

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: P242823

Luminaire Tested: S125DRP-S1090D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242823
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-22)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S125DRP-S1090D930-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

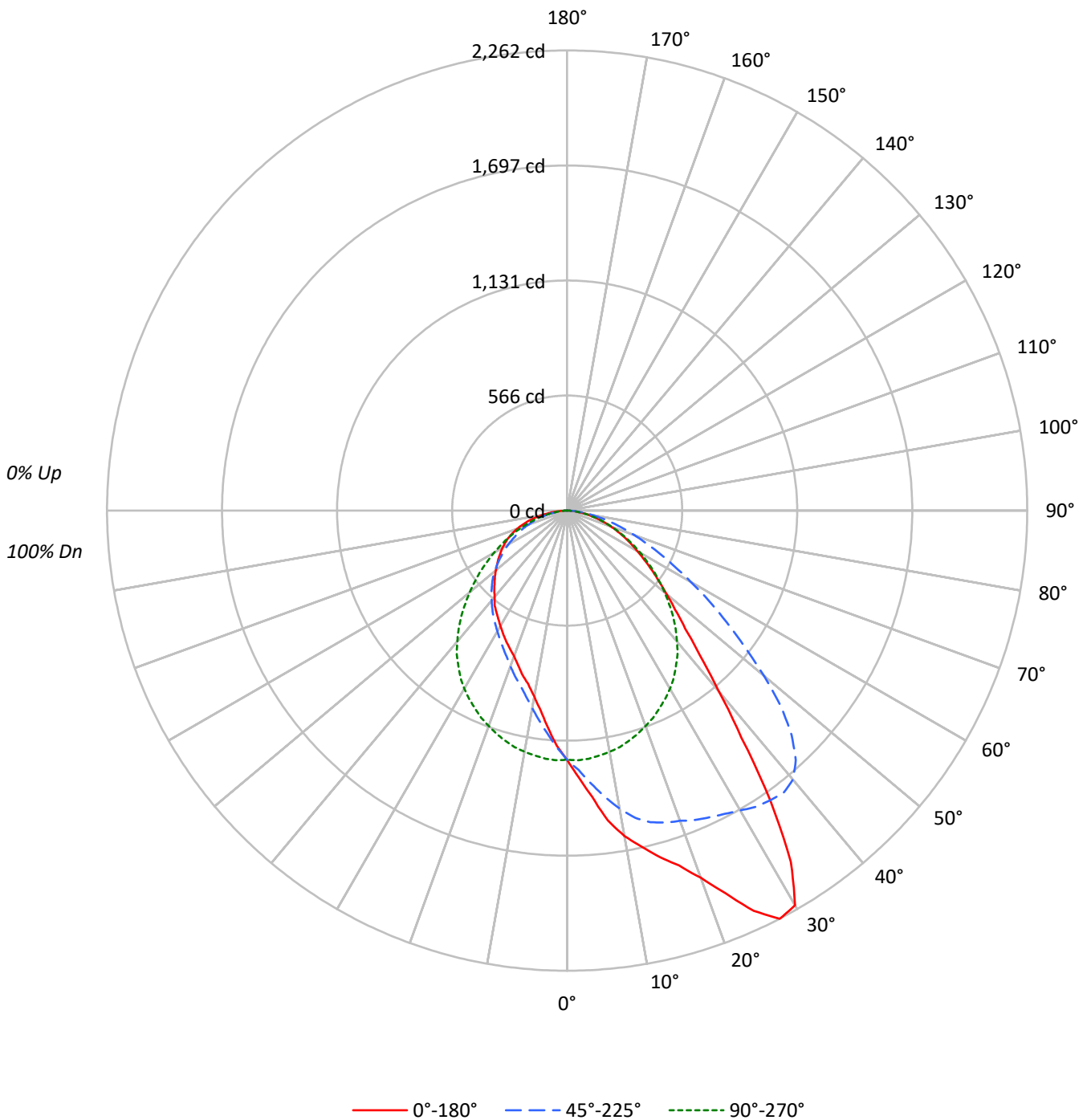
Lumens per Lamp: N/A
Luminaire Lumens: 3456.1 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')
CIE Type: Direct

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	99	96	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	80	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	63	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	56	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	8704	8704	8704	8704	8704
5°	10080	9602	8734	7855	7647
10°	11728	10737	8689	7117	6700
15°	12982	11670	8625	6541	6181
20°	14532	12275	8524	6161	5764
25°	17024	13041	8410	5842	5560
30°	18387	13967	8298	5627	5384
35°	15119	15087	8087	5480	5268
40°	10746	16022	7794	5358	5141
45°	8255	15680	7399	5251	5068
50°	7047	13950	6908	5122	5058
55°	6274	11846	6429	4934	5101
60°	5660	10004	5903	4759	5231
65°	5229	8523	5377	4521	5368
70°	4752	7248	4829	4212	5444
75°	4196	6195	4254	3883	5396
80°	3532	5083	3467	3299	4936
85°	2797	3686	2504	2716	3988

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 15680 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.9	3.4
10°-20°	351.1	10.2
20°-30°	570.3	16.5
30°-40°	697.0	20.2
40°-50°	632.3	18.3
50°-60°	503.6	14.6
60°-70°	350.8	10.1
70°-80°	186.8	5.4
80°-90°	46.3	1.3
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°	1039.3	30.1
0°-40°	1736.3	50.2
0°-60°	2872.2	83.1
0°-90°	3456.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3456.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1225	1225	1225	1225	1225	
5°	1413	1346	1224	1101	1072	142
15°	1764	1586	1172	889	840	504
25°	2171	1663	1072	745	709	995
35°	1742	1739	932	632	607	1069
45°	821	1560	736	522	504	654
55°	506	956	519	398	412	455
65°	311	507	320	269	319	308
75°	153	226	155	141	196	165
85°	34	45	31	33	49	40
