87.5°	13.2	15.0	15.0	15.6	16.8	17.4	18.0	17.4	19.8	20.4	22.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8
2.5°	1509.1	1500.7	1494.7	1489.9	1476.6	1468.8	1462.8	1454.4	1444.8	1434.6	1421.9
5°	1582.4	1562.0	1546.9	1524.1	1502.5	1484.4	1465.8	1449.0	1428.6	1406.3	1390.1
7.5°	1657.5	1629.3	1591.4	1562.0	1526.5	1495.9	1468.8	1440.6	1410.5	1381.7	1354.6
10°	1728.4	1689.4	1646.1	1595.0	1546.9	1504.3	1464.6	1426.2	1388.9	1351.6	1319.8
12.5°	1804.8	1753.7	1684.6	1622.7	1567.4	1506.7	1456.8	1407.5	1360.6	1321.0	1282.5
15°	1871.5	1801.2	1727.2	1647.3	1576.4	1509.7	1444.2	1384.7	1334.2	1282.5	1246.5
17.5°	1913.6	1826.4	1747.1	1663.5	1581.8	1498.3	1430.4	1363.6	1301.1	1250.7	1205.6
20°	1955.0	1868.5	1763.3	1679.8	1577.6	1491.1	1409.3	1333.0	1266.9	1212.2	1165.3
22.5°	1991.1	1887.7	1782.5	1665.9	1564.4	1471.2	1379.9	1302.9	1235.0	1176.7	1132.3
25°	1999.5	1884.7	1770.5	1661.1	1545.7	1437.0	1355.8	1265.7	1193.6	1132.9	1084.8
27.5°	2002.5	1881.1	1754.3	1635.3	1516.3	1417.1	1311.4	1232.6	1158.1	1093.8	1048.1
30°	1995.9	1867.9	1729.0	1597.4	1477.8	1367.9	1278.9	1191.2	1114.8	1051.1	1003.1
32.5°	1974.9	1840.2	1696.6	1555.4	1430.4	1323.4	1230.8	1148.5	1074.6	1012.1	961.0
35°	1930.4	1798.8	1646.7	1501.9	1375.1	1266.3	1183.4	1098.6	1024.1	964.6	915.9
37.5°	1870.9	1748.3	1593.8	1443.0	1321.0	1210.4	1126.9	1048.7	981.4	920.1	869.6
40°	1787.9	1683.4	1528.3	1382.3	1247.7	1143.7	1066.8	996.4	929.7	872.6	825.2
42.5°	1692.4	1604.6	1464.6	1307.8	1179.1	1074.6	1000.0	938.7	876.8	825.2	777.7
45°	1575.2	1515.1	1380.5	1237.4	1102.2	1003.7	932.1	876.8	824.0	772.3	732.6
47.5°	1444.8	1411.1	1293.9	1156.9	1027.1	928.5	866.6	813.7	765.7	720.6	685.1
50°	1313.2	1298.7	1200.8	1069.8	947.2	855.8	793.3	749.4	709.8	671.3	638.3
52.5°	1183.4	1186.4	1100.4	983.2	872.0	784.9	723.0	682.7	649.7	620.2	591.4
55°	1050.5	1067.4	998.2	891.3	789.7	710.4	654.5	617.8	593.8	567.9	545.7
57.5°	928.5	956.8	896.7	798.7	712.8	637.1	587.8	559.5	533.1	516.3	498.8
60°	809.5	836.0	791.5	712.2	632.2	569.7	523.5	498.8	476.6	465.8	454.3
62.5°	703.8	726.6	696.5	624.4	557.7	498.2	461.0	437.5	424.3	412.3	405.7
65°	604.0	623.8	595.6	542.1	482.6	434.5	402.7	384.0	369.6	364.8	356.4
67.5°	505.4	523.5	508.4	461.6	411.1	373.2	348.0	328.1	319.7	314.9	309.5
70°	419.5	437.5	421.3	381.6	345.0	314.3	290.9	280.7	271.6	269.8	261.4
72.5°	346.8	357.6	341.4	312.5	282.5	257.8	241.0	230.2	226.6	223.0	219.4
75°	271.0	281.9	271.0	247.0	224.8	206.7	191.1	186.9	181.5	179.7	176.7
77.5°	203.1	213.4	204.9	188.7	171.3	156.3	147.2	141.2	140.6	137.0	138.2
80°	146.6	152.7	144.8	134.6	121.4	111.8	105.8	102.8	99.2	98.0	100.4
82.5°	95.0	96.8	93.8	87.7	78.7	73.3	69.7	66.1	66.1	66.7	66.1
