

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: P1439779

Luminaire Tested: S123DR-H485D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439779
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-H485D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

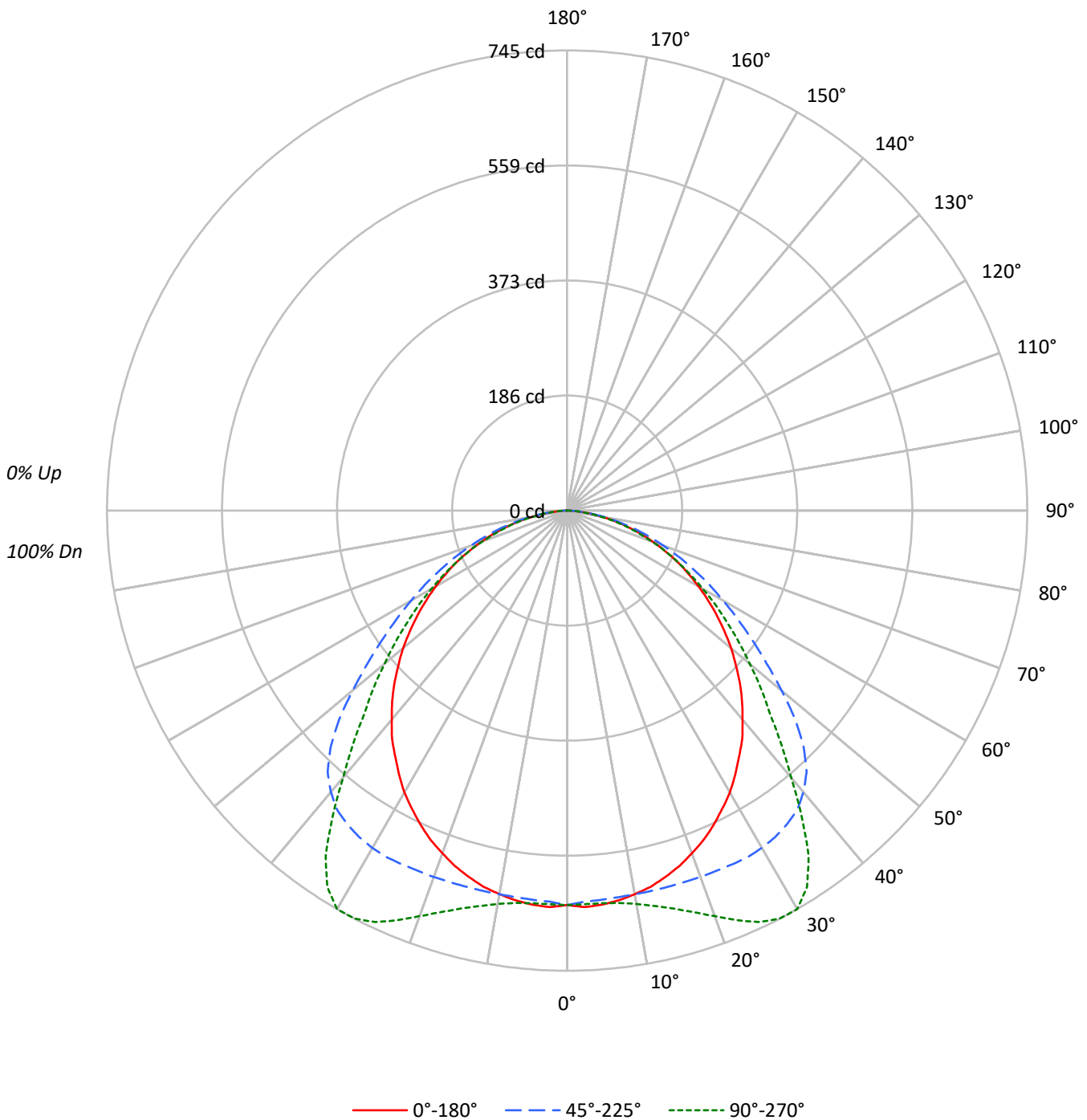
Lumens per Lamp: N/A
Luminaire Lumens: 1931.4 lumens
Efficiency: N/A
Efficacy: 111.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1439779

CATALOG NUMBER: S123DR-H485D835-X4F0-XX-UDD-FLB-W

Luminous Intensity Polar Plot



TEST NUMBER: P1439779

CATALOG NUMBER: S123DR-H485D835-X4F0-XX-UDD-FLB-W

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°	7699	7699	7699
5°	7753	7656	7720
10°	7720	7720	7915
15°	7665	7871	8325
20°	7575	8100	8964
25°	7467	8407	9778
30°	7337	8779	10370
35°	7144	9127	10030
40°	6953	9364	8875
45°	6745	9233	7905
50°	6503	8497	7234
55°	6218	7689	6649
60°	5925	7039	6115
65°	5631	6442	5651
70°	5214	5845	5122
75°	4705	5199	4584
80°	3944	4353	3756
85°	3016	3195	2836

