

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: P243293

Luminaire Tested: S123DRP-H560D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243293  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-H560D835-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

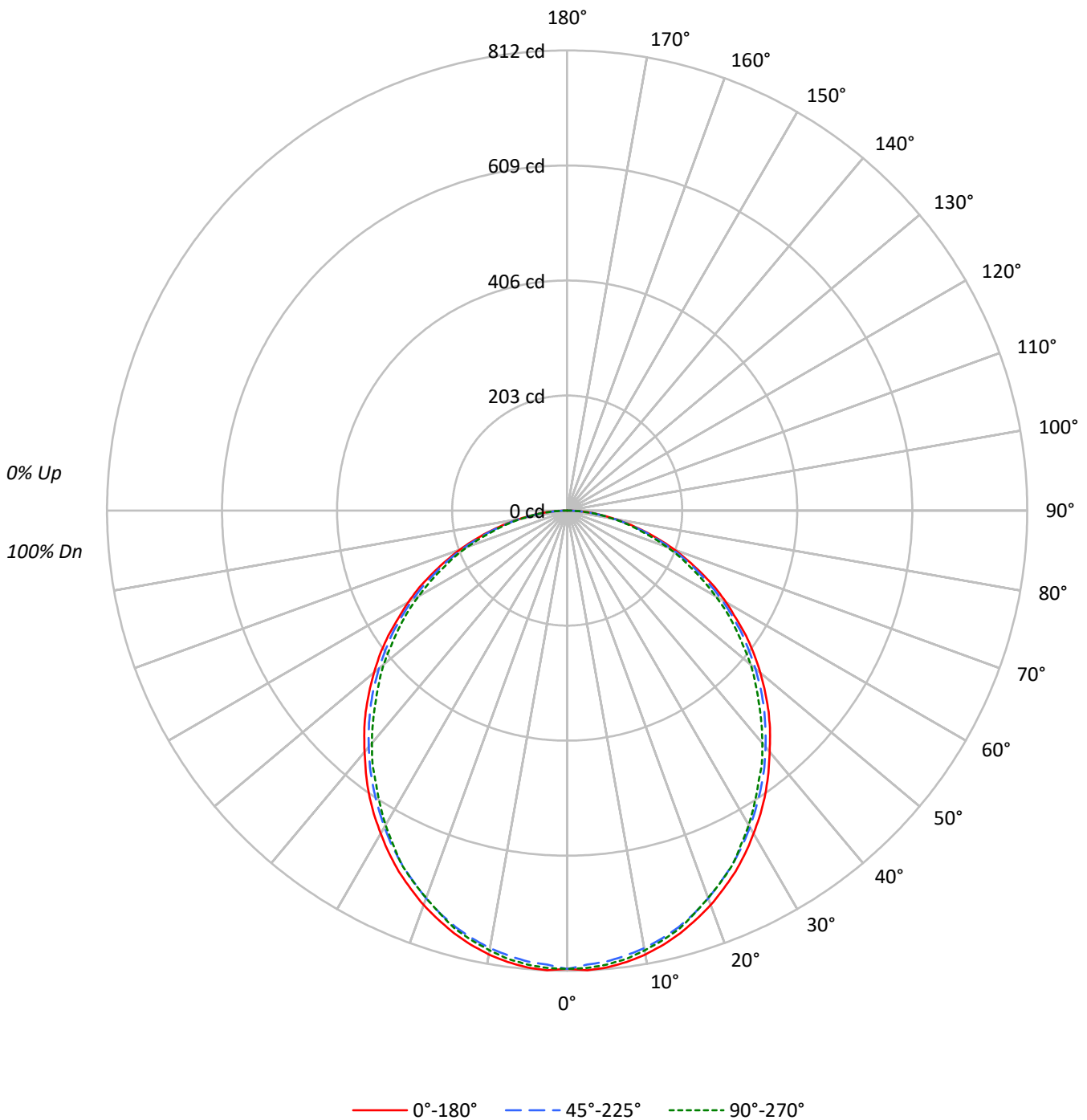
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2139.3 lumens  
Efficiency: N/A  
Efficacy: 124.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.2  
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	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
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°	9802	9802	9802
5°	9848	9718	9783
10°	9790	9650	9699
15°	9688	9546	9587
20°	9554	9391	9382
25°	9398	9219	9228
30°	9210	9032	8967
35°	9026	8830	8701
40°	8798	8619	8481
45°	8617	8412	8194
50°	8386	8171	7971
55°	8142	7931	7665
60°	7855	7644	7338
65°	7514	7285	6978
70°	7134	6900	6617
75°	6617	6430	6088
80°	5954	5815	5633
85°	5563	5285	5104

