

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: P1439774

Luminaire Tested: S123DR-H290D930-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439774  
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-H290D930-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

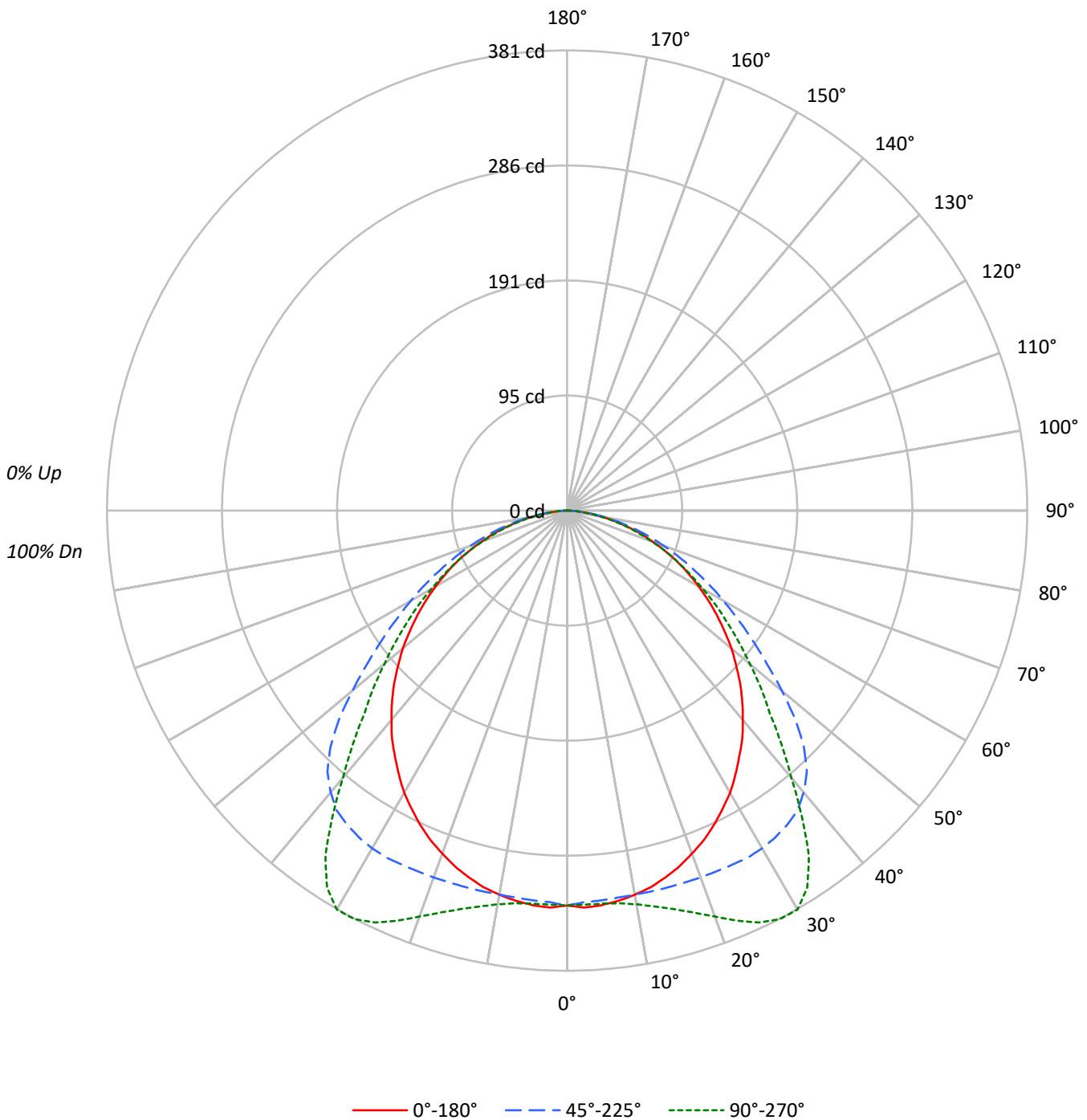
Lumens per Lamp: N/A  
Luminaire Lumens: 988.8 lumens  
Efficiency: N/A  
Efficacy: 84.5 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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

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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	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

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

	0°	45°	90°
0°	3941	3941	3941
5°	3968	3920	3953
10°	3953	3953	4052
15°	3924	4030	4263
20°	3877	4147	4589
25°	3823	4303	5006
30°	3756	4495	5310
35°	3657	4673	5135
40°	3560	4794	4544
45°	3453	4726	4046
50°	3329	4350	3703
55°	3184	3937	3403
60°	3033	3602	3130
65°	2884	3298	2893
70°	2668	2993	2623
75°	2408	2660	2348
80°	2020	2229	1923
85°	1549	1632	1452

