

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: P242673

Luminaire Tested: S124DRP-S350D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242673  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-S350D835-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

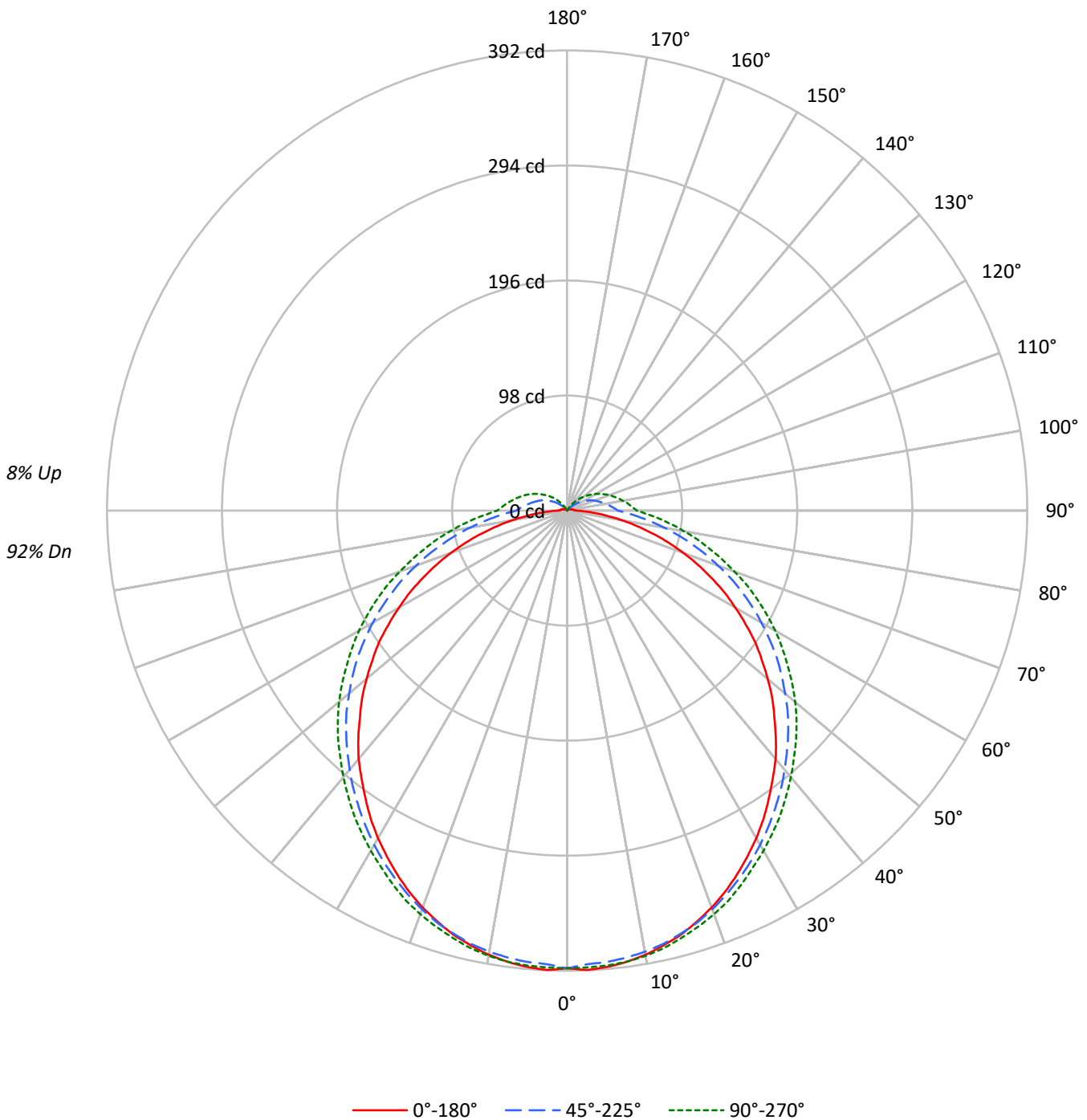
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1329.3 lumens  
Efficiency: N/A  
Efficacy: 114.6 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
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