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8617 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.3	3.6
10°-20°	215.8	10.1
20°-30°	319.4	14.9
30°-40°	374.6	17.5
40°-50°	378.7	17.7
50°-60°	334.9	15.7
60°-70°	251.6	11.8
70°-80°	145.0	6.8
80°-90°	43.0	2.0
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°	611.5	28.6
0°-40°	986.1	46.1
0°-60°	1699.8	79.5
0°-90°	2139.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2139.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	809	809	809	809	809	
5°	809	806	799	805	804	77
15°	772	768	761	766	764	218
25°	703	697	689	693	690	324
35°	610	605	597	595	588	381
45°	503	499	491	484	478	387
55°	385	383	375	368	363	344
65°	262	260	254	247	243	260
75°	141	140	137	133	130	150
85°	40	39	38	37	37	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	808.7	808.7	808.7	808.7	808.7
2.5°	812.0	809.4	802.0	809.4	808.0
5°	809.4	806.0	798.7	805.4	804.0
7.5°	803.4	800.0	792.0	799.4	798.0
10°	795.4	792.0	784.0	790.0	788.0
12.5°	784.7	781.4	773.4	778.0	776.7
15°	772.0	768.0	760.7	766.0	764.0
17.5°	756.7	753.4	745.4	752.0	746.0
20°	740.7	737.4	728.0	734.0	727.3
22.5°	722.0	718.0	708.7	712.7	709.3
25°	702.7	697.3	689.3	692.7	690.0
27.5°	681.3	676.0	668.0	669.3	664.7
30°	658.0	653.3	645.3	646.7	640.7
32.5°	634.7	630.7	620.7	620.7	614.7
35°	610.0	604.7	596.7	594.7	588.0
37.5°	583.3	578.7	571.3	568.0	564.0
40°	556.0	553.3	544.7	540.7	536.0
42.5°	530.0	525.3	518.0	512.7	507.3
45°	502.7	498.7	490.7	484.0	478.0
47.5°	474.0	470.7	462.7	455.3	450.7
50°	444.7	442.0	433.3	425.3	422.7
52.5°	416.0	412.7	404.0	396.7	391.3
55°	385.3	382.7	375.3	368.0	362.7
57.5°	352.7	352.7	344.7	338.0	334.0
60°	324.0	320.7	315.3	308.0	302.7
62.5°	294.0	292.0	284.7	277.3	273.3
65°	262.0	260.0	254.0	247.3	243.3
67.5°	230.7	230.0	224.7	219.3	216.7
70°	201.3	200.0	194.7	189.3	186.7
72.5°	171.3	170.0	165.3	160.7	157.3
75°	141.3	140.0	137.3	133.3	130.0
77.5°	112.0	112.0	108.7	107.3	106.0
80°	85.3	84.7	83.3	82.0	80.7
82.5°	61.3	60.7	59.3	58.7	58.7
85°	40.0	39.3	38.0	37.3	36.7
87.5°	20.7	19.3	18.7	17.3	16.7
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	19.38	21.01	19.75	21.32	21.64	19.07	20.70	19.44	21.01	21.32
	3H	21.18	22.65	21.56	22.98	23.34	20.83	22.30	21.20	22.62	22.98
	4H	21.86	23.24	22.25	23.59	23.96	21.48	22.86	21.87	23.21	23.58
	6H	22.35	23.64	22.76	24.00	24.39	21.98	23.26	22.39	23.62	24.01
	8H	22.52	23.75	22.95	24.14	24.53	22.15	23.37	22.57	23.76	24.16
	12H	22.64	23.82	23.07	24.20	24.63	22.27	23.44	22.70	23.82	24.25
4H	2H	19.97	21.36	20.37	21.70	22.08	19.73	21.11	20.12	21.46	21.83
	3H	22.00	23.16	22.41	23.56	23.96	21.70	22.86	22.11	23.26	23.66
	4H	22.81	23.86	23.24	24.27	24.71	22.48	23.53	22.91	23.94	24.38
	6H	23.44	24.36	23.89	24.80	25.25	23.11	24.03	23.56	24.47	24.92
	8H	23.66	24.52	24.12	24.96	25.42	23.33	24.19	23.79	24.63	25.10
	12H	23.83	24.60	24.31	25.08	25.55	23.50	24.27	23.98	24.75	25.22
8H	4H	23.10	23.96	23.56	24.40	24.87	22.81	23.67	23.27	24.12	24.58
	6H	23.86	24.57	24.35	25.06	25.53	23.57	24.29	24.06	24.77	25.25
	8H	24.15	24.80	24.66	25.30	25.79	23.87	24.51	24.38	25.02	25.50
	12H	24.41	24.98	24.92	25.47	26.03	24.12	24.69	24.62	25.18	25.74
12H	4H	23.13	23.91	23.61	24.38	24.85	22.85	23.63	23.33	24.10	24.57
	6H	23.91	24.55	24.42	25.06	25.55	23.63	24.28	24.14	24.78	25.27
	8H	24.27	24.84	24.77	25.33	25.89	23.99	24.56	24.50	25.05	25.61