

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P832476

Luminaire Tested: S123RDP-S775D830-4F0-1E-UDD-G

Issue Date: 05/03/2024

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.

**Test Information**

Test Method: LM-79-2019  
 Report Number: P832476  
 Test Lab: INNOVATION CENTER  
 Issue Date: 05/03/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: NEO-RAY  
 Catalog Number: S123RDP-S775D830-4F0-1E-UDD-G  
 Description: DEFINE 3 DIRECT PENDANT LED LUMINAIRE  
 DOWNLIGHT 775 LUMENS PER FOOT, GRAZE OPTIC

Light Source: -  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 3119.8 lumens  
 Efficiency: N/A  
 Efficacy: 120.5 lumens/watt  
 Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8  
 Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
 CIE Type: Direct

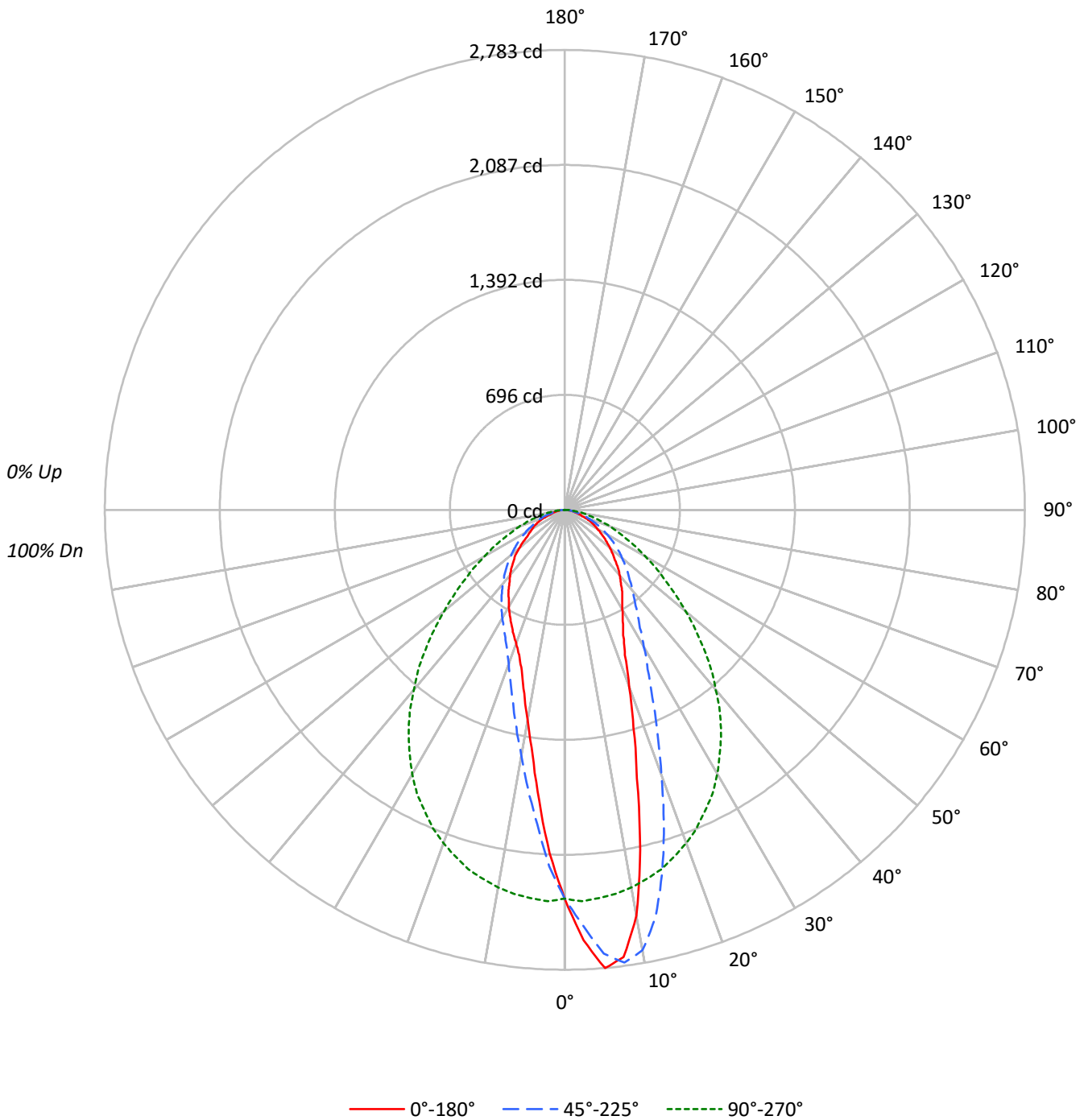
Input Watts (W): 25.9  
 Input Voltage (V): 120  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 24 FT

