

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: P242388

Luminaire Tested: S122RDRP-S485D927-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242388
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122RDRP-S485D927-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

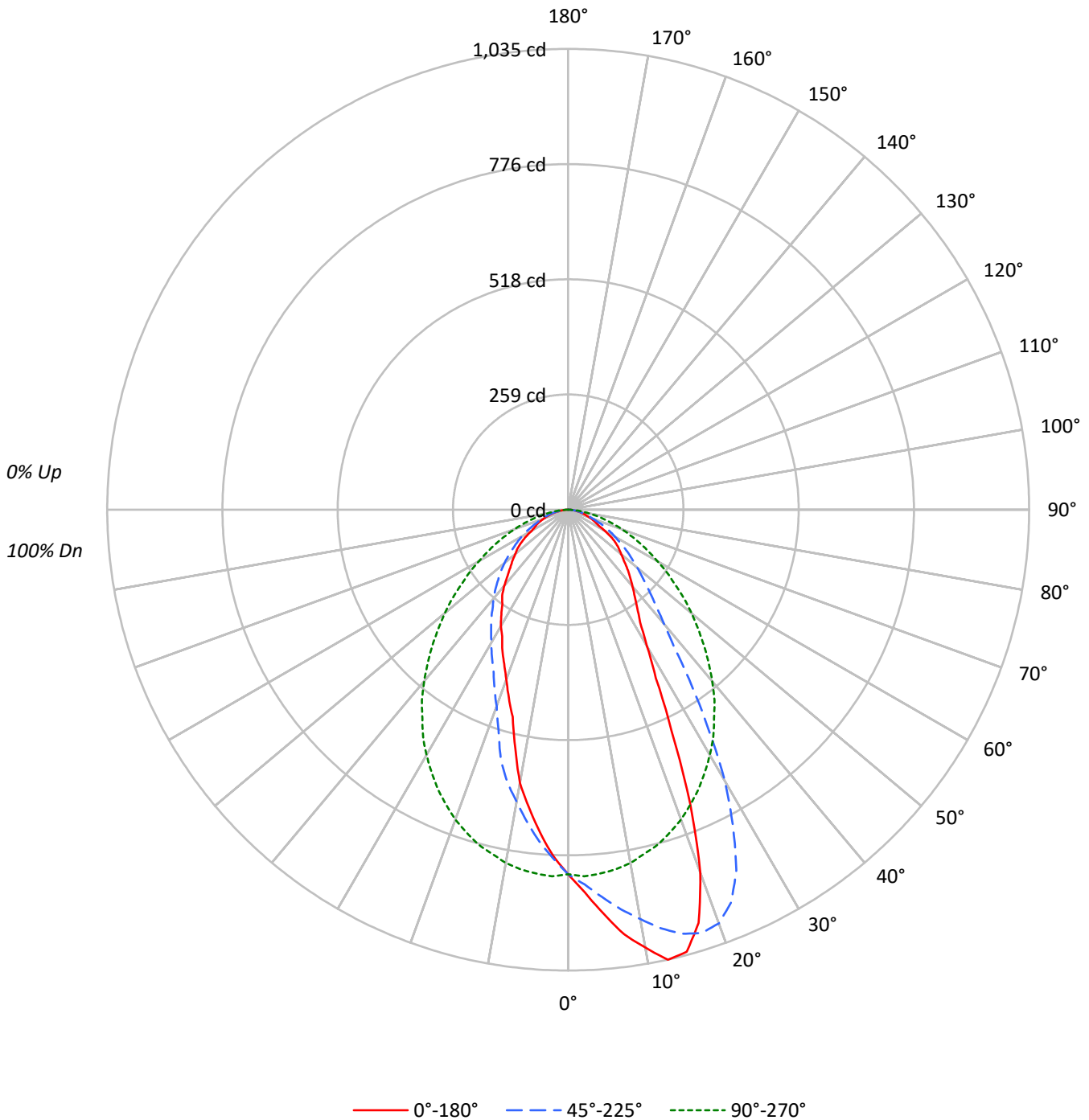
Lumens per Lamp: N/A
Luminaire Lumens: 1414.5 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

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	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	111	106	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	72	92	84	77	72	81	75	71	78	73	69	76	72	68					66				
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60					59				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54					52				
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49					47				
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40					39				
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37					35				
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	15592	15592	15592	15592	15592
5°	17413	16696	15688	14296	13910
10°	19320	18059	15580	12883	12058
15°	20270	19440	15352	11493	9501
20°	17572	20039	15012	9519	8222
25°	11526	18776	14550	8333	7341
30°	7757	15458	13988	7588	6645
35°	6283	11289	13280	6997	5992
40°	5587	8295	12510	6457	5545
45°	5056	6896	11607	5983	4948
50°	4602	5977	10712	5530	4584
55°	4327	5290	9720	4998	4271
60°	3619	4606	8808	4583	3577
65°	3051	4101	8000	4074	3461
70°	2818	3264	7145	3598	3264
75°	2635	2951	6219	3393	3017
80°	2435	2687	5112	2962	2687
85°	2229	2295	4043	2360	2360

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 70°
 Vertical Angle: 45°
 Luminance: 16909 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.6	5.5
10°-20°	216.7	15.3
20°-30°	278.9	19.7
30°-40°	264.6	18.7
40°-50°	226.7	16.0
50°-60°	172.7	12.2
60°-70°	108.9	7.7
70°-80°	54.4	3.8
80°-90°	14.0	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°	573.2	40.5
0°-40°	837.8	59.2
0°-60°	1237.2	87.5
0°-90°	1414.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1414.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	819	819	819	819	819	
5°	911	873	820	748	728	90
15°	1028	986	778	583	482	279
25°	548	893	692	396	349	259
35°	270	486	571	301	258	172
45°	188	256	431	222	184	145
55°	130	159	293	150	129	115
65°	68	91	178	90	77	69
75°	36	40	84	46	41	38
85°	10	10	18	11	11	11
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°	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6
