

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: P243537

Luminaire Tested: S124DRP-H350D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243537
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H350D840-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

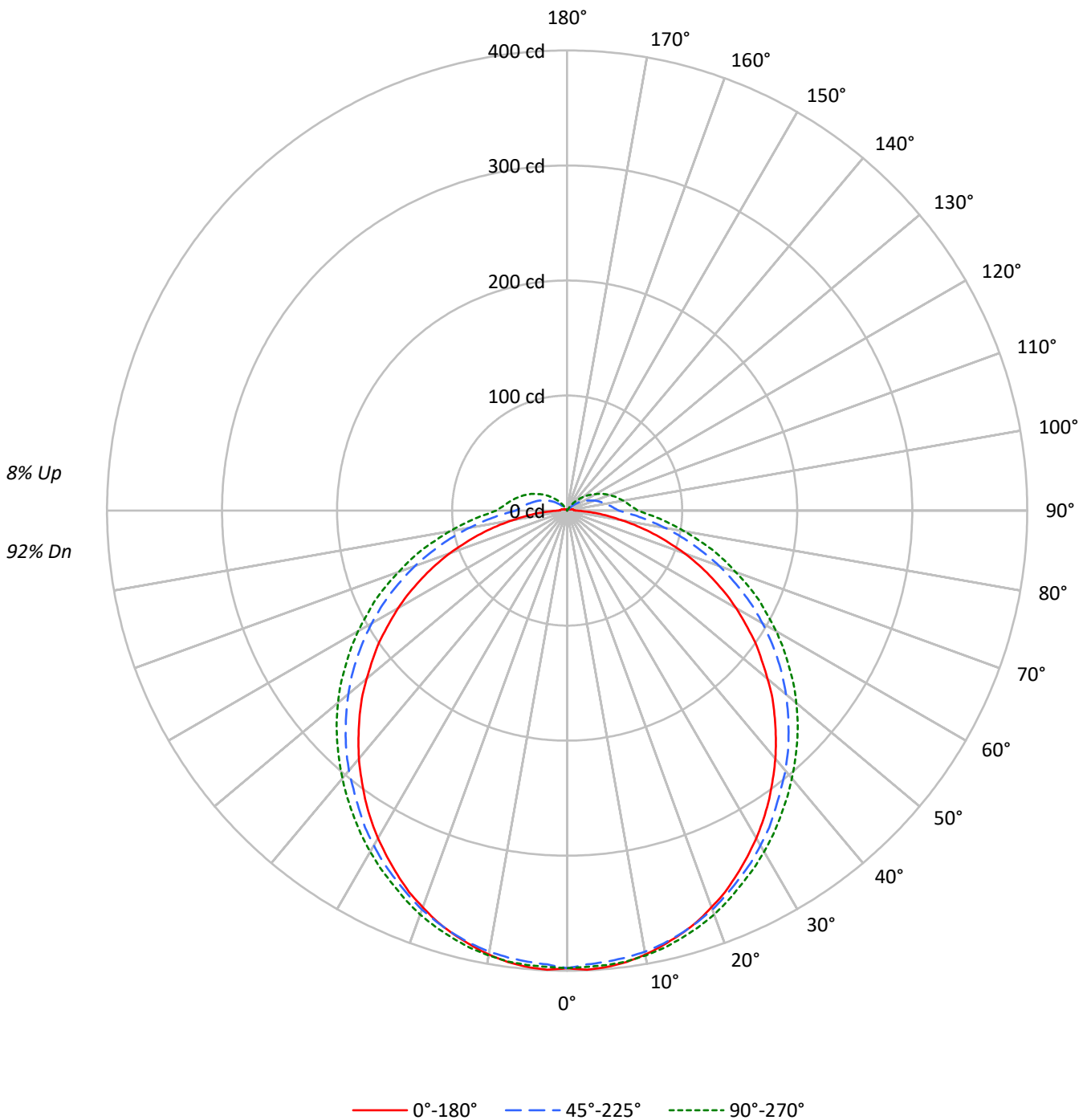
Lumens per Lamp: N/A
Luminaire Lumens: 1359.8 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 11.2
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

