

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: P242629

Luminaire Tested: S124DRP-S575D927-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242629  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-S575D927-X4F0-XX-UDD-A-W  
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

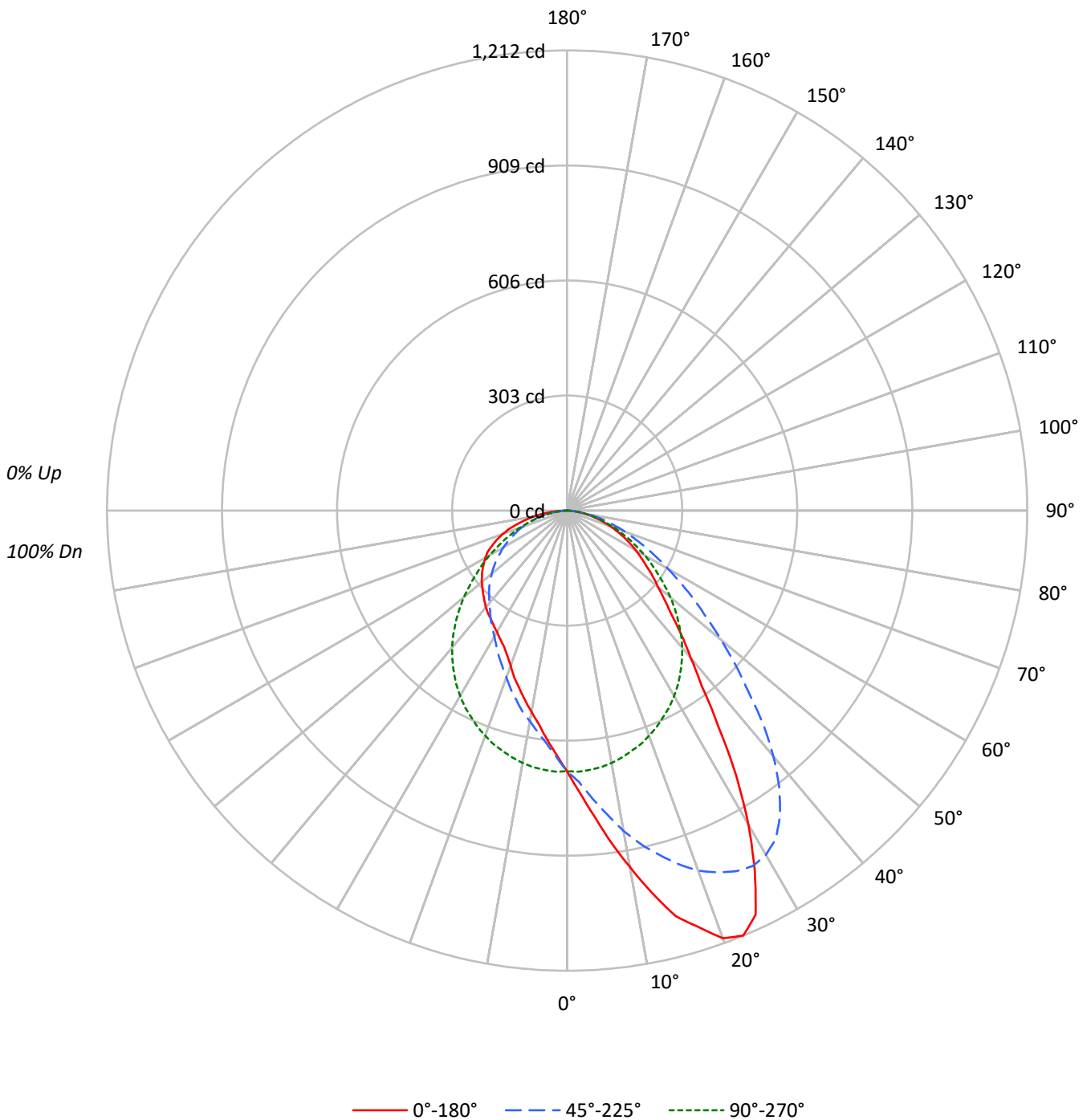
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1894.5 lumens  
Efficiency: N/A  
Efficacy: 100.8 lumens/watt  
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41  
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<sub>in</sub>): 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	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62					62			
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46					46			
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

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

	0°	45°	90°	135°	180°
0°	6103	6103	6103	6103	6103
5°	7186	6789	6118	5499	5400
10°	8605	7734	6092	5088	4862
15°	10181	8639	6030	4753	4465
20°	11337	9550	5967	4423	4111
25°	11520	10284	5875	4164	3866
30°	9802	10748	5786	3932	3789
35°	7536	10614	5642	3806	3789
40°	5874	9809	5471	3699	3862
45°	4898	8488	5216	3654	3926
50°	4310	7320	4905	3587	4059
55°	3949	6298	4531	3521	4223
60°	3701	5451	4197	3433	4420
65°	3445	4762	3822	3319	4583
70°	3150	4205	3451	3230	4686
75°	2813	3623	3039	3019	4630
80°	2360	2938	2488	2754	4484
85°	1744	2234	1795	2550	4294

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 55°  
 Vertical Angle: 45°  
 Luminance: 9370 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.8	3.5
10°-20°	206.2	10.9
20°-30°	327.6	17.3
30°-40°	364.0	19.2
40°-50°	331.1	17.5
50°-60°	270.5	14.3
60°-70°	193.1	10.2
70°-80°	106.3	5.6
80°-90°	28.7	1.5
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°	600.7	31.7
0°-40°	964.7	50.9
0°-60°	1566.4	82.7
0°-90°	1894.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1894.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	687	687	687	687	687	
5°	805	761	686	616	605	82
15°	1106	939	655	516	485	313
25°	1175	1049	599	425	394	521
35°	694	978	520	351	349	440
45°	390	675	415	291	312	306
55°	255	406	292	227	272	230
65°	164	226	182	158	218	162
75°	82	106	88	88	135	87
85°	17	22	18	25	42	21
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°	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6
2.5°	741.7	741.4	738.6	738.0	736.0	733.5	732.9	728.4	719.3	715.0	713.9
5°	805.4	811.1	803.7	802.3	801.5	792.1	787.2	781.5	768.5	760.8	754.8
