

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: P1439778

Luminaire Tested: S123DR-H485D830-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439778  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-H485D830-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

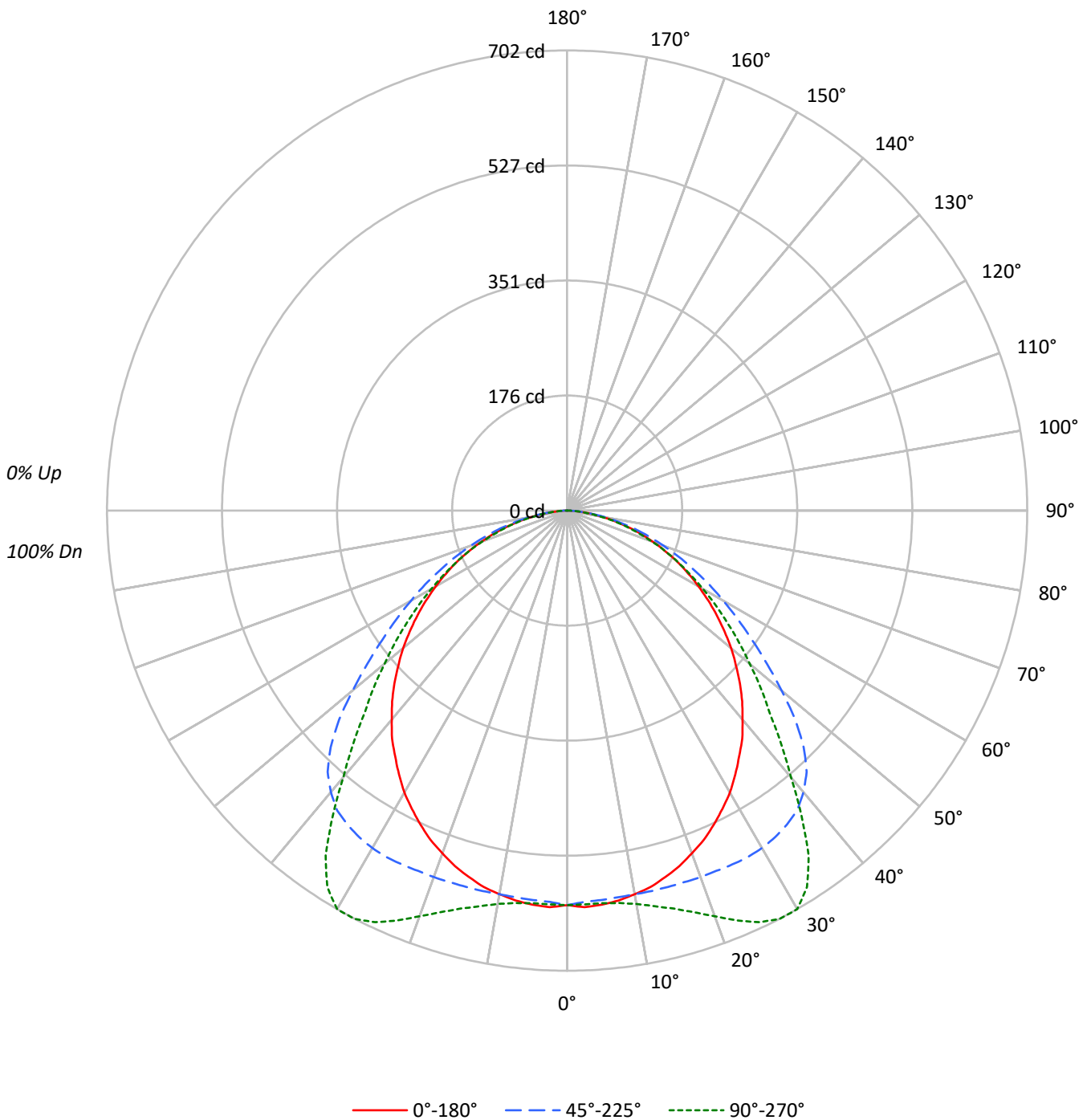
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1820.4 lumens  
Efficiency: N/A  
Efficacy: 105.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.3  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	7257	7257	7257
5°	7306	7217	7277
10°	7277	7277	7459
15°	7224	7419	7846
20°	7139	7634	8449
25°	7038	7924	9216
30°	6915	8275	9774
35°	6734	8603	9453
40°	6554	8826	8365
45°	6356	8702	7449
50°	6130	8009	6818
55°	5860	7248	6266
60°	5582	6633	5763
65°	5309	6074	5326
70°	4914	5506	4826
75°	4435	4900	4318
80°	3715	4103	3541
85°	2836	3016	2670