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°	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7
2.5°	1313.1	1311.0	1308.9	1304.8	1307.9	1299.1	1294.9	1287.6	1278.8	1275.7	1272.0
5°	1412.9	1415.5	1418.1	1407.2	1408.2	1400.9	1384.3	1370.8	1359.9	1345.8	1336.0
7.5°	1536.6	1528.8	1529.3	1522.6	1510.6	1500.7	1484.6	1462.3	1442.0	1419.1	1399.4
10°	1625.0	1625.5	1620.8	1612.5	1599.5	1590.2	1567.3	1545.5	1518.9	1487.8	1465.4
12.5°	1691.5	1694.1	1687.9	1675.9	1671.3	1647.3	1630.7	1603.7	1570.9	1547.5	1510.6
15°	1764.3	1758.6	1754.4	1740.4	1729.5	1707.6	1679.0	1652.0	1617.7	1586.0	1554.3
17.5°	1828.8	1833.4	1826.7	1816.3	1784.1	1758.6	1723.2	1688.9	1647.9	1608.4	1571.4
20°	1921.3	1925.4	1913.5	1891.1	1850.6	1825.1	1774.7	1726.9	1677.5	1622.9	1581.3
22.5°	2036.7	2031.5	2014.3	1977.4	1943.6	1891.1	1835.5	1774.7	1709.7	1646.3	1587.6
25°	2170.8	2149.0	2139.1	2097.0	2050.7	1981.6	1906.7	1821.5	1744.5	1662.9	1592.2
27.5°	2262.3	2253.5	2239.4	2205.1	2152.1	2073.6	1985.2	1883.3	1779.9	1680.1	1591.2
30°	2240.5	2241.5	2242.5	2233.2	2202.0	2146.4	2058.5	1946.8	1817.8	1701.9	1594.8
32.5°	2047.1	2070.5	2092.8	2121.9	2140.7	2141.2	2094.4	1996.1	1862.5	1726.9	1592.8
35°	1742.5	1748.2	1806.9	1865.1	1944.2	2005.5	2046.6	2001.9	1890.1	1738.8	1591.2
37.5°	1408.7	1437.3	1481.5	1547.0	1665.5	1762.2	1889.1	1932.7	1880.2	1748.7	1590.7
40°	1158.2	1184.2	1210.7	1277.7	1373.9	1497.6	1646.8	1774.2	1803.8	1726.9	1575.1
42.5°	964.8	984.0	1014.2	1060.5	1136.9	1242.9	1383.8	1560.0	1680.6	1663.5	1542.3
45°	821.3	834.3	857.2	897.2	955.4	1041.2	1167.0	1349.0	1507.5	1560.0	1486.7
47.5°	719.4	720.0	738.7	767.3	811.5	890.5	984.6	1134.3	1305.3	1426.4	1409.3
50°	637.3	634.7	648.7	672.7	705.9	754.3	843.2	957.0	1119.7	1261.6	1301.1
52.5°	566.6	567.7	574.9	591.0	617.6	657.1	717.9	817.7	950.8	1097.4	1180.5
55°	506.3	504.2	514.1	526.1	546.3	573.4	621.2	699.7	812.5	956.0	1052.7
57.5°	448.1	453.8	458.0	466.3	484.0	502.7	545.3	605.6	698.7	826.0	928.4
60°	398.2	403.9	407.0	415.3	428.9	444.5	475.6	522.4	597.8	703.8	805.2
62.5°	353.5	357.6	358.2	365.4	375.8	390.9	413.8	451.2	506.8	596.2	695.0
65°	310.9	310.9	312.9	320.7	325.9	339.4	358.2	386.8	434.6	506.8	591.6
