

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: P1439824

Luminaire Tested: S123DR-S485D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439824
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-S485D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

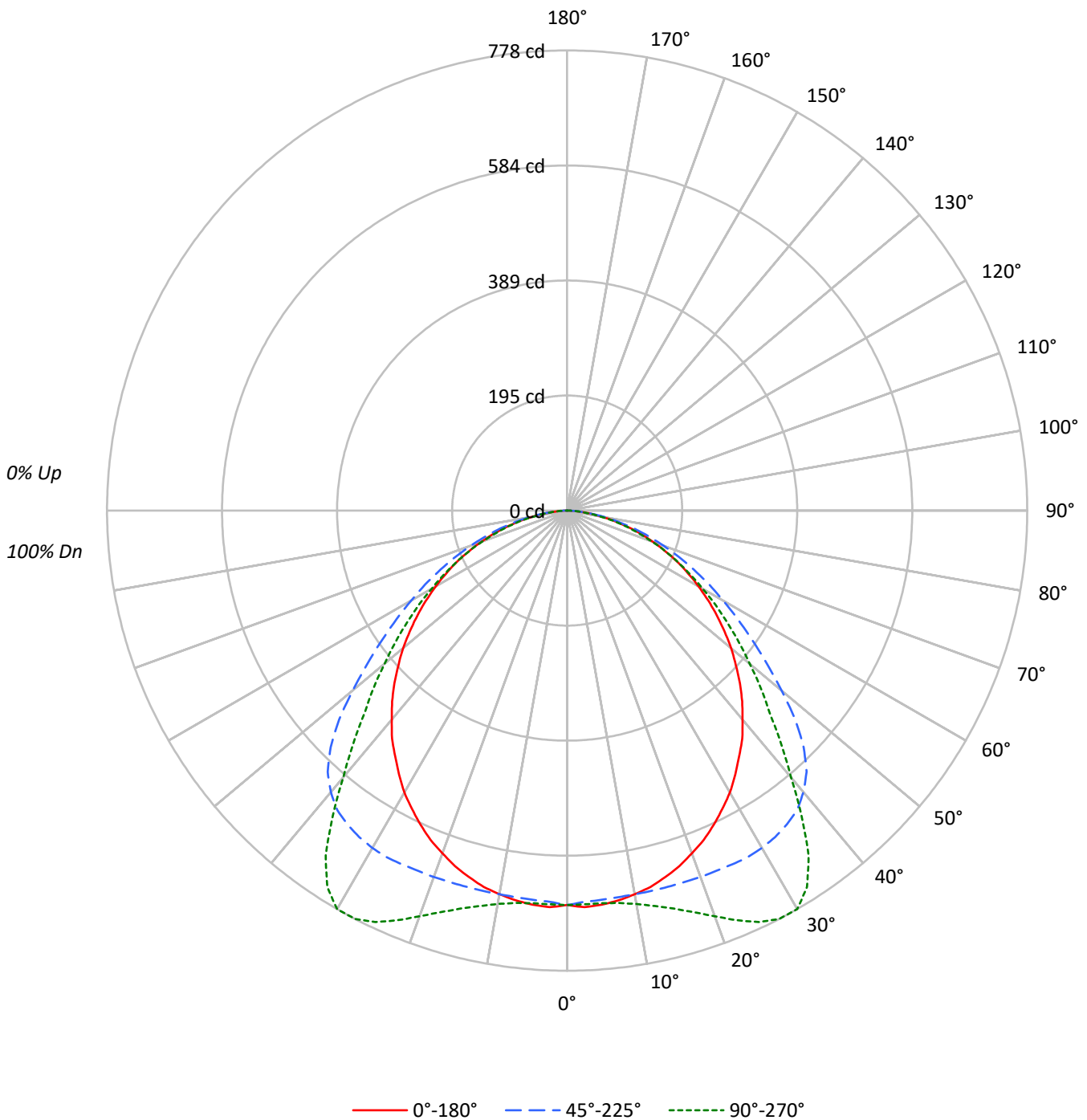
Lumens per Lamp: N/A
Luminaire Lumens: 2017.1 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (A_{in}): 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				
RC	80					70					50					30				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	8040	8040	8040
5°	8097	7996	8063
10°	8063	8063	8266
15°	8006	8220	8695
20°	7911	8459	9362
25°	7798	8780	10211
30°	7662	9169	10831
35°	7461	9531	10475
40°	7262	9780	9270
45°	7043	9642	8256
50°	6792	8874	7555
55°	6495	8032	6945
60°	6187	7350	6385
65°	5882	6730	5902
70°	5446	6102	5348
75°	4914	5432	4789
80°	4117	4548	3930
85°	3154	3334	2960