7.5°	880.0	880.2	877.1	874.0	868.6	860.6	849.8	837.3	822.2	806.9	796.1
10°	953.3	955.6	951.9	951.3	936.8	927.7	909.5	894.2	876.5	856.9	839.0
12.5°	1030.7	1026.1	1024.7	1009.6	1009.9	991.4	969.5	953.6	924.0	900.7	875.4
15°	1106.3	1100.1	1096.1	1079.3	1071.1	1048.0	1025.6	1008.2	972.7	938.8	913.2
17.5°	1150.1	1157.8	1147.6	1140.8	1118.3	1103.2	1080.7	1045.2	1018.7	976.6	947.4
20°	1198.5	1199.1	1193.9	1186.8	1170.0	1149.6	1124.5	1084.7	1051.4	1009.6	965.3
22.5°	1211.6	1211.6	1210.1	1203.6	1191.9	1176.3	1151.0	1119.4	1077.3	1031.0	986.6
25°	1174.6	1173.5	1176.0	1183.4	1178.6	1173.5	1159.0	1134.2	1096.7	1048.6	1000.8
27.5°	1069.9	1077.3	1092.7	1110.9	1124.0	1135.6	1134.8	1124.3	1097.5	1056.0	1005.1
30°	955.0	964.7	975.5	993.7	1029.0	1049.2	1071.4	1088.1	1078.8	1047.2	1000.5
32.5°	828.8	829.3	846.7	868.0	899.6	943.1	981.5	1019.9	1036.4	1023.6	986.6
35°	694.5	698.5	715.8	736.3	775.9	823.4	876.3	923.5	962.4	978.1	958.2
37.5°	581.9	594.4	607.5	630.8	666.9	709.9	766.8	825.6	882.8	917.5	921.2
40°	506.2	513.4	522.2	538.9	568.5	610.6	657.8	727.8	789.5	845.3	863.5
42.5°	446.5	449.9	454.5	469.3	490.0	531.8	573.9	633.4	695.4	764.8	798.3
45°	389.6	393.9	403.0	411.8	428.9	457.9	498.0	548.6	610.9	675.2	731.5
47.5°	347.0	349.8	355.5	365.2	380.5	400.2	434.3	477.2	538.1	600.4	660.7
50°	311.7	314.0	318.2	326.8	337.9	354.9	381.7	421.2	466.4	529.3	588.2
52.5°	283.8	284.4	287.2	292.4	300.6	314.3	335.0	366.0	407.3	461.6	520.2
55°	254.8	256.0	258.8	263.1	270.8	279.9	296.6	321.1	357.8	406.4	457.3
57.5°	230.9	232.1	234.4	236.1	242.9	250.6	264.2	281.8	310.6	353.8	400.2
60°	208.2	207.6	210.5	211.9	216.1	222.4	232.4	249.1	273.3	306.6	348.4
62.5°	186.0	185.1	187.4	189.4	191.4	196.5	204.2	216.4	234.9	264.2	298.9
65°	163.8	162.7	164.1	166.4	168.7	171.5	177.5	189.1	204.8	226.4	254.0
67.5°	141.1	142.5	142.5	143.9	145.3	149.3	153.6	162.7	173.8	191.4	215.9
70°	121.2	121.4	122.6	122.6	123.4	126.8	130.3	135.1	145.9	161.8	180.9
72.5°	101.2	102.7	101.8	103.0	103.5	105.5	107.8	112.3	121.2	132.0	147.3
75°	81.9	82.8	82.8	83.0	83.9	84.8	86.7	90.2	96.7	105.5	116.6
77.5°	63.1	63.1	63.7	64.8	64.8	66.3	68.0	70.5	74.2	80.8	87.9
80°	46.1	46.6	46.4	46.9	46.9	48.1	48.6	52.0	53.5	57.4	62.9
82.5°	30.7	31.3	31.3	32.1	32.7	32.7	33.6	34.4	35.8	39.2	40.7
85°	17.1	17.6	17.1	17.6	18.5	18.8	19.6	19.9	21.0	21.9	23.9
87.5°	6.3	7.1	7.1	7.4	8.0	8.2	8.5	8.2	9.4	9.7	10.8
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°	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6
2.5°	714.1	710.2	707.3	705.0	698.8	695.1	692.2	688.3	683.7	678.9	672.9
