

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: P242752

Luminaire Tested: S124RDRP-S575D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242752
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-S575D930-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

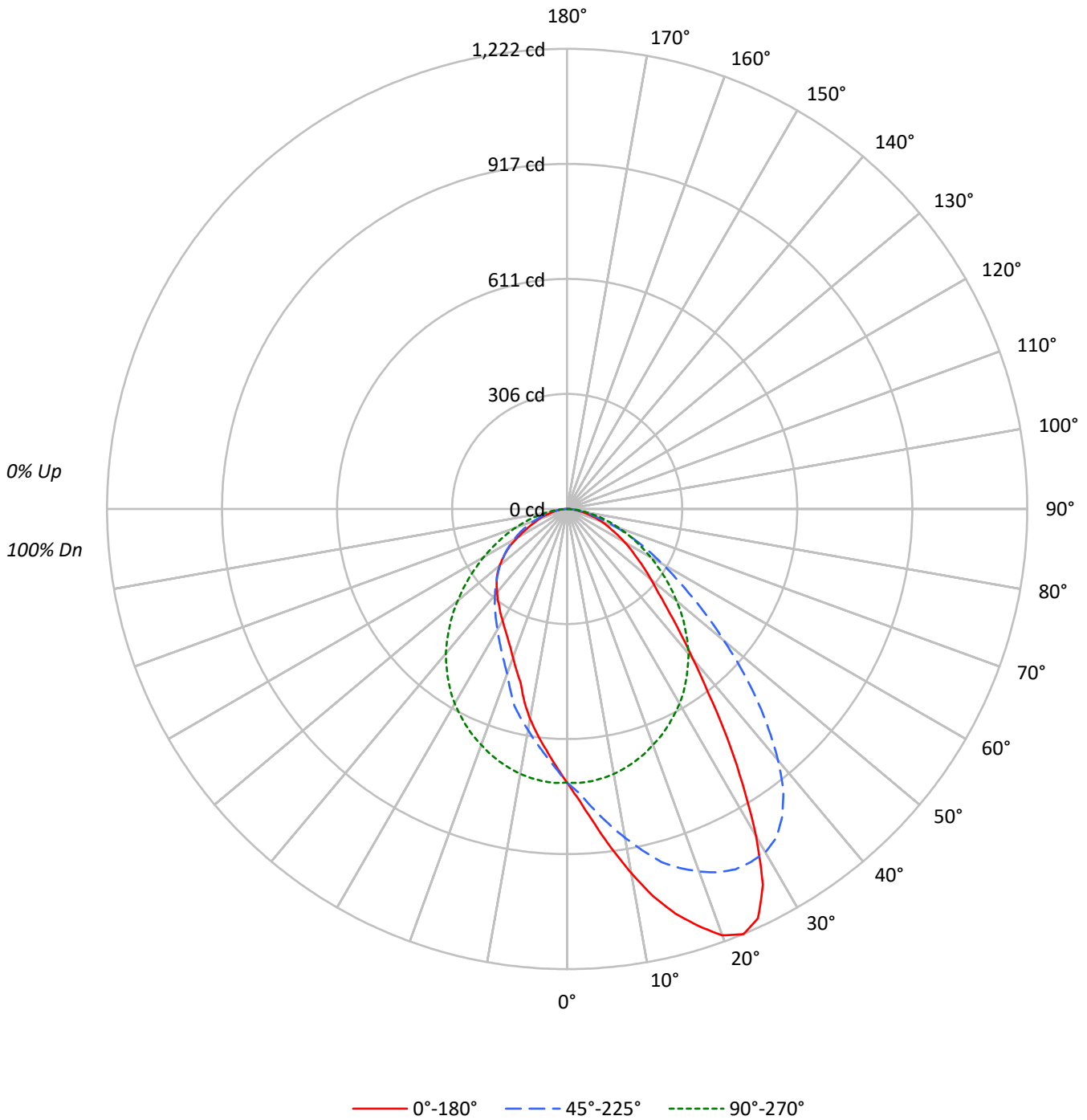
Lumens per Lamp: N/A
Luminaire Lumens: 1836.5 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74				74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63				63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55				55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48				48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43				43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38				38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34				34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31				31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28				28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6458	6458	6458	6458	6458
5°	7491	7130	6477	5861	5725
10°	8861	8005	6449	5387	5110
15°	10236	8937	6389	4978	4391
20°	11397	9691	6308	4402	3970
25°	11764	10358	6227	4057	3686
30°	10299	10804	6129	3801	3515
35°	8017	10809	5985	3608	3412
40°	6012	10111	5818	3454	3356
45°	4747	8923	5553	3322	3326
50°	4008	7509	5245	3210	3230
55°	3493	6224	4908	3089	3058
60°	3143	5209	4558	2914	2706
65°	2770	4341	4179	2715	2326
70°	2495	3470	3789	2451	2100
75°	2092	2693	3359	2150	1789
80°	1766	2037	2861	1781	1679
85°	1489	1611	2244	1581	1489

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 9530 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	3.8
10°-20°	212.4	11.6
20°-30°	332.8	18.1
30°-40°	369.5	20.1
40°-50°	327.5	17.8
50°-60°	255.2	13.9
60°-70°	166.9	9.1
70°-80°	81.9	4.5
80°-90°	19.9	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°	615.5	33.5
0°-40°	985.1	53.6
0°-60°	1567.7	85.4
0°-90°	1836.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1836.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	726	726	726	726	726	
5°	840	799	726	657	642	85
15°	1112	971	694	541	477	316
25°	1200	1056	635	414	376	536
35°	739	996	552	332	314	462
45°	378	710	442	264	265	298
55°	225	402	317	199	197	205
65°	132	206	199	129	111	132
75°	61	78	98	63	52	67
85°	15	16	22	16	15	17
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°	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5
2.5°	776.3	778.9	776.3	776.0	773.0	772.2	771.0	767.2	760.2	756.1	756.9
5°	839.5	846.8	842.7	842.1	835.7	829.2	825.1	815.8	805.8	799.1	793.5