85°	54.7	54.1	53.5	47.5	44.5	40.3	37.9	37.3	36.7	37.9	39.1
87.5°	22.8	23.4	22.8	20.4	18.6	16.8	16.2	15.6	16.2	16.8	17.4
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8	1450.8
2.5°	1415.9	1410.5	1402.7	1391.9	1382.9	1373.3	1370.9	1367.3	1374.5	1368.5	1366.7
5°	1376.3	1363.6	1347.4	1328.8	1318.0	1302.3	1299.3	1293.3	1287.3	1286.7	1280.7
7.5°	1334.8	1317.4	1296.9	1277.7	1260.9	1244.1	1233.2	1232.0	1222.4	1217.6	1211.6
10°	1295.1	1272.3	1247.7	1229.6	1209.2	1191.2	1178.5	1171.3	1165.3	1158.7	1152.7
12.5°	1248.3	1223.6	1204.4	1184.6	1159.3	1146.7	1123.9	1110.0	1110.0	1111.8	1093.8
15°	1214.0	1190.0	1158.7	1131.1	1117.8	1091.4	1080.0	1065.6	1056.5	1047.5	1040.3
17.5°	1171.9	1142.5	1118.4	1087.2	1062.6	1042.7	1027.1	1019.3	1004.9	991.6	982.6
20°	1132.9	1101.0	1075.2	1041.5	1013.9	988.0	975.4	963.4	953.2	942.4	932.1
22.5°	1093.2	1059.5	1026.5	994.0	968.8	941.2	929.1	911.7	902.1	897.3	887.1
25°	1051.1	1015.1	979.0	947.8	921.3	897.3	881.1	868.4	857.6	852.8	846.2
27.5°	1005.5	970.0	935.7	899.7	869.0	851.6	838.4	828.2	821.6	814.3	811.3
30°	962.2	924.9	887.7	854.6	827.0	809.5	797.5	790.9	786.1	783.1	780.1
32.5°	918.3	881.7	842.0	812.5	788.5	773.5	765.1	758.5	756.6	756.0	755.4
35°	870.8	833.6	797.5	770.5	747.0	741.0	733.2	729.6	728.4	732.6	734.4
37.5°	825.2	790.3	756.6	729.6	714.0	704.4	701.4	700.8	705.0	708.6	712.8
40°	781.3	747.6	716.4	693.5	679.1	673.7	672.5	675.5	680.3	684.5	689.3
42.5°	738.6	705.6	677.9	656.9	647.9	643.1	644.3	647.3	654.5	659.9	667.7
45°	694.1	666.5	638.9	621.4	613.0	614.2	614.2	619.6	626.2	634.0	641.9
47.5°	652.7	624.4	601.0	586.0	581.8	580.0	583.0	590.2	599.2	608.2	619.0
50°	610.6	584.2	564.3	551.1	546.3	548.1	552.9	559.5	570.9	583.0	594.4
52.5°	567.9	544.5	526.5	514.4	511.4	515.0	519.9	531.3	540.9	554.1	568.5
55°	523.5	503.0	488.6	479.6	478.4	480.2	485.6	497.0	511.4	527.7	540.9
57.5°	479.6	462.2	448.3	441.7	442.3	443.5	451.9	465.8	480.2	497.6	514.4
60°	435.1	419.5	408.7	403.9	404.5	408.1	418.9	431.5	450.7	467.6	485.6
62.5°	393.0	379.8	369.6	365.4	364.2	373.2	383.4	396.7	415.9	435.1	454.9
65°	347.4	336.6	328.1	325.7	327.5	333.5	346.8	364.2	380.4	400.3	420.7
67.5°	302.9	293.9	287.9	289.1	290.9	299.3	310.7	325.7	343.8	364.2	385.2
70°	260.8	252.4	247.6	248.2	251.8	262.6	272.2	287.3	307.1	328.1	345.0
72.5°	217.6	212.8	208.5	211.5	215.2	221.8	234.4	249.4	266.2	285.5	303.5
75°	173.7	173.7	171.3	173.1	178.5	185.7	194.7	210.3	227.8	243.4	257.8
77.5°	136.4	134.6	135.8	137.6	141.2	150.2	160.5	171.9	185.7	201.9	214.0
80°	98.6	99.2	102.2	105.8	107.0	113.6	124.4	134.6	144.8	158.1	169.5
82.5°	67.9	68.5	69.7	74.5	75.7	82.9	88.9	99.2	108.2	116.0	125.0
85°	40.3	40.3	43.3	45.1	48.1	52.9	57.1	63.1	71.5	77.5	86.5