5°	748.8	739.2	732.1	721.3	711.0	702.5	693.7	685.7	676.0	665.5	657.8
7.5°	784.4	771.0	753.1	739.2	722.4	707.9	695.1	681.7	667.5	653.8	641.1
10°	818.0	799.5	779.0	754.8	732.1	711.9	693.1	674.9	657.3	639.6	624.6
12.5°	854.1	829.9	797.2	767.9	741.7	713.0	689.4	666.1	643.9	625.1	606.9
15°	885.6	852.4	817.4	779.6	746.0	714.4	683.4	655.3	631.4	606.9	589.9
17.5°	905.5	864.3	826.8	787.2	748.6	709.0	676.9	645.3	615.7	591.8	570.5
20°	925.2	884.2	834.4	794.9	746.6	705.6	666.9	630.8	599.5	573.6	551.5
22.5°	942.2	893.3	843.5	788.4	740.3	696.2	653.0	616.6	584.5	556.9	535.8
25°	946.2	891.9	837.9	786.1	731.5	680.0	641.6	599.0	564.8	536.1	513.4
27.5°	947.6	890.2	830.2	773.9	717.6	670.6	620.6	583.3	548.0	517.6	496.0
30°	944.5	883.9	818.2	755.9	699.4	647.3	605.2	563.7	527.6	497.4	474.7
32.5°	934.6	870.8	802.9	736.0	676.9	626.3	582.5	543.5	508.5	478.9	454.8
35°	913.5	851.2	779.3	710.7	650.7	599.2	560.0	519.9	484.6	456.5	433.4
37.5°	885.4	827.3	754.2	682.9	625.1	572.8	533.3	496.3	464.4	435.4	411.5
40°	846.1	796.6	723.2	654.1	590.4	541.2	504.8	471.5	440.0	413.0	390.5
42.5°	800.9	759.4	693.1	618.9	558.0	508.5	473.3	444.2	414.9	390.5	368.0
45°	745.4	717.0	653.3	585.6	521.6	475.0	441.1	414.9	389.9	365.5	346.7
47.5°	683.7	667.8	612.3	547.5	486.0	439.4	410.1	385.1	362.3	341.0	324.2
50°	621.4	614.6	568.2	506.2	448.2	405.0	375.4	354.7	335.9	317.7	302.0
52.5°	560.0	561.4	520.7	465.3	412.7	371.4	342.1	323.1	307.4	293.5	279.9
55°	497.1	505.1	472.4	421.8	373.7	336.2	309.7	292.4	281.0	268.8	258.2
57.5°	439.4	452.8	424.3	378.0	337.3	301.5	278.1	264.8	252.3	244.3	236.1
60°	383.1	395.6	374.6	337.0	299.2	269.6	247.7	236.1	225.5	220.4	215.0
62.5°	333.0	343.8	329.6	295.5	263.9	235.8	218.1	207.0	200.8	195.1	192.0
65°	285.8	295.2	281.8	256.5	228.4	205.6	190.6	181.7	174.9	172.6	168.7
67.5°	239.2	247.7	240.6	218.4	194.5	176.6	164.7	155.3	151.3	149.0	146.5
70°	198.5	207.0	199.4	180.6	163.2	148.7	137.7	132.8	128.6	127.7	123.7
72.5°	164.1	169.2	161.5	147.9	133.7	122.0	114.0	108.9	107.2	105.5	103.8
75°	128.3	133.4	128.3	116.9	106.4	97.8	90.4	88.5	85.9	85.0	83.6
77.5°	96.1	101.0	97.0	89.3	81.1	73.9	69.7	66.8	66.6	64.8	65.4
80°	69.4	72.2	68.5	63.7	57.4	52.9	50.1	48.6	46.9	46.4	47.5
82.5°	44.9	45.8	44.4	41.5	37.3	34.7	33.0	31.3	31.3	31.6	31.3
85°	25.9	25.6	25.3	22.5	21.0	19.1	17.9	17.6	17.3	17.9	18.5
87.5°	10.8	11.1	10.8	9.7	8.8	8.0	7.7	7.4	7.7	8.0	8.2
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°	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6