7.5°	909.7	914.1	911.2	908.0	896.8	893.3	883.7	872.6	855.9	843.3	831.9
10°	981.7	985.2	984.1	976.5	968.9	953.3	944.6	927.3	904.7	886.9	870.2
12.5°	1052.6	1056.4	1043.8	1046.1	1030.0	1018.6	1003.4	980.6	953.6	929.3	907.4
15°	1112.3	1107.6	1107.6	1101.7	1085.6	1068.7	1054.3	1031.5	998.7	971.2	942.2
17.5°	1161.4	1163.5	1161.2	1146.2	1134.5	1117.3	1091.5	1065.4	1037.1	1000.2	971.5
20°	1204.8	1204.8	1202.1	1192.8	1176.4	1157.6	1129.3	1100.3	1061.6	1024.5	991.1
22.5°	1222.3	1223.5	1220.3	1213.0	1198.6	1180.5	1157.4	1127.8	1087.7	1044.7	1001.3
25°	1199.5	1205.1	1205.6	1203.6	1199.2	1188.1	1167.3	1137.2	1101.4	1056.1	1011.6
27.5°	1125.7	1133.1	1136.0	1142.4	1154.4	1158.8	1156.2	1136.0	1101.4	1056.7	1012.5
30°	1003.4	1009.2	1028.3	1053.1	1072.5	1090.0	1105.3	1109.3	1091.8	1052.6	1005.4
32.5°	867.6	876.1	895.1	922.3	957.7	990.5	1029.4	1050.2	1054.0	1034.4	991.7
35°	738.8	744.6	762.2	790.3	828.9	873.1	927.3	969.4	998.1	996.1	969.4
37.5°	615.3	623.5	641.3	664.4	702.5	759.0	810.2	866.7	918.2	943.4	929.9
40°	518.1	518.4	535.6	559.7	594.8	642.5	699.6	764.0	823.1	871.4	880.7
42.5°	441.4	441.4	451.3	477.7	500.5	544.7	598.6	662.4	734.1	791.8	820.4
45°	377.6	380.2	389.6	405.1	425.0	463.1	506.7	566.1	643.7	709.8	751.1
47.5°	327.2	331.9	337.5	351.5	367.9	394.6	431.7	487.4	551.7	625.2	682.3
50°	289.8	290.4	298.0	305.0	318.8	339.0	370.6	415.1	473.0	543.0	608.2
52.5°	257.6	257.3	261.1	270.5	281.0	295.6	319.6	359.1	408.9	469.8	537.7
55°	225.4	226.8	230.4	237.4	245.9	257.0	277.2	307.6	348.0	401.6	462.8
57.5°	200.8	201.7	204.9	207.5	215.7	223.9	240.3	262.3	297.7	342.5	402.5
60°	176.8	177.1	178.0	182.4	188.5	196.1	206.4	224.2	252.9	293.0	338.1
62.5°	153.4	154.0	155.4	158.4	162.7	167.4	178.3	191.7	214.3	247.0	286.6
65°	131.7	132.0	134.1	135.2	139.0	143.7	151.6	161.3	177.7	206.4	237.1
67.5°	113.6	113.6	113.6	115.3	118.3	121.5	126.7	134.9	148.1	166.5	195.2
70°	96.0	96.0	96.6	97.5	98.9	101.6	104.2	110.1	119.1	133.5	154.3
72.5°	79.6	79.9	80.5	80.5	81.1	83.1	84.9	88.1	94.3	104.2	120.0
75°	60.9	61.8	63.2	64.4	65.9	65.6	67.6	70.0	72.0	78.4	88.1
77.5°	48.0	47.4	47.4	48.6	48.9	49.2	50.6	52.7	54.4	58.0	61.5
80°	34.5	34.5	35.4	35.7	35.4	35.7	37.2	38.1	38.6	39.8	43.0
82.5°	24.0	24.6	24.0	24.3	24.6	24.9	26.1	26.1	26.6	26.9	27.8
85°	14.6	14.9	15.2	14.6	14.6	14.6	15.2	15.5	16.1	15.8	16.4
87.5°	6.4	6.1	6.4	6.4	6.7	6.4	6.7	7.3	6.7	7.0	7.0
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°	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5
