

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: P243459

Luminaire Tested: S124DRP-H350D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243459  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-H350D830-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

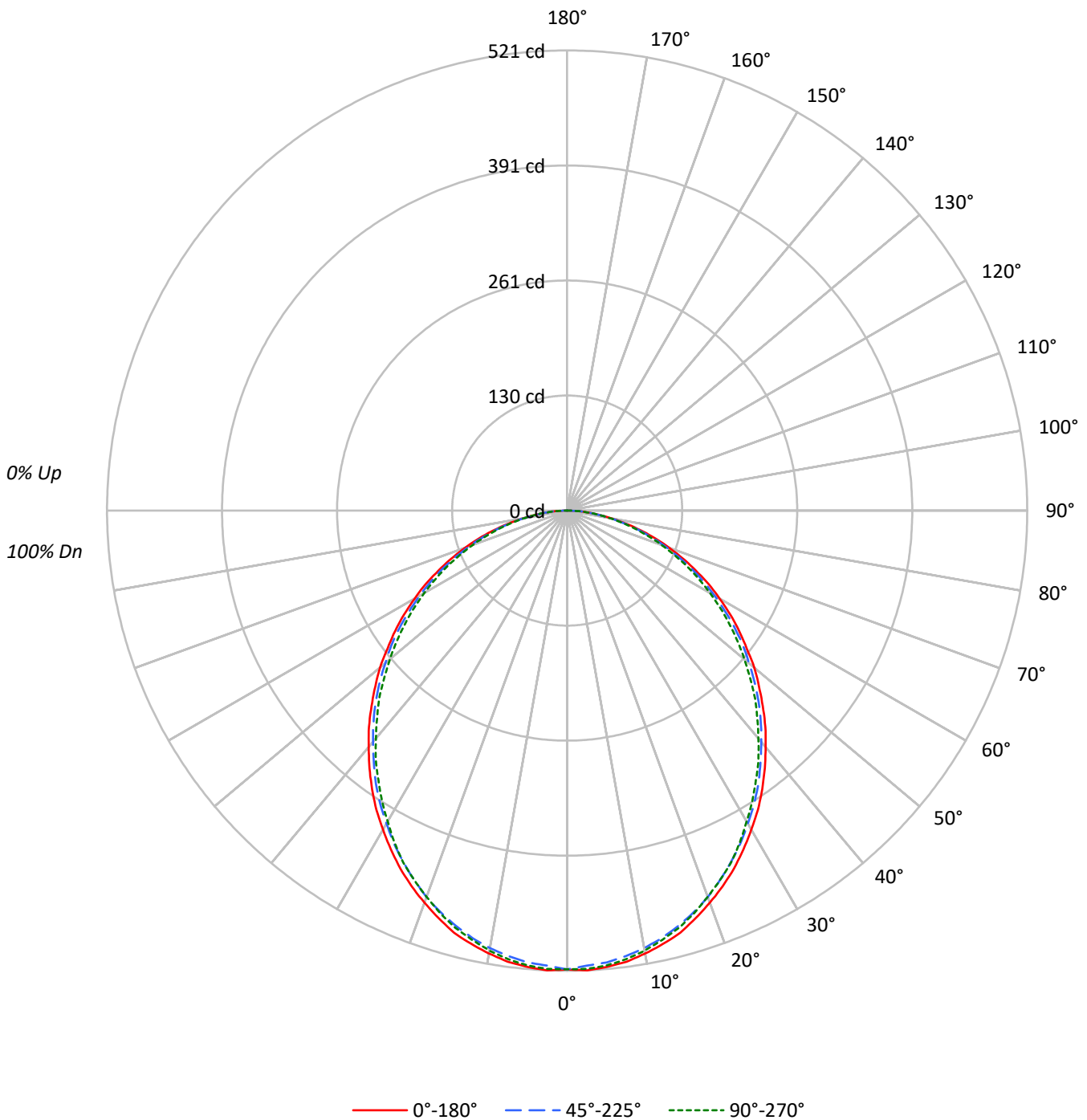
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1337.1 lumens  
Efficiency: N/A  
Efficacy: 119.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.2  
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





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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	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70					70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60					60			
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51					51			
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44					44			
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	52	46	41	39					39			
7	66	52	44	38	64	51	43	37	50	43	37	48	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28					28			
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25					25			

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

	0°	45°	90°
0°	4617	4617	4617
5°	4627	4582	4611
10°	4596	4539	4566
15°	4554	4480	4500
20°	4470	4405	4401
25°	4385	4307	4311
30°	4281	4199	4172
35°	4178	4095	4044
40°	4055	3967	3908
45°	3937	3857	3783
50°	3828	3717	3623
55°	3687	3589	3478
60°	3547	3426	3321
65°	3378	3262	3155
70°	3197	3054	2955
75°	2947	2830	2744
80°	2595	2554	2488
85°	2285	2285	2244

