

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: P1439825

Luminaire Tested: S123DR-S485D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439825  
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-S485D840-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

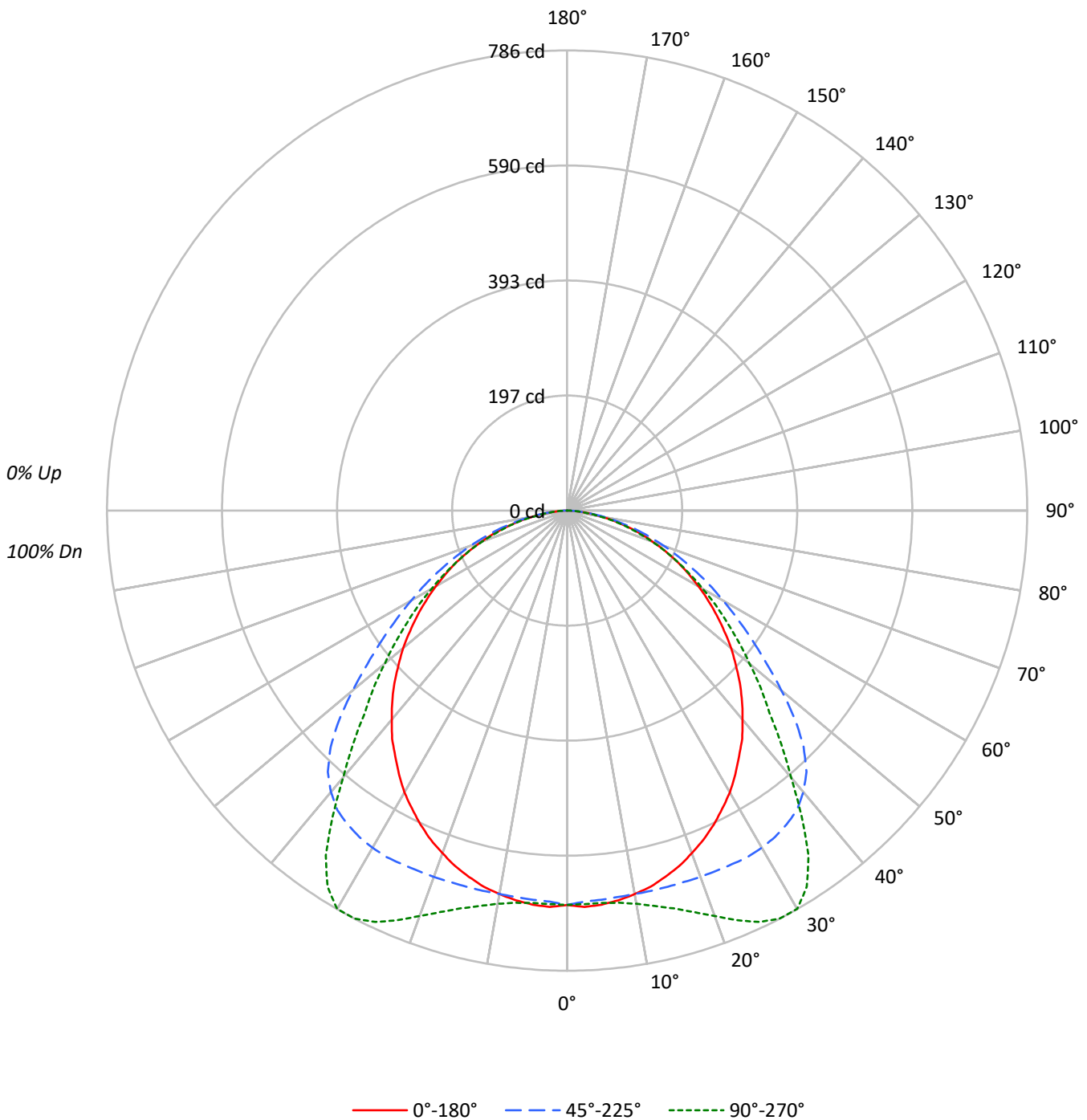
Lumens per Lamp: N/A  
Luminaire Lumens: 2037.0 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.1  
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	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°	8120	8120	8120
5°	8176	8075	8143
10°	8142	8142	8348
15°	8084	8302	8780
20°	7989	8542	9455
25°	7875	8866	10312
30°	7738	9259	10937
35°	7534	9626	10579
40°	7333	9876	9361
45°	7113	9737	8336
50°	6859	8962	7628
55°	6558	8109	7012
60°	6248	7422	6448
65°	5940	6795	5959
70°	5499	6162	5400
75°	4966	5483	4835
80°	4159	4596	3964
85°	3182	3375	2988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 9737 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.1	3.1
10°-20°	190.6	9.4
20°-30°	312.3	15.3
30°-40°	395.1	19.4
40°-50°	386.0	18.9
50°-60°	317.1	15.6
60°-70°	223.7	11.0
70°-80°	119.2	5.9
80°-90°	29.1	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°	567.0	27.8
0°-40°	962.0	47.2
0°-60°	1665.1	81.7
0°-90°	2037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2037.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	674	674	674	674	674	
5°	676	673	667	674	673	64
15°	648	651	665	695	703	183
25°	592	609	666	747	775	273
35°	512	547	654	730	719	321
45°	417	465	571	515	489	321
55°	312	359	386	347	334	279
65°	208	238	238	217	209	206
75°	107	120	118	107	104	113
85°	23	25	24	22	22	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	673.5	673.5	673.5	673.5	673.5
2.5°	677.7	675.6	668.6	674.9	672.8
5°	675.6	672.8	667.2	674.2	672.8
7.5°	671.4	670.0	665.8	676.3	675.6
10°	665.1	664.4	665.1	680.5	681.9
12.5°	658.2	658.9	665.1	686.7	691.6
15°	647.7	651.2	665.1	695.1	703.4
17.5°	636.6	642.2	665.1	706.2	718.8
20°	622.7	632.4	665.8	718.1	736.9
22.5°	608.7	620.6	665.8	734.1	757.1
25°	592.0	609.4	666.5	747.3	775.2
27.5°	573.9	594.8	667.2	757.8	785.6
