

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: P242628

Luminaire Tested: S124DRP-S350D927-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242628
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-S350D927-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

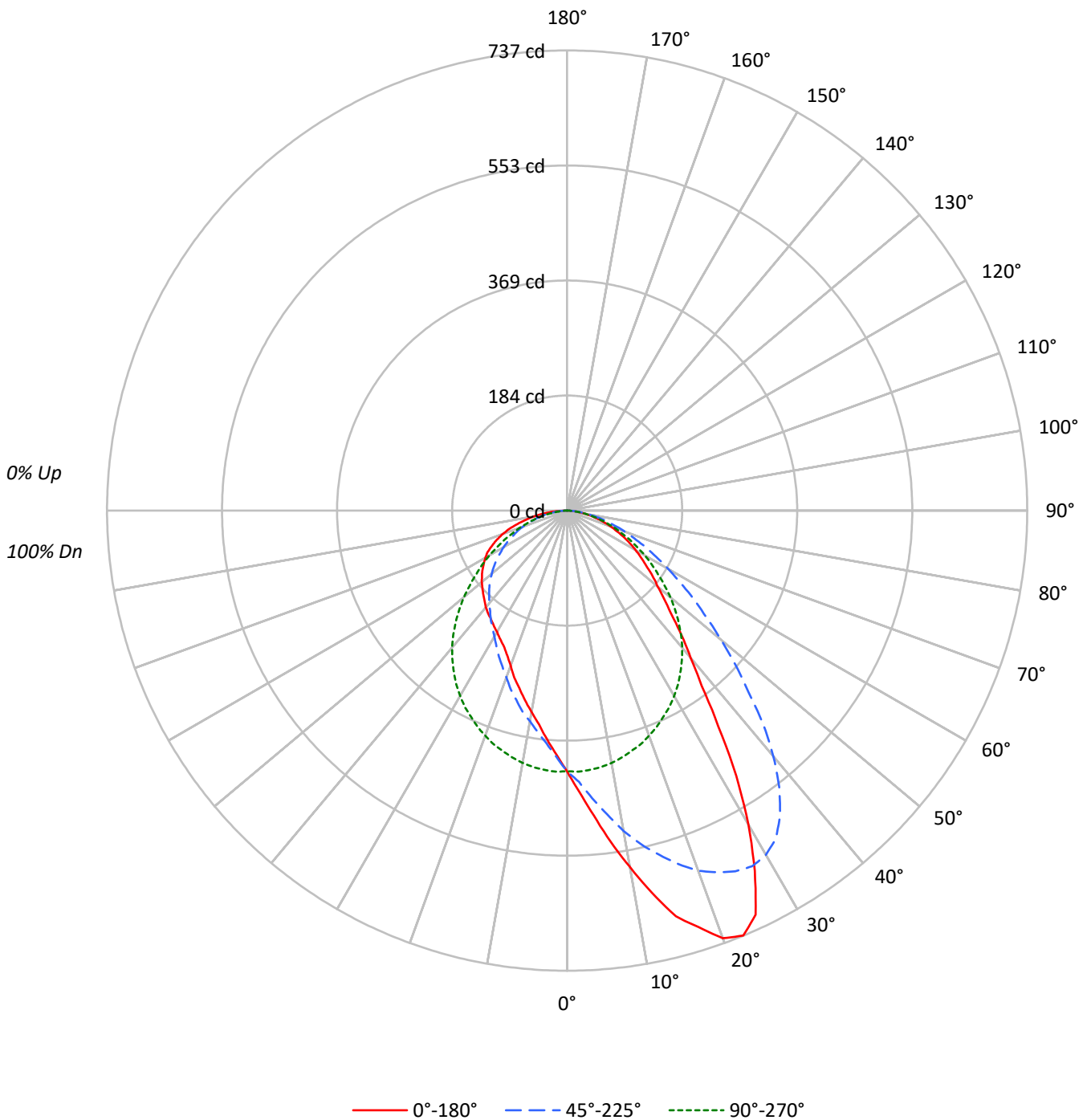
Lumens per Lamp: N/A
Luminaire Lumens: 1152.0 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 11.6
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