2.5°	670.1	667.5	663.8	658.7	654.4	649.9	648.7	647.0	650.4	647.6	646.7
5°	651.3	645.3	637.6	628.8	623.7	616.3	614.9	612.0	609.2	608.9	606.1
7.5°	631.7	623.4	613.7	604.6	596.7	588.7	583.6	583.0	578.5	576.2	573.4
10°	612.9	602.1	590.4	581.9	572.2	563.7	557.7	554.3	551.5	548.3	545.5
12.5°	590.7	579.0	569.9	560.6	548.6	542.6	531.8	525.3	525.3	526.2	517.6
15°	574.5	563.1	548.3	535.3	529.0	516.5	511.1	504.3	500.0	495.7	492.3
17.5°	554.6	540.7	529.3	514.5	502.8	493.4	486.0	482.4	475.5	469.3	465.0
20°	536.1	521.0	508.8	492.9	479.8	467.6	461.6	455.9	451.1	445.9	441.1
22.5°	517.3	501.4	485.8	470.4	458.5	445.4	439.7	431.4	426.9	424.6	419.8
25°	497.4	480.4	463.3	448.5	436.0	424.6	416.9	411.0	405.8	403.6	400.4
27.5°	475.8	459.0	442.8	425.8	411.3	403.0	396.7	391.9	388.8	385.4	383.9
30°	455.3	437.7	420.1	404.4	391.3	383.1	377.4	374.3	372.0	370.6	369.2
32.5°	434.6	417.2	398.5	384.5	373.1	366.0	362.0	358.9	358.1	357.8	357.5
35°	412.1	394.5	377.4	364.6	353.5	350.7	347.0	345.3	344.7	346.7	347.5
37.5°	390.5	374.0	358.1	345.3	337.9	333.3	331.9	331.6	333.6	335.3	337.3
40°	369.7	353.8	339.0	328.2	321.4	318.8	318.2	319.7	321.9	323.9	326.2
42.5°	349.5	333.9	320.8	310.9	306.6	304.3	304.9	306.3	309.7	312.3	316.0
45°	328.5	315.4	302.3	294.1	290.1	290.7	290.7	293.2	296.4	300.0	303.7
47.5°	308.9	295.5	284.4	277.3	275.3	274.5	275.9	279.3	283.6	287.8	292.9
50°	289.0	276.4	267.1	260.8	258.5	259.4	261.7	264.8	270.2	275.9	281.3
52.5°	268.8	257.7	249.1	243.5	242.0	243.7	246.0	251.4	256.0	262.2	269.0
55°	247.7	238.0	231.2	227.0	226.4	227.2	229.8	235.2	242.0	249.7	256.0
57.5°	227.0	218.7	212.2	209.0	209.3	209.9	213.9	220.4	227.2	235.5	243.5
60°	205.9	198.5	193.4	191.1	191.4	193.1	198.2	204.2	213.3	221.3	229.8
62.5°	186.0	179.7	174.9	172.9	172.3	176.6	181.5	187.7	196.8	205.9	215.3
65°	164.4	159.3	155.3	154.1	155.0	157.8	164.1	172.3	180.0	189.4	199.1
67.5°	143.3	139.1	136.2	136.8	137.7	141.6	147.0	154.1	162.7	172.3	182.3
70°	123.4	119.5	117.2	117.5	119.2	124.3	128.8	135.9	145.3	155.3	163.2
72.5°	103.0	100.7	98.7	100.1	101.8	104.9	110.9	118.0	126.0	135.1	143.6
75°	82.2	82.2	81.1	81.9	84.5	87.9	92.1	99.5	107.8	115.2	122.0
77.5°	64.6	63.7	64.3	65.1	66.8	71.1	75.9	81.3	87.9	95.6	101.2
80°	46.6	46.9	48.3	50.1	50.6	53.8	58.9	63.7	68.5	74.8	80.2
82.5°	32.1	32.4	33.0	35.3	35.8	39.2	42.1	46.9	51.2	54.9	59.2
85°	19.1	19.1	20.5	21.3	22.8	25.0	27.0	29.9	33.8	36.7	41.0
87.5°	9.1	9.1	10.2	10.8	11.7	13.1	13.7	16.8	17.9	19.3	21.9
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: P242629