2.5°	860.1	860.9	861.8	859.8	859.8	858.1	854.4	851.6	843.6	842.4	842.4
5°	910.7	910.1	911.3	907.6	902.5	901.3	895.9	888.8	881.4	873.2	871.5
7.5°	961.9	958.5	957.1	958.8	953.4	946.0	936.9	928.3	915.5	905.0	898.5
10°	998.9	1008.3	1002.6	992.6	994.6	981.2	974.1	961.9	951.7	933.7	929.8
12.5°	1035.3	1037.6	1036.7	1032.2	1028.5	1020.2	1010.0	999.7	978.7	963.0	946.5
15°	1027.9	1033.3	1034.7	1033.0	1034.4	1033.9	1028.7	1019.9	1003.4	985.8	970.4
17.5°	973.3	979.5	984.7	989.2	996.3	1010.3	1014.5	1016.2	1009.4	996.9	984.1
20°	866.9	860.7	886.8	900.2	911.6	940.0	964.5	973.9	988.9	988.6	985.8
22.5°	716.2	719.6	744.0	760.5	799.2	827.7	856.4	898.2	930.9	955.1	969.9
25°	548.4	559.2	583.9	605.5	642.5	695.4	743.5	799.2	851.8	893.4	932.9
27.5°	426.6	428.1	450.5	472.4	495.2	541.0	605.2	672.1	747.2	801.2	869.5
30°	352.7	351.0	359.2	371.5	390.2	423.8	469.3	534.7	609.5	702.8	785.9
32.5°	300.3	300.9	306.6	314.9	329.6	349.6	377.1	427.2	496.9	588.2	689.1
35°	270.2	269.9	274.5	281.0	287.5	302.1	323.4	351.3	399.9	485.5	585.1
37.5°	245.2	246.6	248.6	252.8	260.8	269.3	282.7	302.3	339.3	392.5	481.8
40°	224.7	225.3	228.4	231.8	236.1	242.3	252.8	267.9	293.2	333.6	394.8
42.5°	205.9	206.5	208.5	211.6	214.7	221.0	229.2	241.8	261.1	290.4	338.2
45°	187.7	187.7	189.7	191.1	194.8	200.5	207.6	218.4	232.7	256.0	289.5
47.5°	170.1	170.1	171.5	174.1	176.6	181.2	188.6	197.7	207.9	227.0	256.8
50°	155.3	155.6	156.4	158.4	159.8	163.8	169.2	176.9	187.7	201.7	225.5
52.5°	143.3	143.1	144.2	144.8	145.6	148.2	151.9	158.4	167.8	179.5	198.2
55°	130.3	129.1	130.8	132.3	133.1	134.2	136.5	140.8	149.0	159.3	174.1
57.5°	114.9	114.3	115.2	116.6	119.2	122.0	123.4	126.3	130.5	138.5	154.2
60°	95.0	95.0	97.6	98.4	101.5	105.5	109.5	111.8	116.0	120.9	131.7
62.5°	77.4	77.6	78.5	79.4	80.8	85.9	91.9	97.6	101.5	106.1	112.3
65°	67.7	68.3	68.3	68.8	70.0	71.1	73.4	77.4	84.5	91.0	96.4
67.5°	59.2	59.2	59.4	60.0	60.3	61.7	62.6	64.6	66.0	73.4	80.8
70°	50.6	51.5	51.2	51.8	52.0	52.6	53.8	54.6	57.2	58.6	62.6
72.5°	42.7	43.2	43.2	43.5	44.4	44.4	45.2	46.1	47.5	48.6	50.3
75°	35.8	35.6	35.8	36.4	36.7	37.0	37.0	38.1	39.0	40.1	41.5
77.5°	29.0	29.3	29.3	29.3	29.3	29.9	29.9	30.4	31.3	31.9	32.7
80°	22.2	22.5	22.2	22.5	22.8	23.0	22.8	23.0	23.9	24.5	24.5
82.5°	15.9	15.9	16.2	16.2	16.2	16.2	16.8	16.8	17.3	17.1	17.3
85°	10.2	10.0	10.0	10.0	10.2	10.5	10.2	10.2	10.5	10.5	10.5
87.5°	4.6	4.8	4.8	4.8	4.8	4.8	4.8	5.1	4.8	5.1	4.8
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°	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6