TEST NUMBER: P242628

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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				
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74					72				
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64					62				
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55					53				
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49					46				
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43					41				
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38					36				
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35					33				
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31					30				
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29					27				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	3711	3711	3711	3711	3711
5°	4370	4128	3721	3344	3284
10°	5232	4703	3704	3094	2957
15°	6191	5254	3667	2890	2715
20°	6894	5808	3629	2689	2500
25°	7006	6253	3572	2532	2351
30°	5960	6536	3519	2392	2304
35°	4583	6454	3430	2314	2305
40°	3572	5964	3327	2250	2347
45°	2978	5162	3172	2221	2387
50°	2621	4450	2983	2181	2468
55°	2402	3829	2755	2142	2568
60°	2251	3314	2551	2087	2688
65°	2095	2896	2324	2019	2787
70°	1915	2557	2100	1965	2848
75°	1710	2205	1848	1834	2816
80°	1433	1787	1515	1674	2728
85°	1061	1356	1091	1550	2611

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 5698 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.6	3.5
10°-20°	125.4	10.9
20°-30°	199.2	17.3
30°-40°	221.4	19.2
40°-50°	201.3	17.5
50°-60°	164.5	14.3
60°-70°	117.4	10.2
70°-80°	64.6	5.6
80°-90°	17.5	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°	365.3	31.7
0°-40°	586.7	50.9
0°-60°	952.5	82.7
0°-90°	1152.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1152.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	418	418	418	418	418	
5°	490	463	417	375	368	50
15°	673	571	398	314	295	190
25°	714	638	364	258	240	317
35°	422	595	316	213	212	267
45°	237	411	252	177	190	186
55°	155	247	178	138	166	140
65°	100	138	110	96	132	99
75°	50	64	54	53	82	53
85°	10	13	11	15	26	13
90°	0	0	0	0	0	



