

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: P243121

Luminaire Tested: S122DRP-H485D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243121  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-48)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-H485D835-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

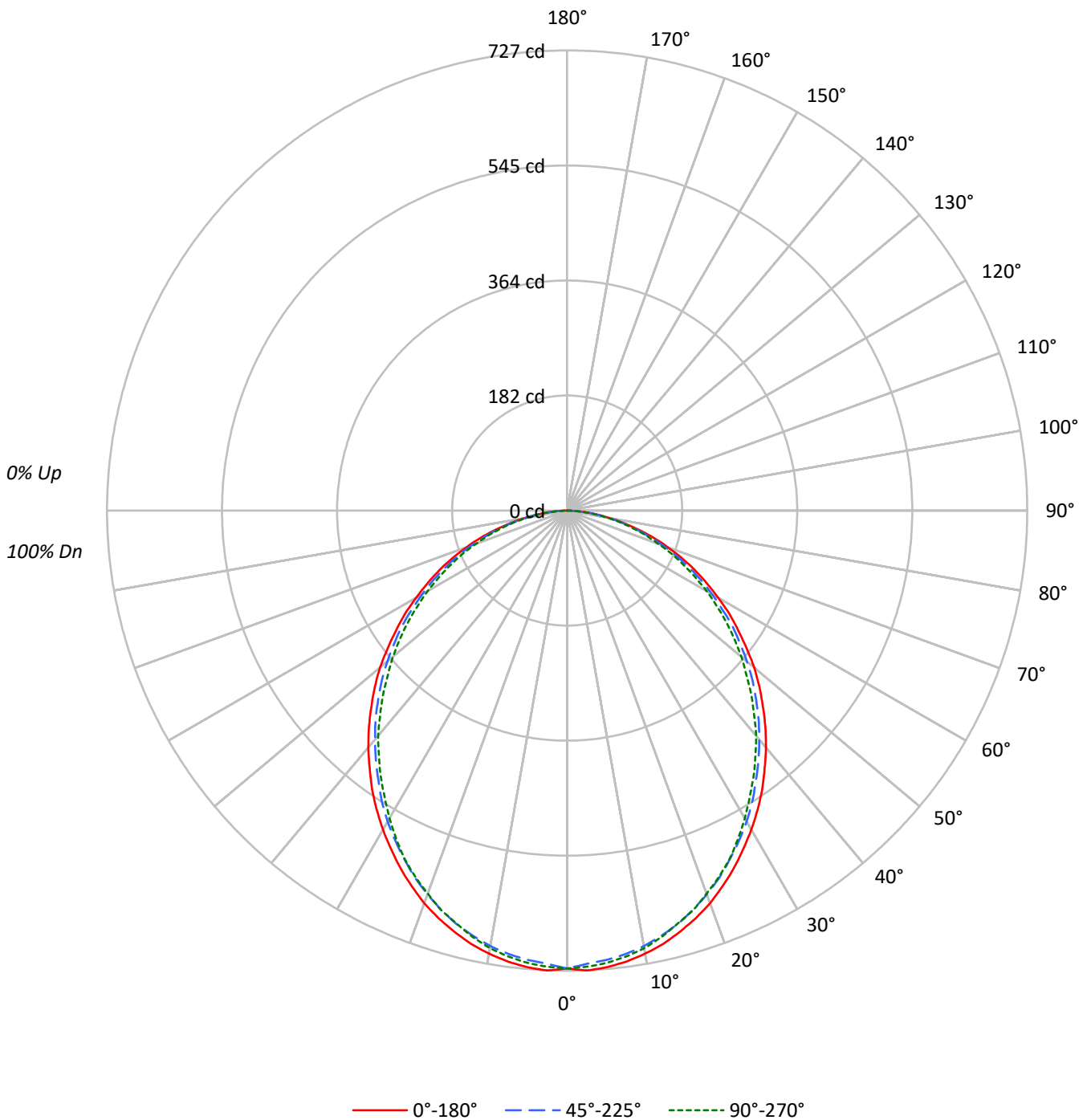
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1840.6 lumens  
Efficiency: N/A  
Efficacy: 107.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	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	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	27	37	32	27	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13777	13777	13777
5°	13843	13627	13715
10°	13746	13514	13578
15°	13581	13330	13317
20°	13378	13080	13054
25°	13100	12778	12764
30°	12801	12477	12345
35°	12494	12092	11936
40°	12152	11736	11555
45°	11780	11368	11079
50°	11438	10985	10647
55°	10959	10584	10185
60°	10488	10084	9703
65°	10037	9555	9136
70°	9429	8950	8504
75°	8589	8243	7853
80°	7459	7240	6943
85°	6403	5682	5245

