

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: P1439961

Luminaire Tested: S124DR-S485D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439961
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-S485D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

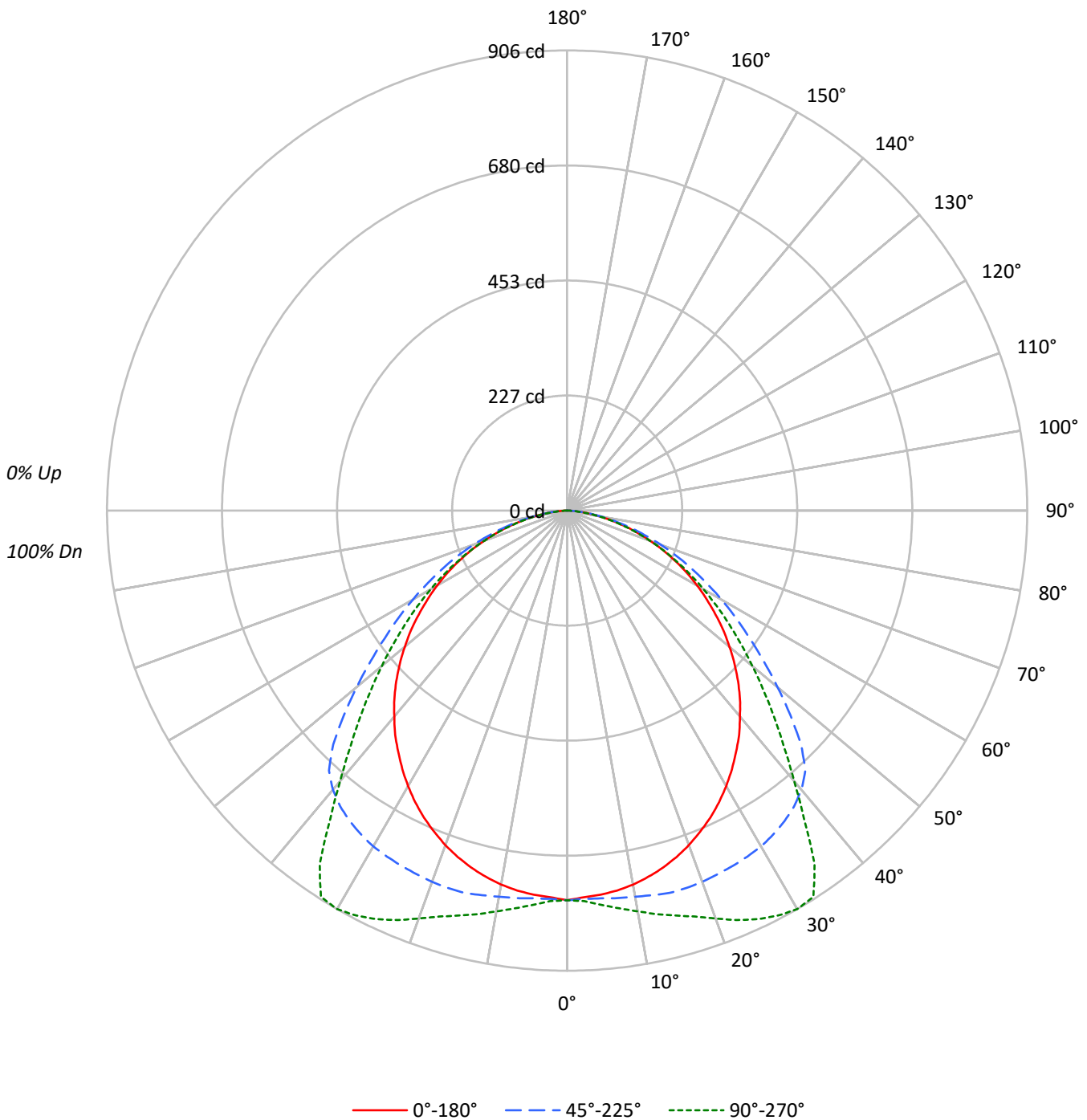
Lumens per Lamp: N/A
Luminaire Lumens: 2331.7 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	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°	6783	6783	6783
5°	6736	6803	6916
10°	6713	6929	7192
15°	6664	7133	7553
20°	6596	7318	8041
25°	6508	7529	8660
30°	6395	7795	9247
35°	6258	8054	9167
40°	6109	8281	8021
45°	5950	8144	7211
50°	5737	7436	6556
55°	5501	6767	5989
60°	5232	6205	5485
65°	4914	5655	5008
70°	4495	5062	4477
75°	3963	4345	3884
80°	3259	3488	3141
85°	2293	2364	2140