67.5°	269.3	271.9	271.4	275.0	279.7	291.1	305.1	329.1	367.0	421.6	491.8
70°	228.7	230.8	230.3	232.9	238.1	244.8	255.8	278.1	303.6	348.8	407.0
72.5°	192.3	192.9	191.3	194.9	197.5	203.3	215.7	225.1	248.5	284.9	330.1
75°	152.8	153.9	154.9	157.0	160.1	163.2	169.5	181.4	197.0	225.6	256.3
77.5°	121.6	119.0	122.2	121.6	123.2	125.8	131.5	138.3	151.8	171.0	196.5
80°	86.3	86.8	86.8	87.3	89.9	91.5	96.2	100.8	110.7	124.2	140.9
82.5°	57.2	58.7	57.7	58.7	60.8	61.9	63.9	67.6	72.3	82.1	93.0
85°	34.3	31.7	32.7	33.8	33.8	34.3	36.4	37.9	41.1	45.2	49.9
87.5°	12.5	13.5	14.0	14.0	14.6	14.6	16.6	16.6	18.2	19.8	21.8
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°	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7
2.5°	1268.9	1265.3	1261.1	1253.8	1245.0	1240.3	1233.0	1228.4	1219.0	1211.2	1202.9
5°	1324.0	1310.5	1298.0	1281.9	1264.2	1252.8	1239.3	1224.2	1208.6	1192.5	1174.8
7.5°	1379.1	1356.8	1332.3	1306.9	1281.9	1258.5	1236.7	1214.3	1194.0	1168.6	1147.3
10°	1434.7	1404.6	1372.3	1334.4	1297.5	1265.3	1232.5	1203.9	1174.8	1143.6	1116.1
12.5°	1490.4	1447.7	1398.9	1356.2	1310.0	1269.4	1229.4	1190.9	1152.5	1117.1	1083.8
15°	1510.6	1475.3	1433.2	1373.9	1324.0	1270.5	1219.5	1172.2	1128.0	1089.6	1049.0
17.5°	1530.4	1485.2	1440.4	1383.3	1318.3	1260.6	1202.9	1151.4	1102.6	1054.2	1017.3
20°	1535.1	1488.3	1441.0	1385.3	1318.3	1249.7	1192.0	1127.0	1073.4	1023.0	975.2
22.5°	1533.5	1478.9	1426.4	1368.7	1303.7	1241.9	1169.1	1102.6	1043.3	993.9	943.5
25°	1522.1	1465.4	1400.9	1343.2	1278.8	1211.7	1141.0	1072.4	1013.1	956.5	907.1
27.5°	1515.3	1443.6	1372.9	1306.3	1244.5	1182.6	1114.0	1043.3	978.3	920.6	874.9
30°	1500.2	1419.7	1337.5	1267.3	1203.4	1143.6	1079.7	1011.1	942.5	886.3	836.4
32.5°	1486.7	1389.5	1301.7	1223.7	1155.1	1097.4	1039.7	975.2	908.1	851.0	801.1
35°	1468.5	1359.9	1260.6	1174.3	1102.0	1042.3	992.9	932.1	870.2	815.1	767.3
37.5°	1447.2	1321.4	1216.4	1126.5	1048.0	985.6	938.8	891.5	829.6	775.6	733.0
40°	1421.2	1279.8	1167.0	1074.5	992.4	926.9	884.2	840.0	790.7	741.3	695.5
42.5°	1388.5	1242.4	1117.1	1015.7	934.7	871.2	826.0	790.1	748.0	702.8	661.2
45°	1346.9	1195.6	1062.5	955.4	873.3	810.4	764.1	736.1	703.3	659.7	623.8