2.5°	843.0	840.7	838.8	833.6	831.1	825.4	824.5	824.2	816.9	809.7	807.8
5°	866.9	862.4	855.5	847.6	839.3	830.8	825.1	820.5	809.2	798.4	792.1
7.5°	890.5	882.3	871.5	857.8	846.1	832.5	823.1	814.6	798.9	784.7	775.3
10°	917.5	901.6	886.0	865.2	849.0	833.1	818.3	805.5	787.3	766.8	752.3
12.5°	934.3	916.4	893.4	873.2	851.0	829.7	808.6	791.3	769.1	747.7	729.8
15°	949.1	930.3	904.2	875.2	848.1	821.7	798.9	778.5	750.6	725.3	704.2
17.5°	962.8	936.9	909.9	876.3	846.4	814.3	785.6	760.0	729.5	699.7	675.8
20°	968.7	943.1	910.7	877.1	840.2	800.6	769.1	740.6	707.4	674.1	645.6
22.5°	965.0	946.5	909.6	867.8	829.7	787.8	751.2	717.0	679.2	645.1	610.9
25°	945.7	938.9	904.7	860.9	817.7	769.6	728.4	692.3	650.2	613.8	577.9
27.5°	910.1	920.1	895.9	848.4	801.8	750.0	705.1	664.4	621.5	580.8	544.9
30°	853.8	887.7	878.6	835.3	781.6	731.0	678.9	636.0	589.3	547.2	512.0
32.5°	776.7	838.2	851.6	817.1	761.1	704.2	649.0	606.4	557.2	512.2	478.1
35°	694.0	777.6	816.0	793.0	737.2	677.2	620.9	571.1	522.2	478.4	444.3
37.5°	595.9	707.4	766.5	763.9	710.8	649.6	588.5	539.3	488.9	445.7	410.1
40°	500.9	624.3	707.6	726.1	682.9	615.5	553.5	503.1	454.2	412.1	369.7
42.5°	415.5	538.4	645.6	681.2	649.0	582.2	519.9	466.7	419.5	380.3	336.8
45°	349.8	457.3	570.3	627.7	608.7	546.7	481.0	430.9	386.2	351.8	310.3
47.5°	302.9	381.1	494.6	569.7	567.4	508.5	443.1	395.1	353.0	321.1	285.8
50°	263.9	329.9	422.4	510.5	517.9	470.4	409.0	361.5	322.8	289.0	262.0
52.5°	229.0	280.4	361.2	444.8	469.3	429.8	370.6	327.7	290.4	260.0	237.8
55°	199.4	241.5	304.6	383.7	415.5	386.5	333.6	292.7	262.2	236.1	216.2
57.5°	173.5	206.5	259.1	325.4	361.5	341.9	296.6	262.8	235.8	211.3	195.4
60°	149.3	175.2	218.1	271.3	312.3	299.5	262.2	231.2	209.0	188.6	173.8
62.5°	126.6	147.9	183.2	223.8	260.5	257.1	228.4	203.6	184.9	166.7	154.7
65°	105.5	121.7	150.5	184.3	214.5	217.0	195.1	177.5	160.1	145.3	134.2
67.5°	87.3	98.4	120.0	149.9	172.9	180.9	166.1	151.9	137.7	125.7	115.8
70°	70.8	79.4	94.1	117.2	137.9	146.5	138.8	128.3	116.3	106.9	98.7
72.5°	54.0	62.3	72.2	87.6	104.7	114.1	112.6	105.8	96.7	89.3	81.6
75°	43.2	45.8	53.2	64.6	78.5	86.5	88.5	84.5	76.8	70.8	66.3
77.5°	33.6	35.3	39.2	46.1	55.7	62.9	66.0	65.4	59.7	55.7	51.5
80°	25.6	26.5	28.2	30.7	37.5	44.7	46.6	46.6	42.9	41.5	37.3
82.5°	17.9	18.5	19.3	20.5	22.8	28.7	31.0	31.6	29.6	27.6	24.5
85°	11.1	10.8	11.4	12.2	12.8	14.5	17.9	18.5	17.9	15.6	14.8
87.5°	4.8	5.1	5.1	4.8	5.1	5.4	6.8	8.2	7.1	6.3	5.7