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8144 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.6	3.2
10°-20°	220.6	9.5
20°-30°	359.1	15.4
30°-40°	456.0	19.6
40°-50°	444.4	19.1
50°-60°	364.3	15.6
60°-70°	254.2	10.9
70°-80°	130.5	5.6
80°-90°	28.9	1.2
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°	653.4	28.0
0°-40°	1109.4	47.6
0°-60°	1918.1	82.3
0°-90°	2331.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2331.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	759	770	766	772	779	72
15°	728	751	779	810	825	205
25°	667	710	772	852	888	307
35°	580	636	746	855	849	363
45°	476	535	651	597	577	367
55°	357	412	439	402	388	319
65°	235	269	270	248	239	233
75°	116	129	127	118	114	123
85°	23	23	23	22	21	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	767.2	767.2	767.2	767.2	767.2
2.5°	762.0	771.8	765.0	768.0	769.5
5°	759.0	770.2	766.5	771.8	779.3
7.5°	754.4	767.2	769.5	780.0	789.8
10°	747.7	762.7	771.8	789.8	801.1
12.5°	738.6	757.4	775.5	800.4	813.9
15°	728.1	750.7	779.3	810.2	825.2
17.5°	715.3	742.4	779.3	817.7	838.0
20°	701.0	732.6	777.8	827.5	854.6
22.5°	684.4	722.1	774.8	838.8	872.6
25°	667.1	710.0	771.8	851.6	887.7
27.5°	647.5	695.7	768.0	861.4	899.0
30°	626.4	678.4	763.5	865.9	905.8
32.5°	603.8	658.1	755.9	865.9	902.0
35°	579.8	636.2	746.2	854.6	849.3
37.5°	556.4	612.9	734.1	799.6	766.5
40°	529.3	588.0	717.5	722.1	695.0
42.5°	503.7	561.7	694.2	656.6	632.5
45°	475.9	534.6	651.3	597.1	576.7
47.5°	447.2	505.2	595.6	543.6	524.8
50°	417.1	475.9	540.6	493.2	476.6
52.5°	387.8	444.2	487.9	446.5	430.7
55°	356.9	411.9	439.0	402.1	388.5
57.5°	326.0	378.7	394.5	360.7	347.9
60°	295.9	343.3	350.9	321.5	310.2
62.5°	265.8	306.4	309.5	283.9	274.1
65°	234.9	268.8	270.3	248.5	239.4
67.5°	204.8	232.7	232.7	213.8	206.3
70°	173.9	197.3	195.8	180.7	173.2
72.5°	144.6	161.1	159.6	148.3	143.1
75°	116.0	128.8	127.2	118.2	113.7
77.5°	88.8	97.9	96.4	90.4	86.6
80°	64.0	69.3	68.5	64.0	61.7
82.5°	42.2	45.2	43.7	40.7	39.2
85°	22.6	23.3	23.3	21.8	21.1
87.5°	8.3	8.3	8.3	8.3	7.5
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	18.34	19.93	18.70	20.25	20.56	18.12	19.72	18.49	20.03	20.35
	3H	19.84	21.28	20.22	21.61	21.97	19.59	21.03	19.97	21.36	21.72
	4H	20.34	21.70	20.74	22.04	22.42	20.09	21.44	20.49	21.79	22.17
	6H	20.66	21.91	21.07	22.28	22.67	20.40	21.66	20.82	22.02	22.41
	8H	20.75	21.94	21.17	22.33	22.73	20.48	21.67	20.91	22.06	22.46
	12H	20.78	21.93	21.21	22.31	22.74	20.51	21.66	20.94	22.04	22.47
4H	2H	18.96	20.31	19.36	20.66	21.04	18.79	20.14	19.19	20.49	20.87
	3H	20.69	21.81	21.10	22.21	22.61	20.46	21.58	20.87	21.98	22.38
	4H	21.32	22.33	21.75	22.75	23.18	21.05	22.07	21.48	22.48	22.92
	6H	21.74	22.63	22.20	23.07	23.53	21.47	22.35	21.92	22.79	23.25
	8H	21.86	22.68	22.32	23.13	23.59	21.57	22.40	22.03	22.84	23.31
	12H	21.92	22.66	22.40	23.14	23.61	21.63	22.37	22.11	22.85	23.32
8H	4H	21.56	22.39	22.02	22.83	23.29	21.33	22.15	21.79	22.60	23.06
	6H	22.08	22.77	22.58	23.26	23.73	21.83	22.51	22.32	23.00	23.48
	8H	22.25	22.86	22.76	23.37	23.86	21.97	22.59	22.49	23.10	23.58
	12H	22.36	22.90	22.86	23.39	23.95	22.07	22.62	22.58	23.11	23.67
12H	4H	21.57	22.31	22.05	22.79	23.26	21.34	22.09	21.82	22.56	23.03
	6H	22.10	22.72	22.61	23.23	23.71	21.86	22.47	22.37	22.98	23.47
	8H	22.31	22.86	22.82	23.35	23.91	22.05	22.59	22.56	23.08	23.65