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 9233 cd/sqm



TEST NUMBER: P1439779

CATALOG NUMBER: S123DR-H485D835-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.8	3.1
10°-20°	180.7	9.4
20°-30°	296.1	15.3
30°-40°	374.6	19.4
40°-50°	366.0	18.9
50°-60°	300.6	15.6
60°-70°	212.1	11.0
70°-80°	113.0	5.9
80°-90°	27.5	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°	537.6	27.8
0°-40°	912.2	47.2
0°-60°	1578.8	81.7
0°-90°	1931.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1931.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	639	639	639	639	639	
5°	641	638	633	639	638	61
15°	614	617	631	659	667	173
25°	561	578	632	709	735	258
35°	485	519	620	692	682	304
45°	396	440	542	489	464	305
55°	296	340	366	329	316	265
65°	197	226	226	206	198	195
75°	101	114	112	101	98	107
85°	22	24	23	21	20	26
90°	0	0	0	0	0	



TEST NUMBER: P1439779

CATALOG NUMBER: S123DR-H485D835-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	638.6	638.6	638.6	638.6	638.6
2.5°	642.5	640.6	633.9	639.9	637.9
5°	640.6	637.9	632.6	639.2	637.9
7.5°	636.6	635.3	631.3	641.2	640.6
10°	630.6	630.0	630.6	645.2	646.5
12.5°	624.0	624.7	630.6	651.1	655.7
15°	614.1	617.4	630.6	659.0	667.0
17.5°	603.6	608.9	630.6	669.6	681.5
20°	590.4	599.6	631.3	680.8	698.7
22.5°	577.2	588.4	631.3	696.0	717.8
25°	561.3	577.8	632.0	708.6	735.0
27.5°	544.1	563.9	632.6	718.5	744.9
30°	527.0	550.7	630.6	722.4	744.9
32.5°	506.5	535.6	626.7	715.8	722.4
35°	485.4	519.0	620.1	692.1	681.5
37.5°	465.6	501.2	611.5	648.5	623.4
40°	441.8	482.1	595.0	593.0	563.9
42.5°	419.3	461.6	573.9	536.9	513.1
45°	395.6	440.5	541.5	488.7	463.6
47.5°	370.5	417.3	500.6	443.1	425.3
50°	346.7	393.6	453.0	401.5	385.7
52.5°	320.9	368.5	407.4	364.5	350.7
55°	295.8	340.1	365.8	328.9	316.3
57.5°	270.7	312.4	327.5	295.2	285.3
60°	245.7	283.3	291.9	264.1	253.6
62.5°	221.2	256.2	258.9	234.4	225.2
65°	197.4	225.8	225.8	206.0	198.1
67.5°	172.4	196.8	195.5	177.0	172.4
70°	147.9	168.4	165.8	150.6	145.3
72.5°	124.8	140.0	138.0	126.1	120.2
75°	101.0	113.6	111.6	101.0	98.4
77.5°	78.6	87.2	85.2	77.9	75.9
80°	56.8	63.4	62.7	57.5	54.1
82.5°	38.3	41.6	40.9	37.6	35.7
85°	21.8	23.8	23.1	21.1	20.5
87.5°	8.6	9.9	10.6	9.9	9.2
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1439779

CATALOG NUMBER: S123DR-H485D835-X4F0-XX-UDD-FLB-W

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	18.73	20.33	19.09	20.65	20.96	18.46	20.06	18.82	20.38	20.69
	3H	20.30	21.75	20.68	22.07	22.43	19.97	21.42	20.35	21.75	22.11
	4H	20.85	22.21	21.25	22.56	22.94	20.51	21.87	20.91	22.22	22.59
	6H	21.22	22.47	21.63	22.84	23.23	20.87	22.12	21.28	22.49	22.88
	8H	21.32	22.52	21.74	22.91	23.30	20.96	22.16	21.38	22.55	22.95
	12H	21.37	22.52	21.80	22.90	23.33	21.01	22.16	21.44	22.54	22.97
4H	2H	19.37	20.73	19.77	21.08	21.45	19.16	20.52	19.55	20.86	21.24
	3H	21.18	22.31	21.59	22.71	23.11	20.87	22.01	21.28	22.40	22.80
	4H	21.86	22.89	22.30	23.30	23.74	21.51	22.53	21.94	22.95	23.38
	6H	22.35	23.24	22.80	23.68	24.14	21.97	22.86	22.42	23.30	23.76
	8H	22.48	23.31	22.94	23.76	24.22	22.09	22.93	22.56	23.37	23.84
	12H	22.56	23.31	23.04	23.79	24.26	22.17	22.92	22.65	23.40	23.87
8H	4H	22.13	22.96	22.59	23.41	23.87	21.82	22.65	22.28	23.09	23.56
	6H	22.72	23.41	23.21	23.90	24.38	22.38	23.07	22.87	23.56	24.03
	8H	22.91	23.54	23.42	24.04	24.53	22.55	23.18	23.07	23.68	24.17
	12H	23.05	23.60	23.56	24.10	24.66	22.68	23.23	23.19	23.73	24.29
12H	4H	22.15	22.89	22.63	23.37	23.84	21.84	22.59	22.32	23.07	23.54
	6H	22.75	23.37	23.26	23.88	24.37	22.42	23.04	22.93	23.55	24.04
	8H	23.00	23.54	23.50	24.04	24.60	22.65	23.20	23.16	23.69	24.25