2.5°	754.0	749.9	747.9	743.2	737.6	734.7	732.1	728.2	723.3	718.0	714.2
5°	786.5	779.5	770.7	760.2	750.8	741.7	733.8	725.9	716.8	707.5	698.1
7.5°	818.7	806.1	792.6	776.5	761.0	746.7	733.8	721.2	706.9	694.0	682.0
10°	852.6	833.9	813.1	791.2	769.2	750.2	731.5	714.5	695.8	679.1	665.0
12.5°	880.2	857.3	831.3	802.6	775.1	751.1	728.8	705.4	683.5	665.0	645.1
15°	911.2	881.0	847.4	814.6	780.3	749.0	720.1	694.3	670.0	644.5	626.7
17.5°	932.6	897.7	857.9	819.9	780.6	744.3	711.6	681.7	653.9	628.4	607.4
20°	951.3	911.8	866.4	821.6	776.3	736.7	700.7	666.8	637.8	609.7	587.7
22.5°	961.8	917.0	866.4	819.0	771.6	728.0	687.6	651.9	619.7	591.6	566.7
25°	962.4	915.6	864.9	811.1	759.6	714.2	673.2	634.9	599.8	571.7	545.9
27.5°	960.1	905.9	855.0	800.3	747.3	699.0	656.5	615.8	581.0	551.2	524.8
30°	953.0	893.9	838.3	780.9	727.1	681.1	635.8	597.1	560.5	529.2	502.6
32.5°	937.8	879.3	818.4	759.3	704.5	656.8	614.4	575.5	539.7	507.5	478.9
35°	916.7	857.3	792.3	732.1	678.5	629.3	588.9	551.5	517.2	483.0	453.1
37.5°	892.5	830.4	766.3	700.1	646.9	600.0	562.3	526.3	492.9	461.6	428.5
40°	855.0	799.7	732.9	667.4	612.3	567.6	533.3	501.4	467.7	436.7	403.6
42.5°	809.6	764.5	696.9	631.1	576.9	534.2	502.9	471.8	442.0	412.1	377.3
45°	758.1	722.4	659.2	595.9	541.2	498.5	469.2	441.7	414.8	386.1	353.6
47.5°	700.7	674.4	619.4	553.2	502.0	462.8	434.7	411.8	388.1	359.1	329.9
50°	640.4	624.9	572.2	513.1	464.8	429.4	400.4	379.3	360.3	332.8	307.3
52.5°	576.0	569.6	527.2	471.3	425.0	390.5	366.8	348.3	329.0	307.3	283.9
55°	510.5	514.9	477.1	428.2	384.3	355.1	332.5	316.7	300.3	281.0	262.6
57.5°	442.3	459.0	430.9	386.7	344.2	316.7	299.4	285.4	271.6	255.2	238.6
60°	382.3	395.7	381.4	343.6	307.6	282.5	266.7	256.4	242.7	228.0	216.0
62.5°	323.7	338.4	331.3	302.7	269.9	249.1	235.6	226.3	216.9	204.6	192.0
65°	276.6	286.0	281.9	260.8	237.1	218.6	205.8	198.7	189.4	180.0	168.9
67.5°	221.3	239.7	236.8	225.1	202.3	187.6	178.5	172.1	163.3	156.3	148.4
70°	174.2	190.8	190.6	181.5	170.4	156.9	151.0	145.8	138.2	131.4	125.3
72.5°	134.6	149.6	152.5	146.1	139.3	130.0	124.4	121.2	113.9	109.8	105.1
75°	99.8	110.9	113.9	113.9	110.3	105.1	100.1	97.8	92.5	88.4	85.5
77.5°	70.2	77.9	82.2	83.1	83.4	81.4	76.7	74.9	70.8	69.4	66.2
80°	46.2	50.9	56.2	58.0	59.4	58.8	57.1	55.9	52.1	50.6	49.5
82.5°	28.4	30.4	34.5	38.9	38.1	40.1	38.6	37.8	35.1	34.8	33.7
85°	16.7	17.0	17.6	20.2	21.7	22.2	22.5	22.0	21.1	21.1	19.0
87.5°	7.0	6.7	7.3	7.3	7.6	8.8	9.7	10.0	9.1	8.2	7.3
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°	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5	726.5
