

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: P242757

Luminaire Tested: S124RDRP-S575D935-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242757
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-S575D935-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

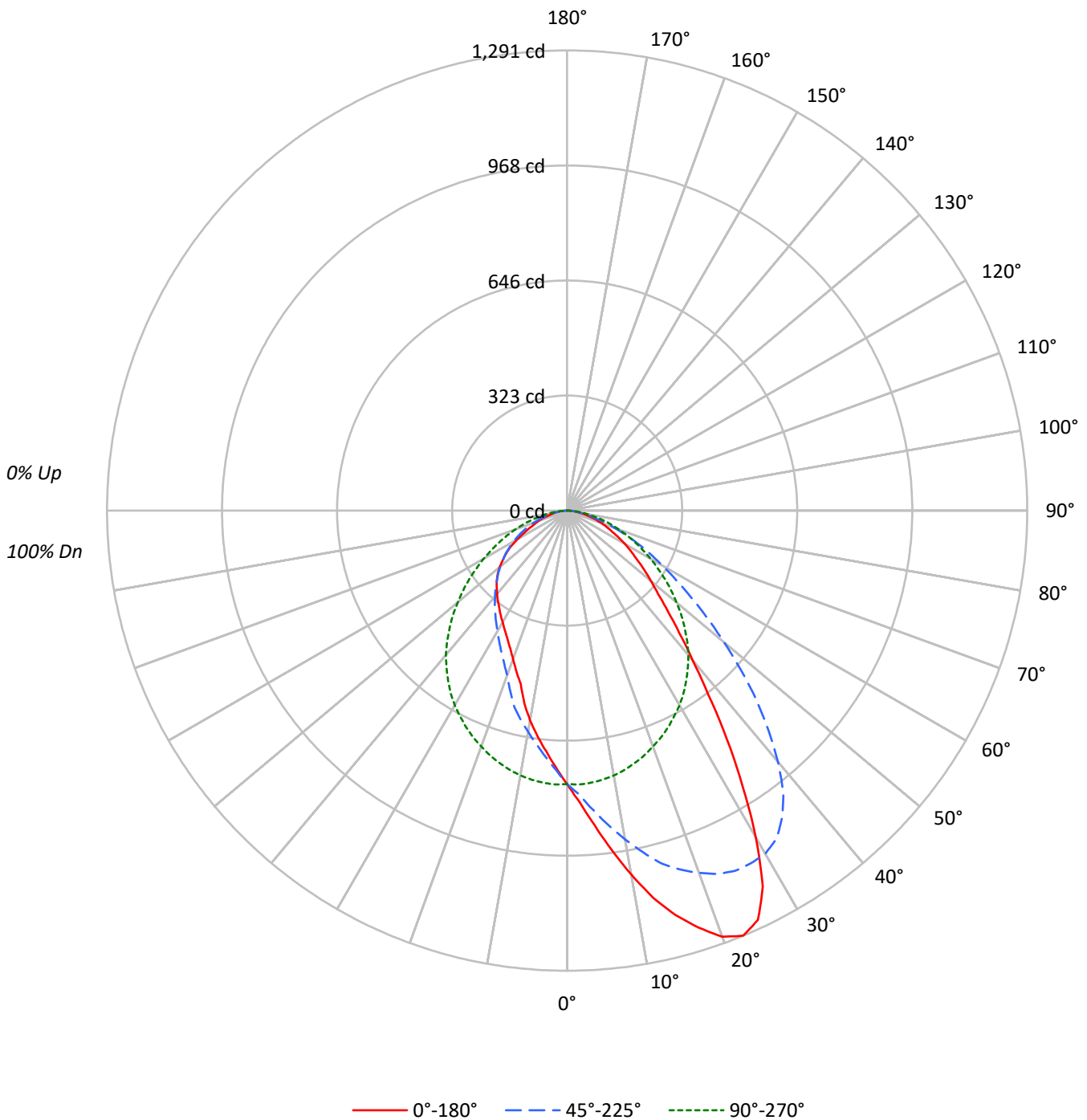
Lumens per Lamp: N/A
Luminaire Lumens: 1939.4 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6820	6820	6820	6820	6820
5°	7910	7530	6840	6189	6046
10°	9358	8454	6810	5689	5396
15°	10809	9438	6747	5256	4637
20°	12035	10234	6661	4649	4193
25°	12424	10939	6576	4284	3893
30°	10876	11409	6472	4013	3712
35°	8466	11415	6320	3811	3603
40°	6348	10678	6144	3648	3544
45°	5013	9423	5863	3509	3512
50°	4232	7929	5540	3389	3412
55°	3688	6572	5184	3262	3228
60°	3319	5500	4814	3077	2857
65°	2926	4583	4415	2867	2457
70°	2635	3665	4000	2586	2217
75°	2208	2844	3544	2270	1889
80°	1868	2150	3020	1884	1771
85°	1581	1703	2366	1673	1581

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 10064 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.3	3.8
10°-20°	224.3	11.6
20°-30°	351.4	18.1
30°-40°	390.2	20.1
40°-50°	345.8	17.8
50°-60°	269.5	13.9
60°-70°	176.3	9.1
70°-80°	86.5	4.5
80°-90°	21.1	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°	650.0	33.5
0°-40°	1040.3	53.6
0°-60°	1655.6	85.4
0°-90°	1939.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1939.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	767	767	767	767	767	
5°	886	844	767	694	678	89
15°	1175	1026	733	571	504	334
25°	1267	1115	670	437	397	566
35°	780	1052	582	351	332	488
45°	399	750	466	279	279	314
55°	238	424	334	210	208	216
65°	139	218	210	136	117	140
75°	64	83	103	66	55	71
85°	16	17	23	16	16	18
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°	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2
2.5°	819.8	822.5	819.8	819.5	816.4	815.4	814.2	810.2	802.8	798.4	799.4
5°	886.5	894.3	889.9	889.3	882.5	875.7	871.4	861.5	851.0	843.9	838.0
7.5°	960.7	965.4	962.3	958.9	947.1	943.4	933.2	921.5	903.8	890.5	878.5
10°	1036.8	1040.5	1039.2	1031.2	1023.2	1006.8	997.5	979.3	955.5	936.6	919.0
12.5°	1111.6	1115.6	1102.3	1104.8	1087.8	1075.7	1059.6	1035.5	1007.1	981.4	958.2
15°	1174.6	1169.7	1169.7	1163.5	1146.5	1128.6	1113.4	1089.3	1054.7	1025.6	995.0
17.5°	1226.6	1228.7	1226.2	1210.5	1198.1	1179.9	1152.7	1125.2	1095.2	1056.2	1025.9