87.5°	19.2	19.2	21.6	22.8	24.6	27.6	28.8	35.5	37.9	40.9	46.3
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: P242636

CATALOG NUMBER: S124DRP-S1020D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1450.8	1450.8	1450.8	1450.8
2.5°	1365.5	1364.2	1360.0	1359.4
5°	1277.1	1274.1	1272.3	1278.9
7.5°	1210.4	1208.0	1202.6	1200.8
10°	1146.7	1144.3	1139.5	1138.3
12.5°	1085.4	1080.0	1080.0	1081.8
15°	1032.5	1030.1	1023.5	1025.3
17.5°	978.4	976.0	967.0	976.0
20°	927.9	923.1	918.9	918.3
22.5°	879.9	875.6	876.2	871.4
25°	841.4	837.2	836.0	833.0
27.5°	810.1	807.7	805.3	806.5
30°	781.9	781.3	780.1	780.1
32.5°	758.5	758.5	759.7	759.7
35°	736.8	738.6	739.8	738.0
37.5°	717.6	718.8	720.6	722.4
40°	694.7	699.0	700.2	703.2
42.5°	673.1	677.9	681.5	681.5
45°	650.9	655.7	659.9	659.9
47.5°	628.0	634.6	638.9	639.5
50°	604.6	613.0	617.2	620.2
52.5°	581.8	590.2	596.2	597.4
55°	554.7	566.7	573.3	575.7
57.5°	530.7	541.5	548.7	550.5
60°	501.8	513.8	523.5	525.3
62.5°	472.4	485.0	493.4	498.8
65°	437.5	450.1	458.6	460.4
67.5°	400.9	414.1	419.5	423.1
70°	361.8	372.0	378.0	381.0
72.5°	317.3	328.1	335.4	335.4
75°	271.6	281.3	284.9	284.9
77.5°	224.2	229.6	234.4	235.6
80°	178.5	181.5	185.1	185.1
82.5°	131.6	134.0	137.6	137.0
85°	85.3	90.7	90.1	88.9
87.5°	48.1	48.7	50.5	51.7
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242636
 CATALOG NUMBER: S124DRP-S1020D830-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	18.85	20.41	19.22	20.73	21.04	19.76	21.32	20.13	21.64	21.95
	3H	20.33	21.74	20.71	22.07	22.43	21.13	22.53	21.51	22.86	23.22
	4H	20.87	22.19	21.27	22.54	22.92	21.60	22.92	22.00	23.27	23.65
	6H	21.23	22.46	21.64	22.82	23.21	21.91	23.13	22.32	23.50	23.89
	8H	21.33	22.50	21.76	22.89	23.29	21.99	23.15	22.41	23.54	23.94
	12H	21.39	22.50	21.82	22.89	23.32	22.03	23.15	22.46	23.53	23.96
4H	2H	20.01	21.33	20.41	21.68	22.06	20.45	21.77	20.85	22.12	22.50
	3H	21.54	22.64	21.95	23.04	23.44	22.15	23.26	22.56	23.66	24.06
	4H	22.13	23.12	22.56	23.54	23.98	22.74	23.74	23.18	24.15	24.59
	6H	22.56	23.42	23.01	23.86	24.32	23.14	24.01	23.60	24.45	24.91
	8H	22.68	23.49	23.14	23.93	24.40	23.25	24.06	23.71	24.50	24.97
	12H	22.76	23.48	23.24	23.96	24.43	23.31	24.04	23.79	24.51	24.98
8H	4H	22.58	23.39	23.05	23.84	24.30	23.06	23.87	23.52	24.31	24.78
	6H	23.09	23.76	23.59	24.25	24.73	23.59	24.26	24.08	24.75	25.23
	8H	23.26	23.86	23.77	24.37	24.86	23.75	24.35	24.26	24.86	25.35
	12H	23.38	23.92	23.89	24.41	24.97	23.86	24.40	24.37	24.89	25.45
12H	4H	22.63	23.36	23.11	23.84	24.31	23.09	23.82	23.57	24.29	24.76
	6H	23.16	23.77	23.68	24.28	24.76	23.64	24.25	24.16	24.76	25.24
	8H	23.38	23.92	23.89	24.41	24.97	23.86	24.40	24.37	24.89	25.45