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 8702 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.3	3.1
10°-20°	170.3	9.4
20°-30°	279.1	15.3
30°-40°	353.1	19.4
40°-50°	344.9	18.9
50°-60°	283.4	15.6
60°-70°	199.9	11.0
70°-80°	106.5	5.9
80°-90°	26.0	1.4
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°	506.7	27.8
0°-40°	859.8	47.2
0°-60°	1488.1	81.7
0°-90°	1820.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1820.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	602	602	602	602	602	
5°	604	601	596	602	601	57
15°	579	582	594	621	629	163
25°	529	545	596	668	693	244
35°	458	489	584	652	642	286
45°	373	415	510	461	437	287
55°	279	320	345	310	298	249
65°	186	213	213	194	187	184
75°	95	107	105	95	93	101
85°	20	22	22	20	19	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	601.9	601.9	601.9	601.9	601.9
2.5°	605.6	603.7	597.5	603.1	601.3
5°	603.7	601.3	596.3	602.5	601.3
7.5°	600.0	598.8	595.0	604.4	603.7
10°	594.4	593.8	594.4	608.1	609.3
12.5°	588.2	588.8	594.4	613.7	618.1
15°	578.8	582.0	594.4	621.2	628.6
17.5°	568.9	573.9	594.4	631.1	642.3
20°	556.4	565.2	595.0	641.7	658.5
22.5°	544.0	554.6	595.0	656.0	676.6
25°	529.1	544.6	595.7	667.9	692.8
27.5°	512.9	531.5	596.3	677.2	702.1
30°	496.7	519.1	594.4	680.9	702.1
32.5°	477.4	504.8	590.7	674.7	680.9
35°	457.5	489.2	584.5	652.3	642.3
37.5°	438.8	472.4	576.4	611.2	587.6
40°	416.4	454.4	560.8	558.9	531.5
42.5°	395.2	435.1	540.9	506.0	483.6
45°	372.8	415.2	510.4	460.6	436.9
47.5°	349.2	393.4	471.8	417.6	400.8
50°	326.8	371.0	427.0	378.4	363.5
52.5°	302.5	347.3	384.0	343.6	330.5
55°	278.8	320.5	344.8	310.0	298.1
57.5°	255.2	294.4	308.7	278.2	268.9
60°	231.5	267.0	275.1	249.0	239.0
62.5°	208.5	241.5	244.0	221.0	212.2
65°	186.1	212.9	212.9	194.2	186.7
67.5°	162.5	185.5	184.2	166.8	162.5
70°	139.4	158.7	156.2	141.9	136.9
72.5°	117.6	132.0	130.1	118.9	113.3
75°	95.2	107.1	105.2	95.2	92.7
77.5°	74.1	82.2	80.3	73.4	71.6
80°	53.5	59.8	59.1	54.2	51.0
82.5°	36.1	39.2	38.6	35.5	33.6
85°	20.5	22.4	21.8	19.9	19.3
87.5°	8.1	9.3	10.0	9.3	8.7
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	18.52	20.13	18.89	20.44	20.76	18.25	19.86	18.62	20.17	20.48
	3H	20.09	21.54	20.47	21.87	22.23	19.77	21.21	20.14	21.54	21.90
	4H	20.65	22.01	21.04	22.35	22.73	20.30	21.66	20.70	22.01	22.39
	6H	21.01	22.27	21.42	22.63	23.02	20.66	21.92	21.07	22.28	22.67
	8H	21.11	22.31	21.53	22.70	23.10	20.75	21.95	21.18	22.34	22.74
	12H	21.16	22.31	21.59	22.70	23.12	20.80	21.95	21.23	22.34	22.77
4H	2H	19.16	20.52	19.56	20.87	21.25	18.95	20.31	19.35	20.66	21.03
	3H	20.97	22.11	21.38	22.50	22.90	20.67	21.80	21.08	22.20	22.60
	4H	21.66	22.68	22.09	23.10	23.53	21.30	22.33	21.73	22.74	23.18
	6H	22.14	23.03	22.59	23.47	23.93	21.76	22.65	22.22	23.10	23.55
	8H	22.27	23.11	22.73	23.55	24.02	21.89	22.72	22.35	23.17	23.63
	12H	22.36	23.11	22.84	23.58	24.05	21.97	22.72	22.45	23.19	23.66
8H	4H	21.92	22.76	22.38	23.20	23.67	21.61	22.44	22.07	22.89	23.35
	6H	22.51	23.21	23.01	23.70	24.17	22.17	22.86	22.66	23.35	23.83
	8H	22.71	23.33	23.22	23.84	24.32	22.35	22.97	22.86	23.48	23.96
	12H	22.85	23.40	23.36	23.89	24.45	22.48	23.03	22.99	23.52	24.08
12H	4H	21.94	22.69	22.42	23.16	23.63	21.64	22.39	22.12	22.86	23.33
	6H	22.55	23.17	23.06	23.68	24.16	22.21	22.84	22.72	23.34	23.83
	8H	22.79	23.34	23.30	23.83	24.39	22.44	22.99	22.95	23.48	24.05