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 4726 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.1	3.1
10°-20°	92.5	9.4
20°-30°	151.6	15.3
30°-40°	191.8	19.4
40°-50°	187.4	18.9
50°-60°	153.9	15.6
60°-70°	108.6	11.0
70°-80°	57.9	5.9
80°-90°	14.1	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°	275.2	27.8
0°-40°	467.0	47.2
0°-60°	808.3	81.7
0°-90°	988.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	988.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	327	327	327	327	327	
5°	328	327	324	327	327	31
15°	314	316	323	337	342	89
25°	287	296	324	363	376	132
35°	248	266	318	354	349	156
45°	202	226	277	250	237	156
55°	152	174	187	168	162	135
65°	101	116	116	106	101	100
75°	52	58	57	52	50	55
85°	11	12	12	11	10	14
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	326.9	326.9	326.9	326.9	326.9
2.5°	329.0	327.9	324.6	327.6	326.6
5°	327.9	326.6	323.9	327.3	326.6
7.5°	325.9	325.2	323.2	328.3	327.9
10°	322.9	322.5	322.9	330.3	331.0
12.5°	319.5	319.8	322.9	333.3	335.7
15°	314.4	316.1	322.9	337.4	341.5
17.5°	309.0	311.7	322.9	342.8	348.9
20°	302.2	307.0	323.2	348.6	357.7
22.5°	295.5	301.2	323.2	356.3	367.5
25°	287.4	295.8	323.5	362.8	376.3
27.5°	278.6	288.7	323.9	367.8	381.4
30°	269.8	282.0	322.9	369.9	381.4
32.5°	259.3	274.2	320.8	366.5	369.9
35°	248.5	265.7	317.5	354.3	348.9
37.5°	238.3	256.6	313.1	332.0	319.1
40°	226.2	246.8	304.6	303.6	288.7
42.5°	214.7	236.3	293.8	274.9	262.7
45°	202.5	225.5	277.2	250.2	237.3
47.5°	189.7	213.7	256.3	226.9	217.7
50°	177.5	201.5	231.9	205.6	197.4
52.5°	164.3	188.6	208.6	186.6	179.5
55°	151.5	174.1	187.3	168.4	161.9
57.5°	138.6	159.9	167.7	151.1	146.1
60°	125.8	145.0	149.4	135.2	129.8
62.5°	113.3	131.2	132.5	120.0	115.3
65°	101.1	115.6	115.6	105.5	101.4
67.5°	88.2	100.7	100.1	90.6	88.2
70°	75.7	86.2	84.9	77.1	74.4
72.5°	63.9	71.7	70.7	64.6	61.5
75°	51.7	58.1	57.1	51.7	50.4
77.5°	40.2	44.6	43.6	39.9	38.9
80°	29.1	32.5	32.1	29.4	27.7
82.5°	19.6	21.3	21.0	19.3	18.3
85°	11.2	12.2	11.8	10.8	10.5
87.5°	4.4	5.1	5.4	5.1	4.7
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	16.40	18.01	16.77	18.32	18.64	16.13	17.73	16.49	18.05	18.36
	3H	17.97	19.42	18.35	19.75	20.11	17.65	19.09	18.02	19.42	19.78
	4H	18.52	19.88	18.92	20.23	20.61	18.18	19.54	18.58	19.89	20.26
	6H	18.89	20.15	19.30	20.51	20.90	18.54	19.80	18.95	20.16	20.55
	8H	18.99	20.19	19.41	20.58	20.98	18.63	19.83	19.06	20.22	20.62
	12H	19.04	20.19	19.47	20.57	21.00	18.68	19.83	19.11	20.22	20.65
4H	2H	17.04	18.40	17.44	18.75	19.13	16.83	18.19	17.23	18.54	18.91
	3H	18.85	19.98	19.26	20.38	20.78	18.54	19.68	18.95	20.08	20.48
	4H	19.54	20.56	19.97	20.97	21.41	19.18	20.21	19.61	20.62	21.06
	6H	20.02	20.91	20.47	21.35	21.81	19.64	20.53	20.10	20.98	21.43
	8H	20.15	20.99	20.61	21.43	21.89	19.77	20.60	20.23	21.05	21.51
	12H	20.24	20.99	20.72	21.46	21.93	19.85	20.60	20.33	21.07	21.54
8H	4H	19.80	20.64	20.26	21.08	21.54	19.49	20.32	19.95	20.77	21.23
	6H	20.39	21.08	20.89	21.57	22.05	20.05	20.74	20.54	21.23	21.71
	8H	20.59	21.21	21.10	21.72	22.20	20.23	20.85	20.74	21.36	21.84
	12H	20.73	21.28	21.23	21.77	22.33	20.36	20.91	20.87	21.40	21.96
12H	4H	19.82	20.57	20.30	21.04	21.51	19.52	20.26	20.00	20.74	21.21
	6H	20.42	21.05	20.93	21.55	22.04	20.09	20.72	20.60	21.22	21.71
	8H	20.67	21.22	21.18	21.71	22.27	20.32	20.87	20.83	21.36	21.93