20°	1272.3	1272.3	1269.5	1259.6	1242.3	1222.5	1192.6	1161.9	1121.1	1081.9	1046.7
22.5°	1290.8	1292.1	1288.7	1281.0	1265.8	1246.6	1222.2	1191.0	1148.7	1103.2	1057.5
25°	1266.7	1272.6	1273.2	1271.1	1266.4	1254.7	1232.7	1200.9	1163.2	1115.3	1068.3
27.5°	1188.8	1196.6	1199.7	1206.5	1219.1	1223.8	1221.0	1199.7	1163.2	1115.9	1069.2
30°	1059.6	1065.8	1085.9	1112.2	1132.6	1151.1	1167.2	1171.5	1153.0	1111.6	1061.8
32.5°	916.2	925.2	945.3	974.0	1011.4	1046.0	1087.1	1109.1	1113.1	1092.4	1047.3
35°	780.2	786.4	804.9	834.6	875.4	922.1	979.3	1023.8	1054.1	1051.9	1023.8
37.5°	649.8	658.4	677.3	701.7	741.9	801.5	855.6	915.3	969.7	996.3	982.0
40°	547.1	547.4	565.7	591.0	628.1	678.5	738.8	806.8	869.2	920.2	930.1
42.5°	466.1	466.1	476.6	504.5	528.6	575.3	632.1	699.5	775.3	836.1	866.4
45°	398.8	401.5	411.4	427.8	448.8	489.0	535.1	597.8	679.7	749.6	793.2
47.5°	345.6	350.5	356.4	371.2	388.6	416.7	455.9	514.7	582.7	660.3	720.5
50°	306.0	306.6	314.7	322.1	336.6	358.0	391.3	438.3	499.5	573.4	642.3
52.5°	272.0	271.7	275.7	285.6	296.7	312.2	337.5	379.3	431.8	496.1	567.8
55°	238.0	239.6	243.3	250.7	259.7	271.4	292.7	324.9	367.5	424.1	488.7
57.5°	212.1	213.0	216.4	219.2	227.8	236.5	253.8	277.0	314.4	361.7	425.0
60°	186.7	187.0	187.9	192.6	199.1	207.1	217.9	236.8	267.1	309.4	357.0
62.5°	162.0	162.6	164.1	167.2	171.9	176.8	188.2	202.5	226.3	260.9	302.6
65°	139.1	139.4	141.6	142.8	146.8	151.8	160.1	170.3	187.6	217.9	250.4
67.5°	119.9	119.9	119.9	121.8	124.9	128.3	133.8	142.5	156.4	175.9	206.2
70°	101.4	101.4	102.0	102.9	104.5	107.3	110.0	116.2	125.8	141.0	162.9
72.5°	84.1	84.4	85.0	85.0	85.6	87.8	89.6	93.0	99.5	110.0	126.7
75°	64.3	65.2	66.8	68.0	69.6	69.2	71.4	73.9	76.0	82.8	93.0
77.5°	50.7	50.1	50.1	51.3	51.6	51.9	53.5	55.6	57.5	61.2	64.9
80°	36.5	36.5	37.4	37.7	37.4	37.7	39.3	40.2	40.8	42.0	45.4
82.5°	25.3	26.0	25.3	25.7	26.0	26.3	27.5	27.5	28.1	28.4	29.4
85°	15.5	15.8	16.1	15.5	15.5	15.5	16.1	16.4	17.0	16.7	17.3
87.5°	6.8	6.5	6.8	6.8	7.1	6.8	7.1	7.7	7.1	7.4	7.4
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°	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2
2.5°	796.3	791.9	789.8	784.8	779.0	775.9	773.1	769.1	763.8	758.2	754.2
5°	830.6	823.2	813.9	802.8	792.9	783.3	774.9	766.6	757.0	747.1	737.2
7.5°	864.6	851.3	837.1	820.1	803.7	788.5	774.9	761.7	746.5	732.9	720.2
10°	900.4	880.7	858.7	835.5	812.3	792.3	772.5	754.5	734.8	717.1	702.3
12.5°	929.5	905.4	877.9	847.6	818.5	793.2	769.7	745.0	721.8	702.3	681.3