2.5°	710.1	707.2	703.4	699.0	693.7	689.0	687.0	688.7	689.6	687.3	687.0
5°	691.7	684.3	678.5	669.7	662.7	656.8	652.7	651.0	651.6	646.9	645.7
7.5°	671.2	663.3	653.6	643.7	634.3	626.1	621.7	619.7	614.7	612.6	609.4
10°	651.6	639.9	630.5	618.2	607.1	596.8	591.8	587.7	582.8	580.4	575.5
12.5°	631.4	617.3	606.8	593.9	582.5	569.6	564.9	556.4	547.9	542.4	535.6
15°	612.6	596.2	583.7	568.4	555.0	540.9	528.3	514.3	509.0	497.9	491.5
17.5°	590.4	573.4	559.4	539.7	519.5	502.6	488.5	473.9	466.0	458.4	455.2
20°	568.4	553.2	531.6	507.8	484.7	465.4	454.6	445.8	437.0	432.0	428.5
22.5°	547.6	527.2	501.1	475.1	451.9	437.9	429.1	420.0	413.3	408.6	403.6
25°	523.9	498.5	471.8	442.6	426.8	413.6	403.6	396.3	391.9	385.8	383.4
27.5°	500.8	470.1	439.9	420.0	403.6	391.1	382.0	376.7	370.9	366.8	363.5
30°	473.3	442.0	415.6	396.9	380.2	370.3	363.2	356.8	352.4	349.2	346.9
32.5°	446.1	414.8	393.7	373.2	360.9	351.2	343.6	339.2	336.0	331.6	330.5
35°	420.0	392.2	372.9	354.8	341.3	332.5	326.7	321.7	318.8	317.6	316.7
37.5°	394.6	371.4	350.1	335.4	322.9	316.1	308.5	306.2	304.1	301.5	302.7
40°	370.6	349.2	330.8	314.9	305.3	297.7	293.6	290.7	288.9	288.9	288.9
42.5°	349.8	329.0	311.1	297.4	287.7	281.6	276.9	274.6	274.3	274.0	275.7
45°	328.1	308.8	290.7	278.9	270.8	264.3	261.7	259.6	259.6	260.8	261.1
47.5°	306.5	288.3	273.7	260.2	252.6	248.5	246.2	245.0	245.0	246.5	247.6
50°	286.8	269.0	254.7	242.9	235.9	232.1	230.1	229.5	230.1	230.1	232.1
52.5°	265.5	250.0	235.9	226.6	218.4	214.8	214.0	213.1	213.4	214.6	215.1
55°	244.7	230.4	216.9	207.5	201.7	199.3	196.7	197.0	196.4	197.0	197.0
57.5°	223.6	211.0	197.9	190.3	185.3	181.8	178.8	179.7	178.8	178.8	178.5
60°	203.4	189.4	179.4	172.7	166.8	163.9	161.3	161.9	161.0	160.4	159.2
62.5°	181.5	170.4	161.0	154.5	150.2	146.6	144.0	143.1	140.8	138.4	135.5
65°	160.4	150.7	142.3	136.1	131.7	129.1	127.0	125.3	120.9	116.2	113.9
67.5°	139.6	132.6	124.4	119.1	115.6	112.1	108.3	105.1	100.7	97.8	96.3
70°	119.7	113.0	106.3	101.3	97.5	94.3	89.9	87.8	84.9	83.7	82.2
72.5°	100.7	94.5	88.4	84.0	79.9	77.6	74.3	72.3	71.4	71.1	69.7
75°	81.4	76.4	71.7	67.6	64.4	62.6	61.2	59.7	59.1	56.5	55.0
77.5°	62.6	59.1	56.2	53.0	50.9	49.8	46.5	44.5	43.3	41.9	41.6
80°	46.2	43.9	41.0	39.2	36.0	34.8	33.7	33.4	33.1	32.8	32.5
82.5°	31.9	29.6	26.6	25.8	25.5	24.9	24.3	24.0	23.7	24.0	24.0
85°	17.6	16.4	16.4	16.1	15.8	15.5	15.2	15.2	14.9	15.2	14.9
87.5°	7.3	7.0	7.0	6.4	6.7	6.7	6.4	6.4	6.7	6.1	6.1
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: P242752