30°	555.8	580.9	665.1	761.9	785.6
32.5°	534.2	564.8	661.0	755.0	761.9
35°	511.9	547.4	654.0	729.9	718.8
37.5°	491.0	528.6	644.9	683.9	657.5
40°	465.9	508.4	627.5	625.4	594.8
42.5°	442.3	486.8	605.2	566.2	541.2
45°	417.2	464.6	571.1	515.4	488.9
47.5°	390.7	440.2	527.9	467.3	448.5
50°	365.7	415.1	477.8	423.5	406.7
52.5°	338.5	388.6	429.7	384.5	369.8
55°	312.0	358.7	385.8	346.8	333.6
57.5°	285.6	329.4	345.5	311.3	300.9
60°	259.1	298.8	307.8	278.6	267.4
62.5°	233.3	270.2	273.0	247.2	237.5
65°	208.2	238.2	238.2	217.3	208.9
67.5°	181.8	207.6	206.2	186.7	181.8
70°	156.0	177.6	174.8	158.8	153.2
72.5°	131.6	147.7	145.6	133.0	126.8
75°	106.6	119.8	117.7	106.6	103.8
77.5°	82.9	91.9	89.8	82.2	80.1
80°	59.9	66.9	66.2	60.6	57.1
82.5°	40.4	43.9	43.2	39.7	37.6
85°	23.0	25.1	24.4	22.3	21.6
87.5°	9.1	10.4	11.1	10.4	9.8
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	18.91	20.52	19.28	20.83	21.15	18.64	20.25	19.01	20.56	20.87
	3H	20.48	21.93	20.86	22.26	22.62	20.16	21.60	20.53	21.93	22.29
	4H	21.04	22.40	21.43	22.74	23.12	20.69	22.05	21.09	22.40	22.78
	6H	21.40	22.66	21.81	23.02	23.42	21.05	22.31	21.46	22.67	23.06
	8H	21.50	22.70	21.92	23.09	23.49	21.14	22.35	21.57	22.73	23.13
	12H	21.55	22.71	21.98	23.09	23.52	21.20	22.35	21.63	22.73	23.16
4H	2H	19.55	20.91	19.95	21.26	21.64	19.34	20.70	19.74	21.05	21.42
	3H	21.36	22.50	21.77	22.89	23.29	21.06	22.19	21.47	22.59	22.99
	4H	22.05	23.07	22.48	23.49	23.92	21.69	22.72	22.13	23.13	23.57
	6H	22.53	23.42	22.98	23.86	24.32	22.15	23.05	22.61	23.49	23.94
	8H	22.66	23.50	23.12	23.94	24.41	22.28	23.11	22.74	23.56	24.02
	12H	22.75	23.50	23.23	23.97	24.44	22.36	23.11	22.84	23.58	24.05
8H	4H	22.31	23.15	22.77	23.59	24.06	22.00	22.84	22.46	23.28	23.74
	6H	22.90	23.60	23.40	24.09	24.56	22.56	23.25	23.06	23.74	24.22
	8H	23.10	23.72	23.61	24.23	24.71	22.74	23.36	23.25	23.87	24.36
	12H	23.24	23.79	23.75	24.28	24.84	22.87	23.42	23.38	23.91	24.47
12H	4H	22.33	23.08	22.81	23.56	24.02	22.03	22.78	22.51	23.25	23.72
	6H	22.94	23.56	23.45	24.07	24.55	22.61	23.23	23.12	23.74	24.22
	8H	23.18	23.73	23.69	24.22	24.78	22.83	23.38	23.34	23.88	24.44