TEST NUMBER: P242628

CATALOG NUMBER: S124DRP-S350D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5
2.5°	451.0	450.9	449.1	448.8	447.6	446.0	445.7	442.9	437.4	434.8	434.1
5°	489.8	493.2	488.7	487.9	487.4	481.6	478.7	475.2	467.3	462.6	459.0
7.5°	535.1	535.3	533.4	531.5	528.2	523.3	516.8	509.1	500.0	490.6	484.1
10°	579.7	581.1	578.8	578.5	569.7	564.1	553.1	543.7	533.0	521.1	510.2
12.5°	626.7	624.0	623.1	614.0	614.1	602.9	589.6	579.9	561.9	547.7	532.3
15°	672.8	668.9	666.5	656.3	651.3	637.3	623.6	613.1	591.5	570.9	555.3
17.5°	699.4	704.1	697.8	693.7	680.0	670.8	657.2	635.6	619.5	593.9	576.1
20°	728.8	729.1	726.0	721.7	711.5	699.0	683.8	659.6	639.4	614.0	587.0
22.5°	736.7	736.7	735.9	731.9	724.8	715.3	699.9	680.7	655.1	626.9	599.9
25°	714.3	713.6	715.1	719.6	716.7	713.6	704.7	689.7	666.9	637.6	608.6
27.5°	650.6	655.1	664.4	675.5	683.5	690.6	690.0	683.6	667.4	642.1	611.2
30°	580.7	586.6	593.2	604.3	625.7	638.0	651.5	661.7	656.0	636.8	608.4
32.5°	504.0	504.3	514.9	527.8	547.0	573.5	596.8	620.2	630.2	622.4	599.9
35°	422.3	424.7	435.3	447.8	471.8	500.7	532.8	561.5	585.2	594.8	582.6
37.5°	353.8	361.5	369.4	383.6	405.6	431.7	466.3	502.1	536.8	557.9	560.2
40°	307.8	312.2	317.5	327.7	345.7	371.3	400.0	442.6	480.1	514.0	525.1
42.5°	271.5	273.6	276.4	285.4	298.0	323.4	349.0	385.1	422.8	465.0	485.5
45°	236.9	239.5	245.1	250.4	260.8	278.4	302.8	333.6	371.5	410.6	444.8
47.5°	211.0	212.7	216.2	222.1	231.4	243.3	264.1	290.2	327.2	365.1	401.7
50°	189.5	190.9	193.5	198.7	205.5	215.8	232.1	256.1	283.6	321.8	357.6
52.5°	172.6	172.9	174.7	177.8	182.8	191.1	203.7	222.6	247.7	280.7	316.3
55°	155.0	155.6	157.4	160.0	164.6	170.2	180.4	195.3	217.6	247.1	278.1
57.5°	140.4	141.1	142.5	143.5	147.7	152.4	160.7	171.4	188.9	215.1	243.3
60°	126.6	126.2	128.0	128.8	131.4	135.2	141.3	151.5	166.2	186.4	211.9
62.5°	113.1	112.6	114.0	115.2	116.4	119.5	124.2	131.6	142.9	160.7	181.8
65°	99.6	98.9	99.8	101.2	102.6	104.3	107.9	115.0	124.5	137.7	154.4
67.5°	85.8	86.6	86.6	87.5	88.4	90.8	93.4	98.9	105.7	116.4	131.3
70°	73.7	73.8	74.5	74.5	75.1	77.1	79.2	82.1	88.7	98.4	110.0
72.5°	61.6	62.4	61.9	62.6	63.0	64.2	65.5	68.3	73.7	80.2	89.6
75°	49.8	50.3	50.3	50.5	51.0	51.5	52.7	54.8	58.8	64.2	70.9
77.5°	38.4	38.4	38.7	39.4	39.4	40.3	41.3	42.9	45.1	49.1	53.4
80°	28.0	28.4	28.2	28.5	28.5	29.2	29.6	31.6	32.5	34.9	38.2
82.5°	18.7	19.0	19.0	19.5	19.9	19.9	20.4	20.9	21.8	23.9	24.7
85°	10.4	10.7	10.4	10.7	11.2	11.4	11.9	12.1	12.8	13.3	14.5
87.5°	3.8	4.3	4.3	4.5	4.8	5.0	5.2	5.0	5.7	5.9	6.6
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°	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5
2.5°	434.3	431.8	430.1	428.7	424.9	422.7	420.9	418.5	415.8	412.8	409.2
5°	455.4	449.5	445.2	438.6	432.4	427.2	421.8	417.0	411.1	404.7	400.0
7.5°	477.0	468.9	458.0	449.5	439.3	430.5	422.7	414.5	405.9	397.6	389.8
10°	497.4	486.1	473.7	459.0	445.2	432.9	421.5	410.4	399.7	389.0	379.8
12.5°	519.4	504.6	484.8	466.9	451.0	433.6	419.2	405.0	391.5	380.1	369.1
15°	538.5	518.3	497.0	474.0	453.6	434.4	415.6	398.5	383.9	369.1	358.7
17.5°	550.7	525.6	502.7	478.7	455.2	431.1	411.6	392.4	374.4	359.9	346.9
20°	562.6	537.7	507.4	483.4	454.0	429.1	405.6	383.6	364.6	348.8	335.3
22.5°	573.0	543.2	513.0	479.4	450.2	423.4	397.1	374.9	355.4	338.6	325.8
25°	575.4	542.4	509.5	478.0	444.8	413.5	390.2	364.2	343.5	326.0	312.2
27.5°	576.2	541.3	504.8	470.6	436.3	407.8	377.4	354.7	333.3	314.8	301.6
30°	574.3	537.5	497.6	459.7	425.3	393.6	368.0	342.8	320.8	302.5	288.6
32.5°	568.3	529.6	488.2	447.6	411.6	380.8	354.2	330.5	309.2	291.2	276.5
35°	555.5	517.6	473.9	432.2	395.7	364.4	340.5	316.1	294.7	277.6	263.6
37.5°	538.4	503.1	458.6	415.2	380.1	348.3	324.3	301.8	282.4	264.8	250.2
40°	514.5	484.4	439.8	397.8	359.0	329.1	307.0	286.7	267.5	251.1	237.5
42.5°	487.0	461.8	421.5	376.3	339.3	309.2	287.8	270.1	252.3	237.5	223.8
45°	453.3	436.0	397.3	356.1	317.2	288.8	268.2	252.3	237.1	222.2	210.8
47.5°	415.8	406.1	372.3	332.9	295.6	267.2	249.4	234.2	220.3	207.4	197.2
50°	377.9	373.7	345.5	307.8	272.6	246.3	228.3	215.7	204.2	193.2	183.7
52.5°	340.5	341.4	316.7	282.9	250.9	225.9	208.1	196.5	187.0	178.5	170.2
55°	302.3	307.1	287.3	256.5	227.2	204.4	188.3	177.8	170.9	163.4	157.0
57.5°	267.2	275.3	258.0	229.8	205.1	183.3	169.1	161.0	153.4	148.6	143.5
60°	233.0	240.6	227.8	204.9	181.9	164.0	150.6	143.5	137.1	134.0	130.7
62.5°	202.5	209.1	200.4	179.7	160.5	143.4	132.6	125.9	122.1	118.6	116.7
65°	173.8	179.5	171.4	156.0	138.9	125.0	115.9	110.5	106.4	105.0	102.6
67.5°	145.4	150.6	146.3	132.8	118.3	107.4	100.1	94.4	92.0	90.6	89.1
70°	120.7	125.9	121.2	109.8	99.3	90.4	83.7	80.8	78.2	77.7	75.2
72.5°	99.8	102.9	98.2	89.9	81.3	74.2	69.4	66.2	65.2	64.2	63.1
75°	78.0	81.1	78.0	71.1	64.7	59.5	55.0	53.8	52.2	51.7	50.8
77.5°	58.5	61.4	59.0	54.3	49.3	45.0	42.4	40.6	40.5	39.4	39.8
80°	42.2	43.9	41.7	38.7	34.9	32.2	30.4	29.6	28.5	28.2	28.9
82.5°	27.3	27.8	27.0	25.2	22.7	21.1	20.1	19.0	19.0	19.2	19.0
85°	15.7	15.6	15.4	13.7	12.8	11.6	10.9	10.7	10.5	10.9	11.2
87.5°	6.6	6.7	6.6	5.9	5.4	4.8	4.7	4.5	4.7	4.8	5.0
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5	417.5
2.5°	407.5	405.9	403.7	400.5	397.9	395.2	394.5	393.4	395.5	393.8	393.3
5°	396.0	392.4	387.7	382.4	379.3	374.8	373.9	372.2	370.4	370.3	368.5
7.5°	384.1	379.1	373.2	367.7	362.8	358.0	354.9	354.5	351.8	350.4	348.7
10°	372.7	366.1	359.0	353.8	348.0	342.8	339.1	337.1	335.3	333.4	331.7
12.5°	359.2	352.1	346.6	340.9	333.6	330.0	323.4	319.4	319.4	319.9	314.8
15°	349.3	342.4	333.4	325.5	321.7	314.1	310.8	306.6	304.0	301.4	299.4
17.5°	337.2	328.8	321.8	312.9	305.8	300.1	295.6	293.3	289.2	285.4	282.8
20°	326.0	316.8	309.4	299.7	291.8	284.3	280.7	277.2	274.3	271.2	268.2
22.5°	314.6	304.9	295.4	286.0	278.8	270.8	267.4	262.4	259.6	258.2	255.3
25°	302.5	292.1	281.7	272.7	265.1	258.2	253.5	249.9	246.8	245.4	243.5
27.5°	289.3	279.1	269.3	258.9	250.1	245.1	241.3	238.3	236.4	234.3	233.5
30°	276.9	266.2	255.4	245.9	238.0	233.0	229.5	227.6	226.2	225.3	224.5
32.5°	264.3	253.7	242.3	233.8	226.9	222.6	220.2	218.3	217.7	217.6	217.4
35°	250.6	239.9	229.5	221.7	215.0	213.2	211.0	210.0	209.6	210.8	211.3
37.5°	237.5	227.4	217.7	210.0	205.5	202.7	201.8	201.7	202.9	203.9	205.1
40°	224.8	215.1	206.1	199.6	195.4	193.9	193.5	194.4	195.8	197.0	198.4
42.5°	212.5	203.0	195.1	189.0	186.4	185.0	185.4	186.3	188.3	189.9	192.1
45°	199.8	191.8	183.8	178.8	176.4	176.7	176.7	178.3	180.2	182.5	184.7
47.5°	187.8	179.7	172.9	168.6	167.4	166.9	167.8	169.8	172.4	175.0	178.1
50°	175.7	168.1	162.4	158.6	157.2	157.7	159.1	161.0	164.3	167.8	171.0
52.5°	163.4	156.7	151.5	148.0	147.2	148.2	149.6	152.9	155.6	159.5	163.6
55°	150.6	144.8	140.6	138.0	137.7	138.2	139.7	143.0	147.2	151.8	155.6
57.5°	138.0	133.0	129.0	127.1	127.3	127.6	130.1	134.0	138.2	143.2	148.0
60°	125.2	120.7	117.6	116.2	116.4	117.4	120.5	124.2	129.7	134.6	139.7
62.5°	113.1	109.3	106.4	105.1	104.8	107.4	110.3	114.1	119.7	125.2	130.9
65°	100.0	96.8	94.4	93.7	94.3	96.0	99.8	104.8	109.5	115.2	121.1
67.5°	87.2	84.6	82.8	83.2	83.7	86.1	89.4	93.7	98.9	104.8	110.9
70°	75.1	72.6	71.3	71.4	72.5	75.6	78.3	82.7	88.4	94.4	99.3
72.5°	62.6	61.2	60.0	60.9	61.9	63.8	67.4	71.8	76.6	82.1	87.3
75°	50.0	50.0	49.3	49.8	51.4	53.4	56.0	60.5	65.5	70.0	74.2
77.5°	39.3	38.7	39.1	39.6	40.6	43.2	46.2	49.5	53.4	58.1	61.6
80°	28.4	28.5	29.4	30.4	30.8	32.7	35.8	38.7	41.7	45.5	48.8
82.5°	19.5	19.7	20.1	21.4	21.8	23.9	25.6	28.5	31.1	33.4	36.0
85°	11.6	11.6	12.5	13.0	13.8	15.2	16.4	18.2	20.6	22.3	24.9
87.5°	5.5	5.5	6.2	6.6	7.1	8.0	8.3	10.2	10.9	11.8	13.3
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: P242628