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

TEST NUMBER: P832476

CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

### Luminous Intensity Polar Plot



TEST NUMBER: P832476

CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

**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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67				
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61	59				
5	82	70	62	56	80	69	62	56	67	61	56	65	60	55	63	58	54	53				
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49	47				
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36				
10	60	47	40	35	58	47	40	35	46	40	35	45	39	35	44	39	35	33				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	25327	25327	25327	25327	25327
5°	30074	29115	25487	20603	19128
10°	27247	29572	25360	16508	14162
15°	18760	25356	25092	13493	11203
20°	13052	19521	24589	11377	9846
25°	9946	14878	23855	10112	9075
30°	8658	11895	22939	9389	8406
35°	7949	10034	21639	8779	7796
40°	7252	8961	19942	8181	7239
45°	6550	8194	18107	7614	6683
50°	5945	7561	15945	7060	5993
55°	5377	6944	13868	6518	5142
60°	4818	6314	12047	5920	4861
65°	4447	5603	10369	5321	4595
70°	3613	4843	9048	4812	3736
75°	3169	3851	7665	3993	3290
80°	2870	3261	6279	3347	3112
85°	2618	2865	4767	3038	2865

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 19106 cd/sqm

TEST NUMBER: P832476  
 CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.5	6.9
10°-20°	496.3	15.9
20°-30°	569.4	18.3
30°-40°	561.3	18.0
40°-50°	495.0	15.9
50°-60°	380.8	12.2
60°-70°	250.3	8.0
70°-80°	121.6	3.9
80°-90°	30.7	1.0
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°	1280.2	41.0
0°-40°	1841.5	59.0
0°-60°	2717.2	87.1
0°-90°	3119.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3119.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2353	2353	2353	2353	2353	
5°	2783	2695	2359	1907	1770	254
15°	1684	2275	2252	1211	1005	475
25°	837	1253	2009	851	764	395
35°	605	764	1647	668	593	377
45°	430	538	1190	500	439	334
55°	286	370	739	347	274	257
65°	175	220	407	209	180	171
75°	76	93	184	96	79	82
85°	21	23	39	25	23	24
90°	0	0	0	0	0	