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 9642 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.5	3.1
10°-20°	188.7	9.4
20°-30°	309.3	15.3
30°-40°	391.2	19.4
40°-50°	382.2	18.9
50°-60°	314.0	15.6
60°-70°	221.5	11.0
70°-80°	118.0	5.9
80°-90°	28.8	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°	561.5	27.8
0°-40°	952.7	47.2
0°-60°	1648.9	81.7
0°-90°	2017.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2017.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	667	667	667	667	667	
5°	669	666	661	668	666	64
15°	641	645	659	688	697	181
25°	586	604	660	740	768	270
35°	507	542	648	723	712	317
45°	413	460	566	510	484	318
55°	309	355	382	344	330	276
65°	206	236	236	215	207	204
75°	106	119	117	106	103	112
85°	23	25	24	22	21	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	666.9	666.9	666.9	666.9	666.9
2.5°	671.1	669.0	662.1	668.3	666.2
5°	669.0	666.2	660.7	667.6	666.2
7.5°	664.8	663.5	659.3	669.7	669.0
10°	658.6	657.9	658.6	673.8	675.2
12.5°	651.7	652.4	658.6	680.0	684.8
15°	641.4	644.8	658.6	688.3	696.6
17.5°	630.4	635.9	658.6	699.3	711.7
20°	616.6	626.2	659.3	711.1	729.7
22.5°	602.8	614.5	659.3	726.9	749.7
25°	586.2	603.5	660.0	740.0	767.6
27.5°	568.3	589.0	660.7	750.4	778.0
30°	550.4	575.2	658.6	754.5	778.0
32.5°	529.0	559.3	654.5	747.6	754.5
35°	506.9	542.1	647.6	722.8	711.7
37.5°	486.2	523.5	638.6	677.3	651.1
40°	461.4	503.5	621.4	619.3	589.0
42.5°	437.9	482.1	599.3	560.7	535.9
45°	413.1	460.0	565.5	510.4	484.2
47.5°	386.9	435.9	522.8	462.8	444.2
50°	362.1	411.0	473.1	419.3	402.8
52.5°	335.2	384.8	425.5	380.7	366.2
55°	309.0	355.2	382.1	343.5	330.4
57.5°	282.8	326.2	342.1	308.3	297.9
60°	256.6	295.9	304.8	275.9	264.8
62.5°	231.0	267.6	270.4	244.8	235.2
65°	206.2	235.9	235.9	215.2	206.9
67.5°	180.0	205.5	204.1	184.8	180.0
70°	154.5	175.9	173.1	157.2	151.7
72.5°	130.3	146.2	144.1	131.7	125.5
75°	105.5	118.6	116.6	105.5	102.8
77.5°	82.1	91.0	89.0	81.4	79.3
80°	59.3	66.2	65.5	60.0	56.6
82.5°	40.0	43.4	42.8	39.3	37.2
85°	22.8	24.8	24.1	22.1	21.4
87.5°	9.0	10.3	11.0	10.3	9.7
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	18.88	20.49	19.25	20.80	21.11	18.61	20.21	18.97	20.53	20.84
	3H	20.45	21.90	20.83	22.22	22.58	20.12	21.57	20.50	21.90	22.26
	4H	21.00	22.36	21.40	22.71	23.09	20.66	22.02	21.06	22.37	22.74
	6H	21.37	22.63	21.78	22.99	23.38	21.02	22.27	21.43	22.64	23.03
	8H	21.47	22.67	21.89	23.06	23.45	21.11	22.31	21.53	22.70	23.10
	12H	21.52	22.67	21.95	23.05	23.48	21.16	22.31	21.59	22.69	23.12
4H	2H	19.52	20.88	19.92	21.23	21.60	19.31	20.67	19.71	21.01	21.39
	3H	21.33	22.46	21.74	22.86	23.26	21.02	22.16	21.43	22.55	22.95
	4H	22.01	23.04	22.45	23.45	23.89	21.66	22.68	22.09	23.10	23.53
	6H	22.50	23.39	22.95	23.83	24.29	22.12	23.01	22.57	23.45	23.91
	8H	22.63	23.46	23.09	23.91	24.37	22.24	23.08	22.71	23.52	23.99
	12H	22.71	23.46	23.19	23.94	24.41	22.33	23.07	22.81	23.55	24.02
8H	4H	22.28	23.11	22.74	23.56	24.02	21.97	22.80	22.43	23.24	23.71
	6H	22.87	23.56	23.36	24.05	24.53	22.53	23.22	23.02	23.71	24.18
	8H	23.06	23.69	23.57	24.19	24.68	22.71	23.33	23.22	23.83	24.32
	12H	23.20	23.75	23.71	24.25	24.81	22.84	23.39	23.34	23.88	24.44
12H	4H	22.30	23.04	22.78	23.52	23.99	21.99	22.74	22.47	23.22	23.69
	6H	22.90	23.52	23.41	24.03	24.52	22.57	23.19	23.08	23.70	24.19
	8H	23.15	23.70	23.65	24.19	24.75	22.80	23.35	23.31	23.84	24.40