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11780 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.1	3.7
10°-20°	191.7	10.4
20°-30°	281.9	15.3
30°-40°	327.3	17.8
40°-50°	326.8	17.8
50°-60°	284.7	15.5
60°-70°	210.5	11.4
70°-80°	118.7	6.4
80°-90°	30.9	1.7
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°	541.7	29.4
0°-40°	869.0	47.2
0°-60°	1480.5	80.4
0°-90°	1840.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1840.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	723	723	723	723	723	
5°	724	721	713	719	717	69
15°	689	685	676	679	675	194
25°	623	618	608	607	607	287
35°	537	531	520	515	513	336
45°	437	433	422	415	411	338
55°	330	327	319	310	307	296
65°	223	219	212	205	203	220
75°	117	116	112	108	107	124
85°	29	28	26	25	24	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	723.3	723.3	723.3	723.3	723.3
2.5°	727.3	724.0	716.7	722.7	721.3
5°	724.0	720.7	712.7	718.7	717.3
7.5°	718.7	715.3	706.7	712.7	710.7
10°	710.7	706.7	698.7	702.7	702.0
12.5°	701.3	697.3	688.0	691.3	690.0
15°	688.7	685.3	676.0	678.7	675.3
17.5°	675.3	670.0	661.3	664.0	662.0
20°	660.0	654.7	645.3	646.7	644.0
22.5°	642.0	636.7	628.0	628.0	626.7
25°	623.3	618.0	608.0	607.3	607.3
27.5°	602.7	598.0	588.0	586.0	584.7
30°	582.0	578.0	567.3	563.3	561.3
32.5°	560.0	554.7	544.7	540.0	536.7
35°	537.3	531.3	520.0	515.3	513.3
37.5°	512.7	506.7	496.7	492.7	488.7
40°	488.7	483.3	472.0	466.0	464.7
42.5°	463.3	458.0	448.0	441.3	437.3
45°	437.3	432.7	422.0	415.3	411.3
47.5°	412.0	406.7	397.3	389.3	384.0
50°	386.0	380.7	370.7	361.3	359.3
52.5°	357.3	354.0	344.0	335.3	332.7
55°	330.0	327.3	318.7	310.0	306.7
57.5°	304.0	300.7	290.7	284.0	280.0
60°	275.3	273.3	264.7	257.3	254.7
62.5°	248.7	246.0	238.7	231.3	228.0
65°	222.7	219.3	212.0	205.3	202.7
67.5°	196.0	192.7	186.7	181.3	178.7
70°	169.3	166.7	160.7	156.0	152.7
72.5°	143.3	140.7	135.3	130.7	130.0
75°	116.7	116.0	112.0	108.0	106.7
77.5°	92.0	91.3	88.7	86.7	85.3
80°	68.0	68.0	66.0	64.0	63.3
82.5°	46.7	47.3	45.3	44.0	44.0
85°	29.3	28.0	26.0	24.7	24.0
87.5°	12.0	10.0	9.3	7.3	6.7
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	20.40	22.01	20.76	22.32	22.64	19.97	21.58	20.33	21.89	22.21
	3H	22.15	23.61	22.53	23.93	24.29	21.67	23.12	22.05	23.45	23.81
	4H	22.80	24.17	23.20	24.51	24.89	22.30	23.66	22.69	24.01	24.39
	6H	23.26	24.52	23.67	24.89	25.28	22.76	24.02	23.17	24.39	24.78
	8H	23.39	24.60	23.82	24.99	25.39	22.90	24.11	23.32	24.50	24.90
	12H	23.49	24.65	23.92	25.03	25.46	22.98	24.14	23.41	24.52	24.95
4H	2H	20.96	22.33	21.36	22.67	23.05	20.62	21.98	21.02	22.33	22.71
	3H	22.93	24.08	23.34	24.48	24.88	22.53	23.68	22.94	24.08	24.48
	4H	23.71	24.75	24.14	25.16	25.60	23.28	24.32	23.71	24.73	25.17
	6H	24.30	25.20	24.75	25.64	26.10	23.86	24.77	24.32	25.21	25.66
	8H	24.48	25.33	24.94	25.77	26.24	24.05	24.89	24.51	25.33	25.80
	12H	24.62	25.38	25.10	25.85	26.32	24.16	24.92	24.64	25.40	25.87
8H	4H	23.98	24.83	24.44	25.27	25.74	23.60	24.45	24.06	24.89	25.36
	6H	24.69	25.39	25.18	25.88	26.35	24.30	25.00	24.79	25.49	25.96
	8H	24.94	25.57	25.45	26.08	26.56	24.55	25.18	25.06	25.68	26.17
	12H	25.14	25.70	25.65	26.19	26.75	24.72	25.28	25.23	25.77	26.33
12H	4H	24.01	24.77	24.49	25.24	25.71	23.64	24.40	24.12	24.87	25.34
	6H	24.73	25.36	25.24	25.87	26.35	24.35	24.98	24.86	25.49	25.98
	8H	25.04	25.59	25.54	26.08	26.64	24.66	25.21	25.16	25.70	26.27