TEST NUMBER: P243537

CATALOG NUMBER: S124DRP-H350D840-X4F0-XX-UDD-D-W

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	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	86	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	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	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	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3536	3536	3536
5°	3546	3451	3457
10°	3524	3393	3385
15°	3489	3324	3304
20°	3445	3250	3222
25°	3391	3165	3127
30°	3334	3087	3046
35°	3272	2999	2961
40°	3210	2924	2883
45°	3142	2844	2807
50°	3066	2762	2728
55°	3000	2675	2639
60°	2905	2578	2550
65°	2797	2469	2461
70°	2665	2346	2334
75°	2461	2195	2241
80°	2181	2047	2111
85°	1973	1930	2033

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3142 cd/sqm



TEST NUMBER: P243537

CATALOG NUMBER: S124DRP-H350D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	2.8
10°-20°	108.0	7.9
20°-30°	163.5	12.0
30°-40°	197.9	14.6
40°-50°	209.4	15.4
50°-60°	197.2	14.5
60°-70°	163.9	12.1
70°-80°	115.2	8.5
80°-90°	64.9	4.8
90°-100°	38.5	2.8
100°-110°	28.5	2.1
110°-120°	19.0	1.4
120°-130°	10.7	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°	309.1	22.7
0°-40°	507.1	37.3
0°-60°	913.7	67.2
0°-90°	1257.6	92.5
90°-120°	86.0	6.3
90°-150°	102.2	7.5
90°-180°	102.0	7.5
0°-180°	1359.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	398	396	394	397	396	38
15°	381	382	381	385	385	108
25°	349	352	353	358	358	161
35°	306	311	316	323	324	191
45°	255	263	272	280	283	197
55°	200	210	223	232	235	178
65°	139	153	169	179	184	138
75°	77	94	112	125	130	82
85°	24	43	63	76	81	25
90°	7	25	45	57	61	5
95°	6	20	39	51	54	5
105°	4	13	30	41	44	4
115°	3	7	21	30	34	3
125°	2	1	12	21	24	2
135°	1	1	4	11	14	1
145°	0	0	0	2	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: P243537

CATALOG NUMBER: S124DRP-H350D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	397.8	397.8	397.8	397.8	397.8
2.5°	399.5	398.2	394.9	397.4	397.0
5°	398.2	396.5	393.6	397.0	396.5
7.5°	395.7	394.4	391.9	395.7	395.3
10°	391.9	391.1	389.4	392.7	392.7
12.5°	386.8	386.8	385.6	389.4	389.4
15°	381.3	382.2	380.9	385.1	384.7
17.5°	375.0	375.8	375.4	379.6	379.6
20°	367.0	368.2	369.1	373.7	373.7
22.5°	358.9	360.6	361.5	366.5	366.5
25°	349.2	352.2	353.4	358.5	358.5
27.5°	339.1	342.9	345.4	350.0	350.9
30°	328.9	333.1	336.1	341.2	342.4
32.5°	317.9	322.1	326.8	331.9	333.6
35°	306.1	311.2	315.8	322.6	323.8
37.5°	293.8	299.7	305.2	312.4	314.1
40°	281.6	288.7	295.1	301.9	304.0
42.5°	268.5	275.6	284.1	291.3	293.4
45°	255.3	263.4	272.3	280.3	282.8
47.5°	242.2	250.7	260.4	268.9	271.8
50°	227.4	236.7	248.2	256.6	260.0
52.5°	213.1	223.2	235.9	244.4	248.2
55°	199.5	210.1	222.8	232.5	235.1
57.5°	183.9	195.7	209.7	220.3	222.8
60°	169.5	181.4	196.2	206.7	209.7
62.5°	154.7	167.4	182.6	193.2	196.2
65°	139.1	153.0	168.7	179.3	183.9
67.5°	123.9	137.8	154.3	166.1	169.9
70°	108.6	123.0	140.8	152.6	155.6
72.5°	92.6	108.2	126.4	138.7	142.9
75°	77.4	93.9	112.5	125.1	130.2
77.5°	62.6	79.9	99.3	112.5	115.8
80°	47.8	66.8	86.2	99.3	103.6
82.5°	35.9	53.7	74.0	87.9	91.3
85°	24.1	42.7	63.0	76.5	80.7
87.5°	14.4	33.4	52.8	65.5	69.8
90°	7.2	24.9	44.8	57.1	61.3
92.5°	6.3	22.4	41.4	53.7	57.9
95°	5.9	20.3	38.9	51.2	54.5
97.5°	5.5	18.6	36.4	48.2	52.0
100°	5.1	16.5	34.2	45.7	49.5
102.5°	4.7	14.8	31.7	43.1	46.9
105°	4.2	13.1	29.6	40.6	44.4
107.5°	3.8	11.4	27.5	38.0	41.9
110°	3.4	9.7	25.4	35.5	39.3