CATALOG NUMBER: S124RDRP-S575D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	726.5	726.5	726.5	726.5
2.5°	685.2	685.8	683.8	683.2
5°	643.4	642.8	641.3	641.6
7.5°	607.1	605.0	606.5	604.1
10°	574.3	571.1	568.4	566.1
12.5°	529.5	526.9	523.1	524.5
15°	487.6	483.3	476.2	477.1
17.5°	450.2	450.8	446.7	447.8
20°	422.4	420.3	420.6	419.7
22.5°	403.1	400.4	397.8	395.7
25°	380.8	379.1	376.4	375.8
27.5°	361.2	360.9	359.7	358.3
30°	344.5	343.9	343.3	342.5
32.5°	329.6	329.3	328.7	329.0
35°	315.5	315.2	314.7	314.4
37.5°	302.4	303.2	302.7	302.7
40°	288.6	288.9	289.5	289.2
42.5°	277.2	277.2	278.1	276.9
45°	263.1	264.9	264.6	264.6
47.5°	248.2	250.3	250.6	250.6
50°	233.6	233.0	233.9	233.6
52.5°	215.7	216.0	215.7	215.4
55°	197.3	197.6	197.0	197.3
57.5°	177.7	176.5	177.4	176.8
60°	156.3	154.0	153.4	152.2
62.5°	132.3	130.8	128.5	130.0
65°	111.5	110.3	109.5	110.6
67.5°	94.8	94.3	94.3	93.7
70°	82.2	81.4	81.4	80.8
72.5°	69.4	68.5	68.8	68.5
75°	53.3	51.8	51.8	52.1
77.5°	41.6	41.3	41.9	41.0
80°	32.5	32.2	31.9	32.8
82.5°	23.4	23.4	23.4	24.6
85°	15.2	14.6	15.2	14.6
87.5°	6.7	6.4	6.1	6.4
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242752
 CATALOG NUMBER: S124RDRP-S575D930-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	15.58	17.10	15.95	17.42	17.73	17.40	18.92	17.76	19.24	19.55
	3H	16.81	18.17	17.19	18.50	18.86	18.85	20.22	19.23	20.55	20.91
	4H	17.24	18.52	17.64	18.87	19.25	19.37	20.65	19.77	21.00	21.38
	6H	17.51	18.70	17.93	19.06	19.46	19.72	20.90	20.13	21.27	21.66
	8H	17.59	18.72	18.02	19.11	19.51	19.82	20.95	20.25	21.34	21.74
	12H	17.64	18.72	18.07	19.10	19.53	19.88	20.96	20.31	21.34	21.77
4H	2H	16.84	18.12	17.24	18.47	18.85	17.91	19.19	18.31	19.54	19.92
	3H	18.08	19.14	18.49	19.54	19.94	19.65	20.71	20.06	21.11	21.51
	4H	18.54	19.50	18.97	19.91	20.35	20.28	21.23	20.71	21.65	22.09
	6H	18.87	19.70	19.32	20.14	20.60	20.73	21.56	21.19	22.00	22.46
	8H	18.96	19.74	19.42	20.18	20.65	20.87	21.64	21.33	22.09	22.56
	12H	19.03	19.72	19.51	20.20	20.67	20.96	21.65	21.44	22.13	22.60
8H	4H	18.94	19.72	19.41	20.16	20.63	20.39	21.16	20.85	21.61	22.08
	6H	19.33	19.97	19.83	20.46	20.94	20.93	21.57	21.43	22.06	22.54
	8H	19.47	20.04	19.98	20.55	21.04	21.12	21.70	21.64	22.21	22.69
	12H	19.58	20.09	20.09	20.58	21.14	21.27	21.78	21.78	22.27	22.83
12H	4H	18.98	19.67	19.46	20.15	20.62	20.38	21.07	20.86	21.55	22.02
	6H	19.38	19.95	19.89	20.46	20.95	20.92	21.49	21.43	22.00	22.49
	8H	19.56	20.07	20.07	20.56	21.12	21.15	21.66	21.66	22.15	22.71