47.5°	1291.8	1142.6	1005.3	894.6	809.9	751.7	707.5	679.9	656.0	621.7	587.9
50°	1213.3	1081.8	942.5	832.8	748.0	689.3	649.3	624.8	605.1	580.1	552.6
52.5°	1125.4	1005.3	880.6	772.5	688.8	631.1	592.1	571.3	555.7	539.6	512.6
55°	1031.3	927.4	808.9	705.9	628.5	571.8	537.5	518.8	505.3	491.8	475.1
57.5°	930.0	845.8	737.1	640.9	569.2	516.2	484.0	464.7	453.8	446.5	436.1
60°	821.9	752.2	661.7	576.0	506.3	460.6	429.4	415.3	406.5	400.8	393.5
62.5°	721.5	667.5	585.3	508.9	450.2	407.5	380.5	367.0	358.7	356.6	350.9
65°	623.3	579.1	510.0	445.0	393.0	356.1	332.7	319.7	314.5	311.4	311.9
67.5°	524.5	495.9	438.2	381.0	338.4	305.7	286.4	276.5	274.0	269.3	269.3
70°	435.6	415.3	368.6	320.2	283.3	259.4	242.8	232.4	229.8	227.7	227.2
72.5°	357.1	340.0	301.0	264.6	232.4	212.1	199.1	193.9	189.2	188.2	188.2
75°	280.2	270.3	238.1	207.4	184.5	170.0	160.6	154.9	151.8	151.3	151.8
77.5°	211.6	202.2	179.9	157.0	141.9	130.5	121.6	120.1	115.9	116.4	115.4
80°	149.7	144.0	131.0	113.8	101.9	92.5	88.4	84.7	83.7	82.1	83.7
82.5°	98.2	92.0	84.2	74.9	65.5	60.8	56.7	56.1	55.6	55.1	55.1
85°	53.5	54.1	48.9	40.5	36.4	33.3	30.7	30.7	30.2	29.6	30.2
87.5°	22.9	21.8	19.8	18.2	15.6	14.0	13.5	14.0	12.5	12.0	12.5
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°	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7
2.5°	1198.2	1192.5	1187.8	1177.4	1171.7	1163.9	1157.7	1164.4	1157.1	1160.3	1155.6
5°	1166.0	1151.4	1141.0	1126.0	1113.0	1101.0	1092.2	1090.6	1086.4	1084.4	1078.1
7.5°	1127.5	1110.9	1093.7	1075.0	1059.4	1042.8	1032.9	1023.5	1017.8	1010.5	1004.8
10°	1094.2	1069.8	1049.0	1025.1	1004.3	986.1	971.6	964.3	957.5	947.6	944.0
12.5°	1053.2	1027.7	1001.2	975.2	955.4	934.7	922.7	910.7	906.6	895.1	894.6
15°	1022.0	984.0	959.1	933.1	905.5	888.9	878.5	866.6	861.4	853.6	847.8
17.5°	983.5	949.2	918.0	891.5	866.6	853.0	839.5	831.2	822.4	816.7	807.3
20°	940.9	908.7	877.5	848.9	830.7	814.6	804.2	796.4	787.0	784.4	775.1
22.5°	905.0	868.6	839.0	816.1	795.9	777.1	765.7	761.0	755.3	746.0	746.0
25°	865.5	828.6	803.1	779.2	761.5	744.9	737.1	730.4	724.1	718.4	716.3
27.5°	832.2	799.5	768.3	746.5	731.4	715.8	709.0	700.2	695.5	690.9	684.6