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°	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6	818.6
2.5°	804.1	802.1	798.4	792.7	789.3	783.3	779.3	781.6	782.2	781.6	781.0
5°	785.3	779.3	771.1	763.1	755.7	747.7	743.2	741.2	737.2	734.9	733.8
7.5°	763.9	755.1	743.5	730.7	718.7	707.4	702.2	698.2	690.9	686.9	683.2
10°	739.5	723.3	711.6	693.4	682.3	666.1	655.0	655.3	644.2	638.0	633.4
12.5°	712.5	694.3	672.9	657.0	640.5	628.3	614.3	607.5	595.6	589.6	575.4
15°	682.0	661.3	640.8	618.6	603.0	582.8	563.4	539.8	520.8	504.3	499.7
17.5°	649.6	624.0	603.8	581.1	556.6	519.9	496.0	481.5	470.1	461.6	454.8
20°	616.1	589.9	568.0	528.7	492.6	469.6	453.1	442.6	430.6	421.2	416.1
22.5°	580.8	553.2	521.3	476.4	450.2	432.9	418.7	406.2	399.0	392.2	387.7
25°	547.8	517.9	468.7	438.6	415.8	396.5	386.2	378.8	370.3	360.4	355.8
27.5°	513.4	465.9	428.6	406.7	383.4	371.2	362.3	350.1	342.4	338.7	333.6
30°	473.8	426.3	398.8	374.3	358.9	345.0	334.2	327.9	320.5	312.9	309.7
32.5°	429.8	394.2	368.0	348.7	333.1	321.7	313.7	302.6	297.8	293.8	286.4
35°	394.8	366.0	341.9	325.4	310.6	300.9	291.0	285.0	275.3	271.3	268.8
37.5°	362.9	337.9	319.7	301.5	290.1	278.7	273.0	263.1	259.4	253.1	248.0
40°	336.8	312.3	294.9	280.7	267.6	259.7	252.0	244.3	238.1	235.5	229.0
42.5°	310.0	291.2	273.9	258.0	250.3	241.8	231.5	226.4	219.9	215.3	211.9
45°	285.8	268.2	253.4	240.6	230.9	222.1	215.9	206.5	202.8	194.5	191.1
47.5°	264.5	247.4	233.2	220.7	211.0	205.9	196.8	188.6	183.5	177.8	172.9
50°	241.5	227.8	214.2	203.4	194.8	186.6	177.2	173.5	164.4	161.8	159.3
52.5°	220.4	207.6	195.4	184.9	176.3	168.4	160.4	155.3	149.9	147.3	145.6
55°	201.1	188.6	176.6	167.2	158.7	150.5	145.3	139.4	136.5	134.5	132.3
57.5°	181.2	169.8	160.4	150.7	142.2	135.4	129.1	125.7	122.9	120.6	117.5
60°	162.4	151.6	143.3	134.5	125.7	120.3	115.8	111.5	108.1	104.1	103.0
62.5°	142.5	133.4	126.0	117.5	110.1	105.2	101.0	97.0	92.7	86.5	84.8
65°	124.6	117.2	109.2	102.1	95.3	90.4	84.2	79.6	77.9	77.4	77.1
67.5°	108.1	101.0	94.1	86.7	80.5	75.1	71.4	70.8	69.7	69.4	68.5
70°	91.6	85.0	78.2	71.4	65.4	64.6	63.4	62.3	60.9	60.3	59.7
72.5°	76.8	70.0	63.1	58.0	56.3	55.2	54.0	52.9	52.0	51.5	51.2
75°	61.2	54.9	50.3	48.4	46.9	46.1	44.4	43.5	42.9	42.1	41.8
77.5°	46.6	42.7	40.4	39.2	37.5	36.7	35.6	34.7	33.8	33.8	33.3
80°	33.6	31.9	30.4	28.7	28.2	27.0	26.7	25.9	26.2	25.3	25.3
82.5°	24.2	21.9	20.8	20.2	19.6	18.8	18.5	18.2	18.2	17.6	17.6
85°	13.4	12.8	12.2	11.7	11.7	10.8	11.1	10.8	10.8	10.2	10.0
87.5°	5.4	5.1	4.6	4.6	4.6	4.3	4.3	4.0	4.0	4.0	3.7
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: P242388