TEST NUMBER: P832476

CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0
2.5°	2607.7	2599.5	2591.3	2588.9	2586.5	2578.8	2571.1	2553.7	2536.3	2518.5	2500.6
5°	2783.3	2784.3	2785.2	2782.8	2780.4	2770.3	2760.2	2738.9	2717.7	2694.6	2671.4
7.5°	2729.3	2744.7	2760.2	2763.1	2765.9	2773.7	2781.4	2776.6	2771.7	2763.1	2754.4
10°	2492.9	2492.0	2491.0	2508.4	2525.7	2577.3	2628.9	2655.5	2682.0	2705.6	2729.3
12.5°	2107.0	2108.5	2109.9	2166.8	2223.8	2272.5	2321.2	2388.7	2456.3	2529.1	2601.9
15°	1683.5	1707.1	1730.8	1781.4	1832.1	1905.4	1978.7	2069.4	2160.1	2275.4	2390.7
17.5°	1382.5	1392.6	1402.7	1451.5	1500.2	1569.7	1639.1	1741.9	1844.6	1993.2	2141.8
20°	1139.4	1148.5	1157.7	1192.9	1228.1	1294.7	1361.3	1459.2	1557.1	1704.2	1851.4
22.5°	951.2	969.1	986.9	1010.6	1034.2	1082.5	1130.7	1230.5	1330.4	1464.5	1598.6
25°	837.4	845.6	853.8	874.1	894.3	940.6	986.9	1053.0	1119.1	1252.7	1386.3
27.5°	760.2	762.6	765.0	780.0	795.0	824.9	854.8	916.0	977.3	1087.3	1197.3
30°	696.6	700.9	705.2	716.8	728.4	750.1	771.8	815.2	858.6	957.0	1055.4
32.5°	647.3	649.8	652.2	661.8	671.5	687.4	703.3	737.6	771.8	847.1	922.3
35°	604.9	605.4	605.9	613.1	620.3	635.8	651.2	679.7	708.1	763.6	819.1
37.5°	556.7	560.0	563.4	568.7	574.0	587.5	601.0	624.2	647.3	693.2	739.0
40°	516.1	519.0	521.9	528.2	534.5	545.1	555.7	576.9	598.1	637.7	677.3
42.5°	475.6	477.6	479.5	485.8	492.0	505.0	518.1	535.0	551.8	584.6	617.4
45°	430.3	435.1	439.9	446.7	453.4	464.5	475.6	493.0	510.4	538.3	566.3
47.5°	392.7	395.1	397.5	403.3	409.1	422.6	436.1	451.5	466.9	493.0	519.0
50°	355.0	356.0	357.0	362.3	367.6	379.6	391.7	409.5	427.4	451.5	475.6
52.5°	319.3	321.7	324.2	329.5	334.8	343.0	351.2	369.5	387.8	411.5	435.1
55°	286.5	288.0	289.4	293.3	297.1	306.8	316.4	332.4	348.3	370.0	391.7
57.5°	255.7	257.6	259.5	262.4	265.3	274.0	282.7	296.7	310.7	332.4	354.1
60°	223.8	226.2	228.6	232.0	235.4	242.2	248.9	261.4	274.0	293.3	312.6
62.5°	200.7	201.2	201.6	204.5	207.4	212.2	217.1	227.2	237.3	256.6	275.9
65°	174.6	176.1	177.5	179.0	180.4	184.3	188.1	196.8	205.5	220.0	234.4
67.5°	147.6	149.1	150.5	152.9	155.3	158.7	162.1	167.9	173.7	187.2	200.7
70°	114.8	114.8	114.8	118.7	122.5	128.3	134.1	138.4	142.8	153.9	165.0
72.5°	93.6	94.1	94.5	95.0	95.5	98.9	102.3	109.5	116.7	123.5	130.2
75°	76.2	76.7	77.2	77.7	78.1	79.1	80.1	82.5	84.9	92.6	100.3
77.5°	60.8	61.3	61.7	62.2	62.7	63.7	64.6	65.6	66.6	69.5	72.4
80°	46.3	46.8	47.3	47.8	48.2	48.7	49.2	50.2	51.1	52.6	54.0
82.5°	33.8	33.8	33.8	33.8	33.8	34.7	35.7	35.7	35.7	36.7	37.6
85°	21.2	21.2	21.2	21.7	22.2	22.2	22.2	22.7	23.2	23.2	23.2
87.5°	9.6	9.2	8.7	9.2	9.6	9.6	9.6	10.1	10.6	10.6	10.6
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: P832476

CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0
2.5°	2498.2	2495.8	2472.7	2449.5	2426.8	2404.2	2387.3	2370.4	2341.9	2313.5	2295.6
5°	2653.1	2634.7	2598.1	2561.4	2506.4	2451.4	2405.1	2358.8	2300.0	2241.1	2191.9
7.5°	2739.4	2724.5	2680.1	2635.7	2562.9	2490.0	2417.7	2345.3	2258.5	2171.7	2097.4
10°	2741.8	2754.4	2717.7	2681.0	2599.0	2517.0	2418.6	2320.2	2203.5	2086.8	1990.8
12.5°	2656.0	2710.0	2702.3	2694.6	2611.1	2527.7	2408.0	2288.4	2145.1	2001.9	1881.7
15°	2495.3	2600.0	2630.9	2661.8	2592.8	2523.8	2387.8	2251.7	2083.4	1915.0	1777.1
17.5°	2288.4	2435.0	2516.6	2598.1	2547.9	2497.7	2348.7	2199.6	2010.1	1820.5	1670.5
20°	2043.3	2235.3	2363.2	2491.0	2472.7	2454.3	2300.5	2146.6	1942.0	1737.5	1575.0
22.5°	1801.2	2003.8	2180.3	2356.9	2375.7	2394.5	2239.2	2083.9	1860.0	1636.2	1470.8
25°	1592.3	1798.3	2008.6	2218.9	2261.4	2303.8	2156.2	2008.6	1776.6	1544.6	1380.1
27.5°	1393.1	1588.9	1820.5	2052.0	2129.2	2206.4	2071.3	1936.3	1694.6	1452.9	1288.9
30°	1230.5	1405.6	1642.0	1878.4	1985.9	2093.5	1969.5	1845.6	1605.8	1366.1	1205.5
32.5°	1079.1	1235.8	1473.2	1710.5	1835.4	1960.4	1853.3	1746.2	1515.6	1285.1	1126.3
35°	959.4	1099.8	1321.2	1542.6	1682.5	1822.4	1734.6	1646.8	1421.6	1196.3	1046.3
37.5°	856.7	974.4	1182.3	1390.2	1538.8	1687.4	1614.0	1540.7	1328.9	1117.2	975.4
40°	771.8	866.3	1059.8	1253.2	1398.9	1544.6	1481.9	1419.2	1229.6	1040.0	907.3
42.5°	699.0	780.5	954.1	1127.8	1261.4	1395.0	1353.5	1312.1	1140.3	968.6	845.6
45°	634.8	703.3	856.2	1009.1	1132.1	1255.1	1222.3	1189.5	1041.5	893.4	780.5
47.5°	577.9	636.7	773.2	909.8	1020.2	1130.7	1100.3	1069.9	947.4	824.9	722.1
50°	525.8	576.0	689.8	803.6	903.0	1002.4	977.3	952.2	850.9	749.6	660.9
52.5°	476.6	518.1	620.3	722.6	802.7	882.7	863.5	844.2	766.0	687.9	607.3
55°	429.8	467.9	554.3	640.6	709.1	777.6	758.3	739.0	678.2	617.4	546.5
57.5°	387.3	420.6	490.6	560.5	615.0	669.5	660.4	651.2	600.6	549.9	491.5
60°	342.5	372.4	432.7	493.0	536.9	580.8	570.2	559.6	523.4	487.2	437.0
62.5°	302.4	329.0	377.2	425.5	461.2	496.8	489.1	481.4	453.9	426.4	384.9
65°	260.5	286.5	325.6	364.7	392.7	420.6	413.9	407.1	386.4	365.6	332.4
67.5°	222.4	244.1	277.8	311.6	330.4	349.2	345.4	341.5	325.6	309.7	283.6
70°	183.8	202.6	230.6	258.6	271.6	284.6	286.0	287.5	273.0	258.6	239.3
72.5°	145.2	160.1	186.2	212.2	222.4	232.5	232.0	231.5	222.9	214.2	196.8
75°	111.4	122.5	142.8	163.0	171.7	180.4	182.3	184.3	176.1	167.9	158.2
77.5°	80.1	87.8	103.2	118.7	128.3	138.0	138.9	139.9	136.0	132.2	123.0
80°	56.4	58.8	68.5	78.1	88.3	98.4	99.9	101.3	97.4	93.6	87.8
82.5°	39.1	40.5	43.9	47.3	55.5	63.7	65.6	67.5	65.6	63.7	57.4
85°	23.6	24.1	25.6	27.0	30.9	34.7	36.7	38.6	37.6	36.7	33.3
87.5°	10.6	10.6	11.1	11.6	12.5	13.5	15.9	18.3	16.9	15.4	14.0
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: P832476

CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0	2353.0
2.5°	2277.8	2250.3	2222.8	2203.0	2183.2	2158.6	2134.0	2133.1	2132.1	2113.8	2095.4
5°	2142.7	2095.0	2047.2	2000.4	1953.6	1906.8	1860.0	1849.4	1838.8	1822.9	1807.0
7.5°	2023.1	1946.9	1870.7	1810.8	1751.0	1704.2	1657.4	1625.6	1593.8	1569.2	1544.6
10°	1894.8	1800.2	1705.7	1633.3	1561.0	1510.3	1459.7	1423.0	1386.3	1369.0	1351.6
12.5°	1761.6	1658.9	1556.1	1485.2	1414.3	1353.5	1292.8	1259.5	1226.2	1202.1	1178.0
15°	1639.1	1528.7	1418.2	1342.9	1267.7	1210.8	1153.8	1120.6	1087.3	1063.2	1039.0
17.5°	1520.4	1409.0	1297.6	1221.4	1145.2	1093.5	1041.9	1009.6	977.3	962.3	947.4
20°	1412.4	1300.0	1187.6	1115.7	1043.9	993.2	942.6	925.2	907.8	893.8	879.9
22.5°	1305.3	1197.3	1089.2	1020.2	951.2	914.6	877.9	863.9	849.9	839.3	828.7
25°	1215.6	1108.0	1000.4	940.2	879.9	851.4	822.9	813.8	804.6	794.0	783.4
27.5°	1124.9	1022.6	920.4	872.1	823.9	800.7	777.6	766.0	754.4	745.8	737.1
30°	1044.8	950.3	855.7	815.7	775.7	755.4	735.1	722.6	710.1	701.9	693.7
32.5°	967.6	883.7	799.8	765.5	731.3	711.5	691.7	679.7	667.6	658.0	648.3
35°	896.3	823.4	750.6	719.2	687.9	668.1	648.3	636.3	624.2	614.5	604.9
37.5°	833.5	767.5	701.4	671.9	642.5	625.2	607.8	595.3	582.7	572.6	562.5
40°	774.7	716.3	658.0	629.5	601.0	582.2	563.4	552.3	541.2	532.1	522.9
42.5°	722.6	669.1	615.5	587.5	559.6	541.7	523.9	510.8	497.8	492.5	487.2
45°	667.6	620.3	573.1	546.0	519.0	500.2	481.4	470.3	459.2	454.4	449.6
47.5°	619.4	575.5	531.6	505.0	478.5	461.6	444.8	436.1	427.4	420.6	413.9
50°	572.1	529.6	487.2	461.6	436.1	421.6	407.1	396.5	385.9	381.1	376.3
52.5°	526.8	488.2	449.6	423.5	397.5	383.5	369.5	360.3	351.2	341.0	330.9
55°	475.6	441.9	408.1	384.9	361.8	347.3	332.8	322.2	311.6	301.0	290.4
57.5°	433.2	399.9	366.6	345.9	325.1	311.1	297.1	285.6	274.0	265.3	256.6
60°	386.9	357.9	329.0	308.7	288.5	275.0	261.4	250.4	239.3	234.9	230.6
62.5°	343.5	316.4	289.4	271.6	253.7	240.7	227.7	220.4	213.2	210.3	207.4
65°	299.1	275.9	252.8	236.4	220.0	208.9	197.8	194.4	191.0	188.6	186.2
67.5°	257.6	237.8	218.0	203.6	189.1	181.4	173.7	169.8	165.9	163.0	160.1
70°	220.0	202.6	185.2	172.7	160.1	152.9	145.7	142.3	138.9	133.6	128.3
72.5°	179.4	165.9	152.4	142.8	133.1	126.9	120.6	113.8	107.1	102.3	97.4
75°	148.6	135.1	121.6	112.4	103.2	96.0	88.8	86.3	83.9	82.5	81.0
77.5°	113.8	102.3	90.7	83.5	76.2	72.8	69.5	68.0	66.6	66.1	65.6
80°	82.0	72.4	62.7	58.8	55.0	54.0	53.1	52.1	51.1	50.6	50.2
82.5°	51.1	46.3	41.5	40.5	39.6	39.1	38.6	38.1	37.6	37.1	36.7
85°	29.9	28.0	26.0	25.6	25.1	24.6	24.1	24.1	24.1	24.1	24.1
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.1	11.6
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: P832476

CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2353.0	2353.0	2353.0	2353.0
2.5°	2090.6	2085.8	2083.9	2081.9
5°	1792.0	1777.1	1773.7	1770.3
7.5°	1538.3	1532.0	1511.3	1490.5
10°	1332.3	1313.0	1304.3	1295.7
12.5°	1160.1	1142.3	1139.4	1136.5
15°	1026.5	1014.0	1009.6	1005.3
17.5°	938.7	930.0	924.7	919.4
20°	873.6	867.3	863.5	859.6
22.5°	823.9	819.1	816.2	813.3
25°	776.1	768.9	766.5	764.1
27.5°	730.8	724.5	722.1	719.7
30°	688.4	683.0	679.7	676.3
32.5°	642.0	635.8	633.8	631.9
35°	601.0	597.2	595.3	593.3
37.5°	557.6	552.8	549.9	547.0
40°	520.5	518.1	516.6	515.2
42.5°	482.9	478.5	478.0	477.6
45°	445.2	440.9	439.9	439.0
47.5°	410.0	406.2	405.7	405.2
50°	370.9	365.6	361.8	357.9
52.5°	326.1	321.3	317.9	314.5
55°	285.1	279.8	276.9	274.0
57.5°	254.2	251.8	250.4	248.9
60°	229.1	227.7	226.7	225.8
62.5°	206.0	204.5	204.5	204.5
65°	184.8	183.3	181.9	180.4
67.5°	157.3	154.4	153.9	153.4
70°	124.0	119.6	119.1	118.7
72.5°	97.0	96.5	95.5	94.5
75°	80.1	79.1	79.1	79.1
77.5°	64.6	63.7	63.7	63.7
80°	49.7	49.2	49.7	50.2
82.5°	36.7	36.7	36.2	35.7
85°	23.6	23.2	23.2	23.2
87.5°	11.6	11.6	11.6	11.6
90°	0.0	0.0	0.0	0.0

TEST NUMBER: P832476

CATALOG NUMBER: S123RDP-S775D830-4F0-1E-UDD-G

**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	15.93	17.39	16.30	17.70	18.02	20.60	22.05	20.96	22.37	22.68
	3H	17.20	18.50	17.58	18.83	19.19	22.14	23.44	22.52	23.77	24.13
	4H	17.61	18.83	18.01	19.18	19.56	22.66	23.88	23.06	24.23	24.61
	6H	17.92	19.04	18.33	19.41	19.80	23.00	24.12	23.41	24.49	24.88
	8H	18.02	19.09	18.45	19.48	19.88	23.09	24.16	23.52	24.55	24.95
	12H	18.09	19.11	18.52	19.50	19.93	23.14	24.17	23.57	24.55	24.98
4H	2H	16.73	17.95	17.13	18.30	18.68	20.66	21.88	21.06	22.23	22.61
	3H	18.15	19.16	18.56	19.56	19.96	22.37	23.38	22.78	23.78	24.18
	4H	18.62	19.53	19.06	19.95	20.39	23.00	23.91	23.43	24.32	24.76
	6H	19.02	19.81	19.48	20.25	20.71	23.47	24.25	23.93	24.70	25.16
	8H	19.16	19.89	19.62	20.34	20.81	23.61	24.34	24.07	24.79	25.26
	12H	19.26	19.91	19.74	20.39	20.87	23.70	24.35	24.18	24.83	25.30
8H	4H	18.98	19.71	19.44	20.16	20.63	23.01	23.74	23.47	24.19	24.66
	6H	19.46	20.07	19.96	20.56	21.04	23.52	24.13	24.02	24.62	25.10
	8H	19.66	20.20	20.17	20.71	21.20	23.71	24.25	24.23	24.76	25.25
	12H	19.82	20.30	20.33	20.79	21.36	23.85	24.33	24.36	24.82	25.39
12H	4H	19.02	19.67	19.50	20.15	20.62	22.98	23.64	23.47	24.12	24.59
	6H	19.52	20.06	20.04	20.58	21.06	23.50	24.04	24.01	24.55	25.04
	8H	19.77	20.24	20.28	20.74	21.30	23.72	24.20	24.23	24.69	25.26