TEST NUMBER: P242673

CATALOG NUMBER: S124DRP-S350D835-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242673

CATALOG NUMBER: S124DRP-S350D835-X4F0-XX-UDD-D-W

**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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	49	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

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

	0°	45°	90°
0°	3466	3466	3466
5°	3476	3384	3392
10°	3455	3325	3320
15°	3424	3257	3236
20°	3377	3183	3155
25°	3324	3101	3066
30°	3267	3020	2975
35°	3202	2935	2895
40°	3150	2856	2811
45°	3073	2781	2738
50°	3008	2696	2662
55°	2941	2616	2572
60°	2837	2512	2491
65°	2722	2403	2390
70°	2582	2278	2272
75°	2388	2138	2164
80°	2172	2002	2056
85°	1891	1872	1980

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3073 cd/sqm



TEST NUMBER: P242673

CATALOG NUMBER: S124DRP-S350D835-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.9	2.8
10°-20°	105.8	8.0
20°-30°	160.0	12.0
30°-40°	193.6	14.6
40°-50°	204.7	15.4
50°-60°	192.6	14.5
60°-70°	159.9	12.0
70°-80°	112.2	8.4
80°-90°	63.2	4.8
90°-100°	37.7	2.8
100°-110°	27.9	2.1
110°-120°	18.7	1.4
120°-130°	10.5	0.8
130°-140°	4.6	0.3
140°-150°	0.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	302.8	22.8
0°-40°	496.5	37.3
0°-60°	893.8	67.2
0°-90°	1229.1	92.5
90°-120°	84.2	6.3
90°-150°	100.2	7.5
90°-180°	100.0	7.5
0°-180°	1329.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	390	390	390	390	390	
5°	390	389	386	390	389	37
15°	374	375	373	377	377	105
25°	342	345	346	351	352	158
35°	300	305	309	315	317	188
45°	250	258	266	274	276	193
55°	196	205	218	227	229	174
65°	135	149	164	175	179	134
75°	75	91	110	122	126	80
85°	23	42	61	74	79	24
90°	7	24	43	56	59	5
95°	6	20	38	50	54	5
105°	4	13	29	40	43	4
115°	3	6	20	30	33	3
125°	2	1	12	20	23	2
135°	1	1	4	11	14	1
145°	0	0	0	3	4	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

TEST NUMBER: P242673

CATALOG NUMBER: S124DRP-S350D835-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	389.9	389.9	389.9	389.9	389.9
2.5°	391.7	390.3	386.8	389.9	389.5
5°	390.3	389.0	386.0	389.5	389.0
7.5°	387.7	386.8	384.2	388.2	387.7
10°	384.2	383.8	381.6	385.5	385.1
12.5°	379.4	379.4	378.1	381.6	381.6
15°	374.2	374.6	373.3	377.2	376.8
17.5°	367.2	368.5	368.1	372.0	371.6
20°	359.8	361.1	361.5	365.9	365.9
22.5°	351.5	353.2	354.1	358.5	359.3
25°	342.3	344.9	346.2	351.0	351.5
27.5°	332.3	336.2	337.9	342.3	342.7
30°	322.2	325.7	328.8	333.6	334.5
32.5°	311.3	315.7	319.2	324.8	325.7
35°	299.5	304.8	309.1	315.2	316.6
37.5°	287.7	293.8	299.1	305.2	306.5
40°	276.4	282.1	288.2	294.7	296.5
42.5°	263.3	269.8	277.3	284.7	286.0
45°	249.7	258.0	266.3	273.8	275.9
47.5°	237.1	245.4	255.0	262.4	265.0
50°	223.1	232.7	242.3	251.1	253.7
52.5°	209.1	218.7	230.1	238.8	241.5
55°	195.6	204.8	217.9	226.6	229.2
57.5°	180.3	191.7	204.3	214.8	217.0
60°	165.5	176.8	191.2	201.3	204.8
62.5°	151.1	163.7	178.1	188.2	191.7
65°	135.4	149.3	164.2	175.1	178.6
67.5°	120.5	135.4	151.1	162.0	165.5
70°	105.2	120.1	136.7	148.5	151.5
72.5°	90.4	105.7	123.6	134.9	138.4
75°	75.1	91.3	109.6	121.8	125.7
77.5°	60.7	77.7	96.9	109.2	113.5
80°	47.6	65.1	84.3	97.4	100.9
82.5°	34.5	52.8	72.0	85.6	89.5
85°	23.1	41.5	61.1	74.2	78.6
87.5°	14.4	32.3	51.5	64.2	68.1
90°	7.0	24.5	43.2	55.9	59.4
92.5°	6.5	21.8	40.6	52.8	56.3
95°	5.7	20.1	38.0	49.8	53.7
97.5°	5.2	17.9	35.8	47.2	51.1
100°	4.8	16.2	33.2	45.0	48.0
102.5°	4.8	14.4	31.0	42.4	45.8
105°	3.9	12.7	28.8	39.7	43.2
107.5°	3.9	11.4	26.6	37.5	40.6
110°	3.5	9.6	24.9	34.9	38.4