CATALOG NUMBER: S124DRP-S350D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	417.5	417.5	417.5	417.5
2.5°	392.9	392.6	391.4	391.2
5°	367.5	366.6	366.1	368.0
7.5°	348.3	347.6	346.1	345.5
10°	330.0	329.3	327.9	327.6
12.5°	312.3	310.8	310.8	311.3
15°	297.1	296.4	294.5	295.0
17.5°	281.6	280.9	278.3	280.9
20°	267.0	265.6	264.4	264.3
22.5°	253.2	252.0	252.2	250.8
25°	242.1	240.9	240.6	239.7
27.5°	233.1	232.4	231.7	232.1
30°	225.0	224.8	224.5	224.5
32.5°	218.3	218.3	218.6	218.6
35°	212.0	212.5	212.9	212.4
37.5°	206.5	206.8	207.4	207.9
40°	199.9	201.1	201.5	202.3
42.5°	193.7	195.1	196.1	196.1
45°	187.3	188.7	189.9	189.9
47.5°	180.7	182.6	183.8	184.0
50°	174.0	176.4	177.6	178.5
52.5°	167.4	169.8	171.6	171.9
55°	159.6	163.1	165.0	165.7
57.5°	152.7	155.8	157.9	158.4
60°	144.4	147.9	150.6	151.2
62.5°	135.9	139.6	142.0	143.5
65°	125.9	129.5	132.0	132.5
67.5°	115.4	119.2	120.7	121.8
70°	104.1	107.1	108.8	109.6
72.5°	91.3	94.4	96.5	96.5
75°	78.2	80.9	82.0	82.0
77.5°	64.5	66.1	67.4	67.8
80°	51.4	52.2	53.3	53.3
82.5°	37.9	38.6	39.6	39.4
85°	24.6	26.1	25.9	25.6
87.5°	13.8	14.0	14.5	14.9
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242628