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3937 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.0	3.7
10°-20°	138.1	10.3
20°-30°	203.3	15.2
30°-40°	236.6	17.7
40°-50°	236.7	17.7
50°-60°	207.0	15.5
60°-70°	153.7	11.5
70°-80°	87.6	6.5
80°-90°	25.2	1.9
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°	390.3	29.2
0°-40°	626.9	46.9
0°-60°	1070.5	80.1
0°-90°	1337.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1337.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	519	519	519	519	519	
5°	518	518	514	517	517	49
15°	495	492	487	490	489	139
25°	447	445	439	440	440	206
35°	385	382	377	374	373	241
45°	313	312	307	302	301	242
55°	238	236	232	226	224	213
65°	161	159	155	152	150	159
75°	86	84	82	81	80	91
85°	22	22	22	22	22	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	519.4	519.4	519.4	519.4	519.4
2.5°	521.1	519.8	515.6	519.8	519.4
5°	518.5	517.7	513.5	517.3	516.8
7.5°	515.2	513.5	508.8	512.6	512.2
10°	509.2	508.0	502.9	506.7	505.9
12.5°	502.5	501.2	495.7	498.7	497.8
15°	494.9	492.3	486.8	489.8	489.0
17.5°	483.9	482.2	476.7	479.2	478.0
20°	472.5	470.4	465.7	466.1	465.3
22.5°	460.2	458.1	452.6	454.3	452.6
25°	447.1	445.0	439.1	440.4	439.5
27.5°	432.3	430.2	424.7	425.1	423.5
30°	417.1	414.6	409.1	408.7	406.5
32.5°	401.9	399.4	393.9	392.2	390.1
35°	385.0	381.6	377.4	374.0	372.7
37.5°	367.7	366.0	359.6	357.5	355.8
40°	349.5	347.8	341.9	338.9	336.8
42.5°	332.2	330.1	324.6	320.3	318.6
45°	313.2	311.9	306.8	302.2	300.9
47.5°	294.6	294.1	287.8	283.1	281.0
50°	276.8	274.3	268.8	264.6	262.0
52.5°	256.1	255.7	251.0	245.5	243.4
55°	237.9	236.2	231.6	226.5	224.4
57.5°	218.9	218.1	212.1	207.9	205.8
60°	199.5	197.8	192.7	188.9	186.8
62.5°	180.9	178.8	174.1	170.3	168.2
65°	160.6	159.3	155.1	151.7	150.0
67.5°	141.6	139.9	135.7	132.7	131.0
70°	123.0	120.4	117.5	114.9	113.7
72.5°	104.4	102.3	99.7	98.0	96.4
75°	85.8	84.1	82.4	80.7	79.9
77.5°	68.0	66.3	65.5	65.1	64.2
80°	50.7	49.9	49.9	49.4	48.6
82.5°	35.9	35.1	35.1	35.1	34.7
85°	22.4	22.0	22.4	21.6	22.0
87.5°	10.6	10.6	11.0	10.6	11.0
90°	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	16.61	18.23	16.98	18.54	18.86	16.26	17.88	16.63	18.19	18.51
	3H	18.37	19.83	18.74	20.15	20.51	17.98	19.44	18.35	19.76	20.12
	4H	19.02	20.40	19.42	20.74	21.12	18.62	20.00	19.02	20.35	20.72
	6H	19.50	20.77	19.91	21.14	21.53	19.11	20.39	19.52	20.75	21.14
	8H	19.65	20.87	20.07	21.25	21.65	19.28	20.49	19.70	20.88	21.28
	12H	19.75	20.92	20.18	21.30	21.73	19.39	20.55	19.82	20.93	21.36
4H	2H	17.19	18.56	17.58	18.91	19.28	16.91	18.28	17.31	18.63	19.01
	3H	19.16	20.31	19.57	20.71	21.11	18.84	19.99	19.25	20.39	20.79
	4H	19.94	20.99	20.38	21.40	21.84	19.62	20.66	20.05	21.07	21.51
	6H	20.55	21.46	21.00	21.90	22.35	20.23	21.14	20.69	21.58	22.04
	8H	20.75	21.60	21.21	22.04	22.51	20.44	21.29	20.90	21.74	22.20
	12H	20.90	21.66	21.38	22.14	22.61	20.60	21.37	21.08	21.84	22.31
8H	4H	20.23	21.08	20.69	21.52	21.99	19.94	20.79	20.40	21.23	21.70
	6H	20.95	21.66	21.44	22.14	22.62	20.68	21.39	21.17	21.87	22.35
	8H	21.22	21.85	21.73	22.36	22.85	20.96	21.60	21.47	22.11	22.59
	12H	21.45	22.01	21.95	22.50	23.06	21.20	21.76	21.71	22.25	22.81
12H	4H	20.26	21.02	20.74	21.50	21.97	19.97	20.74	20.45	21.21	21.68
	6H	21.00	21.63	21.51	22.14	22.63	20.74	21.37	21.25	21.88	22.37
	8H	21.33	21.89	21.83	22.38	22.94	21.08	21.64	21.59	22.14	22.70