15°	962.3	930.4	894.9	860.3	824.1	791.0	760.4	733.2	707.6	680.7	661.8
17.5°	984.8	948.0	906.0	865.8	824.4	786.1	751.4	719.9	690.6	663.7	641.4
20°	1004.6	962.9	915.0	867.7	819.8	778.0	740.0	704.2	673.6	643.9	620.7
22.5°	1015.7	968.4	915.0	864.9	814.8	768.8	726.1	688.4	654.4	624.7	598.4
25°	1016.4	966.9	913.4	856.5	802.1	754.2	711.0	670.5	633.4	603.7	576.5
27.5°	1013.9	956.7	902.9	845.1	789.2	738.2	693.3	650.4	613.6	582.1	554.2
30°	1006.5	944.0	885.3	824.7	767.8	719.3	671.4	630.6	591.9	558.9	530.7
32.5°	990.4	928.6	864.3	801.8	744.0	693.6	648.8	607.7	570.0	536.0	505.7
35°	968.1	905.4	836.8	773.1	716.5	664.6	621.9	582.4	546.2	510.0	478.5
37.5°	942.5	876.9	809.3	739.4	683.1	633.7	593.8	555.8	520.5	487.5	452.5
40°	902.9	844.5	774.0	704.8	646.7	599.4	563.2	529.5	494.0	461.2	426.3
42.5°	855.0	807.4	736.0	666.4	609.3	564.1	531.1	498.3	466.8	435.2	398.4
45°	800.6	762.9	696.1	629.4	571.5	526.4	495.5	466.4	438.0	407.7	373.4
47.5°	740.0	712.2	654.1	584.2	530.1	488.7	459.0	434.9	409.9	379.3	348.4
50°	676.3	660.0	604.3	541.9	490.9	453.5	422.9	400.6	380.5	351.5	324.6
52.5°	608.3	601.5	556.7	497.7	448.8	412.4	387.3	367.8	347.4	324.6	299.8
55°	539.1	543.7	503.9	452.2	405.9	375.0	351.2	334.5	317.1	296.7	277.3
57.5°	467.1	484.7	455.0	408.3	363.5	334.5	316.2	301.4	286.9	269.5	251.9
60°	403.7	417.9	402.8	362.9	324.9	298.3	281.6	270.8	256.3	240.8	228.1
62.5°	341.9	357.3	349.9	319.6	285.0	263.1	248.8	238.9	229.1	216.1	202.8
65°	292.1	302.0	297.7	275.4	250.4	230.9	217.3	209.9	200.0	190.1	178.4
67.5°	233.7	253.2	250.1	237.7	213.6	198.1	188.6	181.8	172.5	165.1	156.7
70°	183.9	201.5	201.2	191.6	179.9	165.7	159.5	153.9	145.9	138.8	132.3
72.5°	142.2	158.0	161.0	154.2	147.1	137.2	131.4	128.0	120.2	115.9	111.0
75°	105.4	117.2	120.2	120.2	116.5	111.0	105.7	103.2	97.7	93.4	90.3
77.5°	74.2	82.2	86.9	87.8	88.1	85.9	81.0	79.1	74.8	73.3	69.9
80°	48.8	53.8	59.3	61.2	62.7	62.1	60.3	59.0	55.0	53.5	52.2
82.5°	30.0	32.1	36.5	41.1	40.2	42.3	40.8	39.9	37.1	36.8	35.5
85°	17.6	17.9	18.5	21.3	22.9	23.5	23.8	23.2	22.3	22.3	20.1
87.5°	7.4	7.1	7.7	7.7	8.0	9.3	10.2	10.5	9.6	8.7	7.7
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°	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2	767.2
2.5°	749.9	746.8	742.8	738.2	732.6	727.6	725.5	727.3	728.3	725.8	725.5
5°	730.4	722.7	716.5	707.2	699.8	693.6	689.3	687.5	688.1	683.1	681.9