30°	796.9	763.1	736.6	715.8	699.2	685.7	678.4	672.7	668.5	664.3	661.2
32.5°	760.5	729.8	704.4	684.1	667.5	658.1	651.9	648.2	643.5	638.4	634.2
35°	729.3	695.0	670.1	652.4	639.4	631.6	624.3	620.7	615.5	615.5	611.3
37.5°	692.4	662.3	639.9	623.8	612.4	605.1	596.8	594.7	591.0	589.0	587.4
40°	660.2	632.6	611.8	595.7	583.2	577.5	571.3	567.1	565.1	562.5	561.4
42.5°	626.9	600.9	581.2	566.6	556.2	551.5	545.8	543.2	538.5	534.9	534.4
45°	593.1	567.7	549.5	537.5	528.1	522.4	518.8	512.6	510.5	506.3	505.8
47.5°	561.9	537.0	518.8	508.9	500.6	496.4	490.7	484.0	481.4	478.8	478.2
50°	526.1	503.7	487.1	477.7	469.9	463.2	457.4	453.3	451.7	451.7	452.8
52.5°	489.7	471.5	458.0	446.0	438.7	431.5	426.3	424.2	421.6	424.7	426.8
55°	454.3	435.1	424.7	413.8	406.5	398.2	395.6	394.6	393.0	397.1	399.2
57.5°	416.4	403.4	390.9	379.5	373.2	368.0	363.9	363.4	366.5	367.5	373.8
60°	380.5	364.9	354.0	345.7	337.9	334.8	333.7	332.7	334.8	340.5	349.3
62.5°	341.0	329.1	317.1	311.4	306.2	300.5	300.5	301.5	306.2	312.9	321.8
65°	302.5	291.6	283.8	276.5	271.9	268.8	269.8	271.9	276.5	285.4	295.3
67.5°	263.0	255.8	248.5	241.7	237.0	237.6	238.1	240.7	246.4	256.8	266.2
70°	225.1	216.8	211.1	208.5	204.8	202.7	205.9	211.1	215.7	225.1	232.9
72.5°	187.1	180.4	176.2	174.7	173.6	172.1	172.6	178.3	185.1	194.4	203.8
75°	149.7	147.1	144.0	141.9	140.4	141.4	142.4	147.6	152.8	162.7	173.1
77.5°	115.9	112.8	110.7	110.2	109.2	109.7	112.3	116.4	121.6	128.9	137.2
80°	82.7	81.6	80.6	80.1	80.1	80.6	84.7	87.3	92.0	98.8	105.0
82.5°	54.6	54.1	54.1	54.1	54.6	54.6	56.7	60.3	63.9	68.6	73.8
85°	31.7	30.7	32.2	32.7	31.7	33.3	34.3	36.4	37.9	40.5	43.1
87.5°	13.0	14.0	13.5	14.0	14.0	15.1	14.6	16.6	17.7	18.7	18.2
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: P242823

CATALOG NUMBER: S125DRP-S1090D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1224.7	1224.7	1224.7	1224.7
2.5°	1152.5	1156.1	1153.0	1157.1
5°	1075.5	1070.8	1074.0	1071.9
7.5°	1004.3	1000.2	993.9	991.8
10°	938.3	932.6	932.1	928.4
12.5°	889.9	884.7	877.5	876.4
15°	844.7	840.6	836.9	840.0
17.5°	806.3	802.6	801.6	798.5
20°	770.4	767.8	768.8	762.1
22.5°	741.8	736.1	735.0	735.0