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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	818.6	818.6	818.6	818.6
2.5°	777.9	778.5	777.6	778.2
5°	732.4	729.0	728.4	727.5
7.5°	678.6	678.3	676.6	674.6
10°	627.1	625.7	625.4	623.4
12.5°	566.8	555.8	554.6	548.9
15°	492.9	491.2	485.5	481.8
17.5°	451.7	446.0	444.0	443.1
20°	412.1	407.0	406.2	405.6
22.5°	384.8	379.4	376.9	374.9
25°	353.0	351.0	349.8	349.3
27.5°	327.9	322.8	322.2	320.8
30°	307.2	305.8	303.8	302.1
32.5°	282.7	281.6	279.9	279.3
35°	265.9	262.0	260.2	257.7
37.5°	247.4	245.2	242.3	243.5
40°	225.3	223.8	223.3	223.0
42.5°	207.6	203.1	201.4	201.4
45°	189.7	186.0	183.5	183.7
47.5°	170.4	170.7	168.9	169.5
50°	157.3	155.6	154.4	154.7
52.5°	144.8	143.3	142.5	143.9
55°	130.8	129.1	128.8	128.6
57.5°	115.8	114.9	113.5	112.6
60°	99.3	97.0	94.1	93.9
62.5°	84.2	84.2	84.2	84.2
65°	76.5	76.2	76.5	76.8
67.5°	68.5	68.0	67.4	67.7
70°	59.2	58.9	58.6	58.6
72.5°	50.1	50.1	49.8	49.5
75°	41.5	41.0	41.0	41.0
77.5°	33.3	33.0	32.7	32.4
80°	25.0	24.7	24.5	24.5
82.5°	17.6	17.3	17.3	17.1
85°	10.2	10.5	10.2	10.8
87.5°	3.7	3.4	3.7	3.4
90°	0.0	0.0	0.0	0.0

TEST NUMBER: P242388

CATALOG NUMBER: S122RDRP-S485D927-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	15.08	16.53	15.44	16.84	17.16	20.98	22.43	21.34	22.74	23.06
	3H	16.19	17.49	16.57	17.82	18.18	22.13	23.43	22.51	23.76	24.13
	4H	16.64	17.86	17.05	18.21	18.59	22.53	23.75	22.93	24.10	24.48
	6H	17.01	18.13	17.43	18.50	18.89	22.80	23.92	23.21	24.29	24.68
	8H	17.13	18.20	17.56	18.59	18.99	22.87	23.93	23.29	24.32	24.73
	12H	17.22	18.24	17.65	18.62	19.05	22.90	23.92	23.33	24.31	24.74
4H	2H	15.79	17.00	16.19	17.35	17.73	20.94	22.16	21.34	22.51	22.89
	3H	17.06	18.06	17.47	18.46	18.87	22.24	23.24	22.65	23.64	24.05
	4H	17.61	18.51	18.04	18.93	19.37	22.73	23.64	23.16	24.05	24.49
	6H	18.08	18.86	18.54	19.31	19.77	23.12	23.90	23.58	24.34	24.81
	8H	18.24	18.97	18.71	19.42	19.89	23.23	23.96	23.70	24.41	24.88
	12H	18.36	19.01	18.84	19.49	19.96	23.31	23.96	23.79	24.44	24.91
8H	4H	17.95	18.68	18.42	19.13	19.60	22.72	23.45	23.18	23.89	24.36
	6H	18.52	19.12	19.02	19.62	20.10	23.14	23.75	23.64	24.24	24.72
	8H	18.75	19.29	19.26	19.80	20.29	23.29	23.83	23.81	24.35	24.83
	12H	18.93	19.41	19.44	19.90	20.47	23.42	23.89	23.93	24.39	24.95
12H	4H	17.99	18.64	18.48	19.12	19.60	22.69	23.35	23.18	23.83	24.30
	6H	18.58	19.13	19.10	19.64	20.13	23.12	23.66	23.63	24.17	24.66
	8H	18.86	19.34	19.37	19.83	20.40	23.30	23.78	23.81	24.27	24.84