7.5°	708.8	700.4	690.2	679.7	669.8	661.2	656.6	654.4	649.1	647.0	643.6
10°	688.1	675.7	665.8	652.8	641.1	630.3	625.0	620.7	615.4	613.0	607.7
12.5°	666.8	651.9	640.8	627.2	615.1	601.5	596.6	587.6	578.7	572.8	565.7
15°	647.0	629.7	616.4	600.3	586.1	571.2	557.9	543.1	537.5	525.8	519.0
17.5°	623.5	605.5	590.7	570.0	548.7	530.7	515.9	500.5	492.1	484.1	480.7
20°	600.3	584.2	561.3	536.3	511.9	491.5	480.0	470.8	461.5	456.2	452.5
22.5°	578.3	556.7	529.2	501.7	477.3	462.4	453.2	443.6	436.5	431.5	426.3
25°	553.3	526.4	498.3	467.4	450.7	436.8	426.3	418.5	413.9	407.4	404.9
27.5°	528.9	496.4	464.6	443.6	426.3	413.0	403.4	397.8	391.6	387.3	383.9
30°	499.8	466.8	438.9	419.2	401.5	391.0	383.6	376.8	372.2	368.8	366.3
32.5°	471.1	438.0	415.8	394.1	381.1	370.9	362.9	358.3	354.9	350.2	349.0
35°	443.6	414.2	393.8	374.6	360.4	351.2	345.0	339.7	336.6	335.4	334.5
37.5°	416.7	392.3	369.7	354.2	340.9	333.8	325.8	323.3	321.2	318.4	319.6
40°	391.3	368.8	349.3	332.6	322.4	314.4	310.0	306.9	305.1	305.1	305.1
42.5°	369.4	347.4	328.6	314.1	303.9	297.4	292.4	289.9	289.6	289.3	291.2
45°	346.5	326.1	306.9	294.6	285.9	279.1	276.3	274.2	274.2	275.4	275.7
47.5°	323.6	304.5	289.0	274.8	266.8	262.4	260.0	258.7	258.7	260.3	261.5
50°	302.9	284.1	268.9	256.6	249.1	245.1	243.0	242.3	243.0	243.0	245.1
52.5°	280.4	264.0	249.1	239.3	230.6	226.9	226.0	225.0	225.3	226.6	227.2
55°	258.4	243.3	229.1	219.2	213.0	210.5	207.7	208.0	207.4	208.0	208.0
57.5°	236.2	222.9	209.0	200.9	195.7	192.0	188.9	189.8	188.9	188.9	188.6
60°	214.8	200.0	189.5	182.4	176.2	173.1	170.3	170.9	170.0	169.4	168.2
62.5°	191.6	179.9	170.0	163.2	158.6	154.9	152.1	151.2	148.7	146.2	143.1
65°	169.4	159.2	150.2	143.7	139.1	136.3	134.2	132.3	127.7	122.7	120.2
67.5°	147.4	140.0	131.4	125.8	122.1	118.4	114.4	111.0	106.3	103.2	101.7
70°	126.4	119.3	112.2	107.0	102.9	99.5	94.9	92.7	89.6	88.4	86.9
72.5°	106.3	99.8	93.4	88.7	84.4	81.9	78.5	76.4	75.4	75.1	73.6
75°	85.9	80.7	75.7	71.4	68.0	66.1	64.6	63.1	62.4	59.7	58.1
77.5°	66.1	62.4	59.3	55.9	53.8	52.5	49.1	47.0	45.7	44.2	43.9
80°	48.8	46.4	43.3	41.4	38.0	36.8	35.5	35.2	34.9	34.6	34.3
82.5°	33.7	31.2	28.1	27.2	26.9	26.3	25.7	25.3	25.0	25.3	25.3
85°	18.5	17.3	17.3	17.0	16.7	16.4	16.1	16.1	15.8	16.1	15.8
87.5°	7.7	7.4	7.4	6.8	7.1	7.1	6.8	6.8	7.1	6.5	6.5
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: P242757

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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	767.2	767.2	767.2	767.2