TEST NUMBER: P243537

CATALOG NUMBER: S124DRP-H350D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.0	8.5	22.8	33.0	36.8
115°	3.0	6.8	20.7	30.4	34.2
117.5°	2.5	5.1	18.6	27.9	31.3
120°	2.5	3.8	16.5	25.4	28.7
122.5°	2.1	2.5	14.4	23.3	26.2
125°	1.7	1.3	12.3	20.7	23.7
127.5°	1.7	1.3	10.1	18.2	21.1
130°	1.3	1.3	8.0	15.6	18.6
132.5°	1.3	0.8	5.9	13.5	16.1
135°	0.8	0.8	3.8	11.0	13.5
137.5°	0.8	0.4	2.5	8.9	11.4
140°	0.8	0.4	0.8	6.8	8.9
142.5°	0.4	0.4	0.0	4.7	6.3
145°	0.4	0.0	0.0	2.5	4.2
147.5°	0.4	0.0	0.0	0.4	2.1
150°	0.0	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

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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	14.18	15.70	14.65	16.17	16.66	15.76	17.29	16.24	17.75	18.25
	3H	15.83	17.22	16.32	17.69	18.23	18.07	19.46	18.56	19.94	20.47
	4H	16.40	17.72	16.91	18.21	18.76	19.14	20.46	19.65	20.95	21.50
	6H	16.78	18.01	17.30	18.51	19.08	20.19	21.41	20.71	21.92	22.49
	8H	16.89	18.06	17.42	18.59	19.16	20.70	21.88	21.24	22.41	22.98
	12H	16.95	18.08	17.49	18.60	19.20	21.25	22.38	21.80	22.90	23.51
4H	2H	15.03	16.35	15.55	16.84	17.39	16.26	17.58	16.77	18.07	18.62
	3H	16.92	18.04	17.45	18.58	19.15	18.79	19.91	19.32	20.45	21.02
	4H	17.63	18.66	18.18	19.20	19.81	20.02	21.04	20.56	21.59	22.20
	6H	18.15	19.05	18.71	19.63	20.24	21.24	22.15	21.81	22.72	23.34
	8H	18.31	19.16	18.88	19.73	20.36	21.85	22.70	22.42	23.27	23.90
	12H	18.41	19.18	19.00	19.78	20.42	22.51	23.28	23.10	23.88	24.52
8H	4H	18.21	19.06	18.78	19.64	20.27	20.27	21.12	20.84	21.69	22.33
	6H	18.91	19.63	19.51	20.24	20.88	21.66	22.38	22.26	22.99	23.63
	8H	19.16	19.81	19.77	20.43	21.08	22.39	23.04	23.01	23.67	24.32
	12H	19.35	19.92	19.96	20.54	21.25	23.22	23.80	23.84	24.41	25.13
12H	4H	18.35	19.12	18.94	19.72	20.36	20.29	21.06	20.88	21.66	22.30
	6H	19.12	19.77	19.73	20.39	21.04	21.71	22.36	22.32	22.98	23.63
	8H	19.46	20.04	20.07	20.65	21.36	22.51	23.09	23.13	23.70	24.42