TEST NUMBER: P242673

CATALOG NUMBER: S124DRP-S350D835-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.1	8.3	22.7	32.3	35.8
115°	2.6	6.5	20.5	30.1	33.2
117.5°	2.6	5.2	18.3	27.5	31.0
120°	2.2	3.5	16.2	24.9	28.4
122.5°	2.2	2.2	14.0	22.7	25.8
125°	1.7	1.3	12.2	20.5	23.1
127.5°	1.7	1.3	10.0	17.9	21.0
130°	1.3	0.9	7.9	15.7	18.3
132.5°	1.3	0.9	6.1	13.5	16.2
135°	0.9	0.9	3.9	10.9	13.5
137.5°	0.9	0.4	2.2	8.7	10.9
140°	0.9	0.4	0.9	6.5	8.7
142.5°	0.4	0.4	0.0	4.8	6.5
145°	0.4	0.0	0.0	2.6	4.4
147.5°	0.4	0.0	0.0	0.4	2.2
150°	0.4	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242673  
 CATALOG NUMBER: S124DRP-S350D835-X4F0-XX-UDD-D-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	14.11	15.64	14.59	16.10	16.60	15.66	17.19	16.14	17.65	18.15
	3H	15.75	17.14	16.24	17.61	18.15	17.97	19.36	18.46	19.83	20.37
	4H	16.32	17.63	16.83	18.13	18.68	19.03	20.34	19.54	20.84	21.39
	6H	16.70	17.92	17.22	18.43	19.00	20.08	21.31	20.61	21.81	22.38
	8H	16.81	17.98	17.34	18.51	19.08	20.60	21.77	21.14	22.30	22.88
	12H	16.87	17.99	17.41	18.51	19.12	21.15	22.28	21.70	22.80	23.41
4H	2H	14.96	16.27	15.47	16.77	17.32	16.16	17.48	16.67	17.97	18.52
	3H	16.84	17.96	17.36	18.49	19.07	18.69	19.81	19.21	20.35	20.92
	4H	17.54	18.57	18.09	19.11	19.72	19.91	20.93	20.45	21.48	22.08
	6H	18.06	18.96	18.62	19.54	20.16	21.14	22.04	21.70	22.61	23.23
	8H	18.22	19.07	18.79	19.64	20.27	21.75	22.60	22.32	23.17	23.80
	12H	18.32	19.09	18.91	19.69	20.33	22.41	23.18	23.00	23.78	24.42
8H	4H	18.12	18.97	18.69	19.54	20.18	20.16	21.01	20.73	21.58	22.22
	6H	18.82	19.53	19.42	20.15	20.79	21.56	22.27	22.16	22.89	23.53
	8H	19.07	19.72	19.68	20.34	20.99	22.30	22.94	22.91	23.57	24.22
	12H	19.25	19.83	19.87	20.44	21.16	23.12	23.70	23.74	24.31	25.03
12H	4H	18.26	19.03	18.85	19.63	20.27	20.18	20.95	20.77	21.55	22.19
	6H	19.03	19.68	19.64	20.30	20.95	21.61	22.25	22.22	22.88	23.53
	8H	19.37	19.94	19.98	20.56	21.27	22.41	22.99	23.03	23.60	24.32