CATALOG NUMBER: S124DRP-S350D927-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	14.52	16.08	14.89	16.40	16.71	15.43	17.00	15.80	17.31	17.62
	3H	16.01	17.41	16.38	17.74	18.10	16.80	18.21	17.18	18.53	18.90
	4H	16.54	17.87	16.94	18.21	18.59	17.27	18.59	17.67	18.94	19.32
	6H	16.90	18.13	17.32	18.49	18.88	17.58	18.80	17.99	19.17	19.56
	8H	17.00	18.17	17.43	18.56	18.96	17.66	18.83	18.09	19.22	19.62
	12H	17.06	18.18	17.49	18.56	18.99	17.70	18.82	18.13	19.20	19.63
4H	2H	15.68	17.01	16.08	17.35	17.73	16.12	17.44	16.52	17.79	18.17
	3H	17.21	18.32	17.62	18.71	19.11	17.83	18.93	18.24	19.33	19.73
	4H	17.80	18.79	18.23	19.21	19.65	18.42	19.41	18.85	19.83	20.26
	6H	18.23	19.09	18.68	19.54	19.99	18.81	19.68	19.27	20.12	20.58
	8H	18.35	19.16	18.81	19.60	20.07	18.92	19.73	19.38	20.17	20.64
	12H	18.43	19.15	18.91	19.63	20.10	18.98	19.71	19.46	20.19	20.66
8H	4H	18.25	19.07	18.72	19.51	19.98	18.73	19.54	19.19	19.98	20.45
	6H	18.76	19.43	19.26	19.92	20.40	19.26	19.93	19.75	20.42	20.90
	8H	18.93	19.53	19.44	20.04	20.53	19.42	20.03	19.93	20.53	21.02
	12H	19.05	19.59	19.56	20.08	20.64	19.54	20.07	20.04	20.56	21.12
12H	4H	18.30	19.03	18.79	19.51	19.98	18.76	19.49	19.24	19.97	20.44
	6H	18.83	19.44	19.35	19.95	20.43	19.32	19.92	19.83	20.43	20.91
	8H	19.06	19.59	19.56	20.08	20.64	19.54	20.07	20.04	20.56	21.12