2.5°	723.6	724.2	722.1	721.5
5°	679.4	678.8	677.3	677.6
7.5°	641.1	638.9	640.5	638.0
10°	606.5	603.1	600.3	597.8
12.5°	559.2	556.4	552.4	553.9
15°	515.0	510.3	502.9	503.9
17.5°	475.4	476.0	471.7	472.9
20°	446.0	443.9	444.2	443.3
22.5°	425.6	422.9	420.1	417.9
25°	402.2	400.3	397.5	396.9
27.5°	381.4	381.1	379.9	378.4
30°	363.8	363.2	362.6	361.7
32.5°	348.1	347.8	347.1	347.4
35°	333.2	332.9	332.3	332.0
37.5°	319.3	320.2	319.6	319.6
40°	304.8	305.1	305.7	305.4
42.5°	292.7	292.7	293.7	292.4
45°	277.9	279.7	279.4	279.4
47.5°	262.1	264.3	264.6	264.6
50°	246.7	246.1	247.0	246.7
52.5°	227.8	228.1	227.8	227.5
55°	208.3	208.7	208.0	208.3
57.5°	187.6	186.4	187.3	186.7
60°	165.1	162.6	162.0	160.7
62.5°	139.7	138.2	135.7	137.2
65°	117.8	116.5	115.6	116.8
67.5°	100.2	99.5	99.5	98.9
70°	86.9	85.9	85.9	85.3
72.5°	73.3	72.3	72.6	72.3
75°	56.3	54.7	54.7	55.0
77.5°	43.9	43.6	44.2	43.3
80°	34.3	34.0	33.7	34.6
82.5°	24.7	24.7	24.7	26.0
85°	16.1	15.5	16.1	15.5
87.5°	7.1	6.8	6.5	6.8
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242757
 CATALOG NUMBER: S124RDRP-S575D935-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	15.77	17.29	16.14	17.61	17.92	17.59	19.11	17.96	19.43	19.74
	3H	17.00	18.36	17.38	18.69	19.05	19.04	20.41	19.42	20.74	21.10
	4H	17.43	18.71	17.83	19.06	19.44	19.56	20.84	19.96	21.19	21.57
	6H	17.71	18.89	18.12	19.25	19.65	19.91	21.10	20.32	21.46	21.85
	8H	17.78	18.91	18.21	19.30	19.70	20.01	21.14	20.44	21.53	21.93
	12H	17.84	18.91	18.27	19.29	19.72	20.07	21.15	20.50	21.53	21.96
4H	2H	17.03	18.31	17.43	18.66	19.04	18.10	19.38	18.50	19.73	20.11
	3H	18.27	19.33	18.68	19.73	20.13	19.84	20.90	20.25	21.30	21.70
	4H	18.73	19.69	19.16	20.10	20.54	20.47	21.42	20.90	21.84	22.28
	6H	19.05	19.88	19.51	20.33	20.79	20.92	21.75	21.38	22.19	22.65
	8H	19.15	19.92	19.61	20.37	20.84	21.06	21.83	21.52	22.28	22.74
	12H	19.22	19.91	19.70	20.39	20.86	21.15	21.84	21.63	22.32	22.79
8H	4H	19.13	19.91	19.60	20.35	20.82	20.58	21.35	21.04	21.80	22.27
	6H	19.52	20.16	20.02	20.65	21.13	21.12	21.76	21.62	22.25	22.73
	8H	19.66	20.23	20.17	20.74	21.23	21.31	21.89	21.82	22.40	22.88
	12H	19.77	20.28	20.28	20.77	21.33	21.46	21.97	21.97	22.46	23.02
12H	4H	19.17	19.86	19.65	20.34	20.81	20.57	21.26	21.05	21.74	22.21
	6H	19.57	20.14	20.08	20.65	21.14	21.11	21.68	21.62	22.19	22.68
	8H	19.75	20.26	20.26	20.75	21.31	21.34	21.85	21.85	22.34	22.90