25°	711.6	709.0	706.4	709.0
27.5°	685.1	682.5	681.5	682.0
30°	661.2	656.0	656.5	656.0
32.5°	635.2	632.1	631.1	630.0
35°	609.8	609.8	607.2	607.2
37.5°	586.4	585.8	584.3	585.3
40°	559.3	558.8	557.3	554.1
42.5°	533.3	531.3	530.7	530.2
45°	505.8	505.8	504.8	504.2
47.5°	478.8	479.8	481.9	481.4
50°	454.9	455.4	456.9	457.4
52.5°	428.3	432.0	434.1	433.5
55°	403.9	407.5	411.2	411.7
57.5°	379.5	384.2	387.8	388.8
60°	354.5	361.3	366.0	368.0
62.5°	330.6	338.4	343.1	343.1
65°	304.1	311.9	316.1	319.2
67.5°	276.5	284.3	288.5	291.1
70°	245.9	253.7	259.9	262.0
72.5°	215.7	222.5	227.2	229.8
75°	179.9	189.2	193.9	196.5
77.5°	145.6	154.9	157.5	159.1
80°	111.2	116.4	120.1	120.6
82.5°	79.0	83.2	83.7	85.3
85°	46.8	48.9	49.4	48.9
87.5°	19.2	18.7	18.7	19.8
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242823
 CATALOG NUMBER: S125DRP-S1090D930-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	18.17	19.74	18.54	20.06	20.37	18.15	19.72	18.51	20.03	20.34
	3H	19.54	20.96	19.92	21.28	21.64	19.58	20.99	19.95	21.31	21.67
	4H	20.04	21.36	20.44	21.71	22.09	20.06	21.39	20.46	21.74	22.11
	6H	20.37	21.60	20.79	21.97	22.36	20.38	21.60	20.79	21.97	22.36
	8H	20.47	21.63	20.89	22.02	22.42	20.46	21.63	20.88	22.02	22.42
	12H	20.51	21.63	20.94	22.01	22.44	20.50	21.62	20.93	22.00	22.43
4H	2H	19.68	21.01	20.08	21.35	21.73	19.23	20.55	19.62	20.90	21.28
	3H	21.03	22.13	21.44	22.53	22.93	20.89	21.99	21.30	22.39	22.79
	4H	21.53	22.53	21.97	22.94	23.38	21.44	22.44	21.87	22.85	23.29
	6H	21.91	22.77	22.36	23.21	23.67	21.82	22.68	22.27	23.13	23.58
	8H	22.01	22.82	22.47	23.26	23.73	21.91	22.72	22.37	23.17	23.63
	12H	22.07	22.80	22.55	23.27	23.75	21.97	22.69	22.45	23.17	23.64
8H	4H	22.02	22.83	22.48	23.27	23.74	21.78	22.59	22.25	23.04	23.50
	6H	22.47	23.14	22.96	23.63	24.11	22.29	22.96	22.78	23.45	23.92
	8H	22.61	23.21	23.12	23.72	24.21	22.43	23.04	22.95	23.54	24.03
	12H	22.71	23.25	23.22	23.74	24.30	22.53	23.06	23.04	23.56	24.12
12H	4H	22.06	22.79	22.55	23.27	23.74	21.80	22.53	22.28	23.00	23.47
	6H	22.55	23.15	23.06	23.66	24.15	22.33	22.94	22.84	23.44	23.93
	8H	22.74	23.28	23.25	23.77	24.33	22.54	23.07	23.05	23.56	24.13