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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	686.6	686.6	686.6	686.6
2.5°	646.2	645.6	643.6	643.3
5°	604.4	602.9	602.1	605.2
7.5°	572.8	571.7	569.1	568.2
10°	542.6	541.5	539.2	538.7
12.5°	513.6	511.1	511.1	511.9
15°	488.6	487.5	484.3	485.2
17.5°	463.0	461.9	457.6	461.9
20°	439.1	436.8	434.9	434.6
22.5°	416.4	414.4	414.7	412.4
25°	398.2	396.2	395.6	394.2
27.5°	383.4	382.2	381.1	381.7
30°	370.0	369.7	369.2	369.2
32.5°	358.9	358.9	359.5	359.5
35°	348.7	349.5	350.1	349.2
37.5°	339.6	340.1	341.0	341.9
40°	328.8	330.8	331.3	332.8
42.5°	318.5	320.8	322.5	322.5
45°	308.0	310.3	312.3	312.3
47.5°	297.2	300.3	302.3	302.6
50°	286.1	290.1	292.1	293.5
52.5°	275.3	279.3	282.1	282.7
55°	262.5	268.2	271.3	272.5
57.5°	251.1	256.2	259.7	260.5
60°	237.5	243.2	247.7	248.6
62.5°	223.5	229.5	233.5	236.1
65°	207.0	213.0	217.0	217.9
67.5°	189.7	196.0	198.5	200.2
70°	171.2	176.0	178.9	180.3
72.5°	150.2	155.3	158.7	158.7
75°	128.6	133.1	134.8	134.8
77.5°	106.1	108.6	110.9	111.5
80°	84.5	85.9	87.6	87.6
82.5°	62.3	63.4	65.1	64.8
85°	40.4	42.9	42.7	42.1
87.5°	22.8	23.0	23.9	24.5
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242629

CATALOG NUMBER: S124DRP-S575D927-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	16.25	17.81	16.62	18.13	18.44	17.16	18.72	17.53	19.04	19.35
	3H	17.73	19.14	18.11	19.47	19.83	18.53	19.94	18.91	20.26	20.62
	4H	18.27	19.60	18.67	19.94	20.32	19.00	20.32	19.40	20.67	21.05
	6H	18.63	19.86	19.04	20.22	20.61	19.31	20.53	19.72	20.90	21.29
	8H	18.73	19.90	19.16	20.29	20.69	19.39	20.55	19.81	20.94	21.34
	12H	18.79	19.91	19.22	20.29	20.72	19.43	20.55	19.86	20.93	21.36
4H	2H	17.41	18.73	17.81	19.08	19.46	17.85	19.17	18.25	19.52	19.90
	3H	18.94	20.04	19.35	20.44	20.84	19.56	20.66	19.97	21.06	21.46
	4H	19.53	20.52	19.96	20.94	21.38	20.15	21.14	20.58	21.55	21.99
	6H	19.96	20.82	20.41	21.27	21.72	20.54	21.41	21.00	21.85	22.31
	8H	20.08	20.89	20.54	21.33	21.80	20.65	21.46	21.11	21.90	22.37
	12H	20.16	20.88	20.64	21.36	21.83	20.71	21.44	21.19	21.91	22.38
8H	4H	19.98	20.80	20.45	21.24	21.71	20.46	21.27	20.92	21.71	22.18
	6H	20.49	21.16	20.99	21.65	22.13	20.99	21.66	21.48	22.15	22.63
	8H	20.66	21.26	21.17	21.77	22.26	21.15	21.75	21.66	22.26	22.75
	12H	20.78	21.32	21.29	21.81	22.37	21.26	21.80	21.77	22.29	22.85
12H	4H	20.03	20.76	20.51	21.24	21.71	20.49	21.22	20.97	21.69	22.17
	6H	20.56	21.17	21.08	21.68	22.16	21.04	21.65	21.56	22.16	22.64
	8H	20.79	21.32	21.29	21.81	22.37	21.27	21.80	21.77	22.29	22.85