

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: P243185

Luminaire Tested: S122DRP-H485D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243185  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-H485D830-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

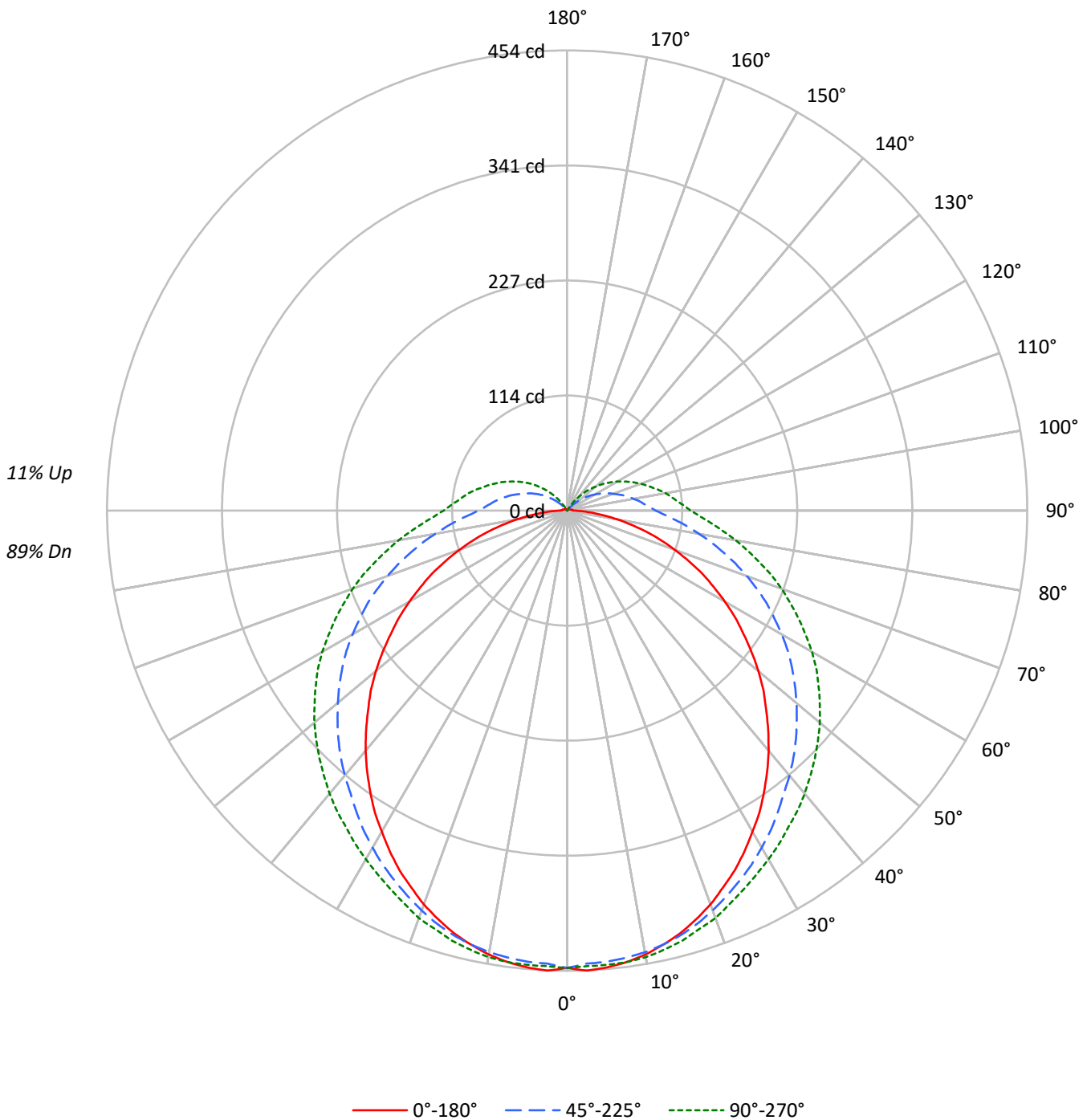
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1731.3 lumens  
Efficiency: N/A  
Efficacy: 100.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	84	81	82	79	76	77	74	72	69
2	93	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	41	39
5	71	57	48	41	68	55	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

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

	0°	45°	90°
0°	8594	8594	8594
5°	8634	8241	8193
10°	8573	7968	7861
15°	8464	7687	7511
20°	8317	7383	7180
25°	8146	7081	6840
30°	7945	6798	6567
35°	7759	6518	6324
40°	7552	6276	6126
45°	7323	6058	5924
50°	7116	5835	5738
55°	6843	5625	5539
60°	6600	5394	5342
65°	6333	5160	5104
70°	5947	4878	4876
75°	5525	4580	4607
80°	4918	4287	4372
85°	4298	4056	4138

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7323 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.8	2.5
10°-20°	122.8	7.1
20°-30°	186.0	10.7
30°-40°	226.9	13.1
40°-50°	244.2	14.1
50°-60°	237.4	13.7
60°-70°	207.6	12.0
70°-80°	159.8	9.2
80°-90°	107.4	6.2
90°-100°	74.3	4.3
100°-110°	54.7	3.2
110°-120°	36.4	2.1
120°-130°	20.6	1.2
130°-140°	8.8	0.5
140°-150°	1.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	351.7	20.3
0°-40°	578.6	33.4
0°-60°	1060.2	61.2
0°-90°	1534.9	88.7
90°-120°	165.3	9.5
90°-150°	196.4	11.3
90°-180°	196.0	11.3
0°-180°	1731.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	451	451	451	451	451	
5°	452	450	447	450	450	43
15°	432	434	434	439	439	122
25°	392	398	403	412	412	180
35°	339	350	363	376	381	212
45°	278	295	319	339	346	215
55°	212	238	271	295	303	190
65°	147	178	217	244	252	145
75°	81	118	160	188	196	86
85°	24	65	108	134	143	25
90°	7	45	87	114	122	5
95°	5	36	76	101	109	4
105°	4	23	58	80	87	4
115°	2	11	40	60	67	2
125°	2	1	24	41	47	2
135°	1	1	8	22	28	1
145°	1	0	0	5	8	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	451.2	451.2	451.2	451.2	451.2
2.5°	454.3	452.4	447.4	451.2	449.9
5°	452.4	450.5	446.8	450.5	449.9
7.5°	449.3	448.0	444.9	449.9	449.3
10°	444.9	444.3	442.4	447.4	447.4
12.5°	438.6	439.2	438.6	444.3	443.6
15°	431.7	433.6	433.6	439.2	439.2
17.5°	422.9	426.0	427.3	433.6	433.0
20°	413.5	417.2	419.8	426.7	427.9
22.5°	402.2	407.8	411.6	419.1	419.8
25°	391.5	397.8	402.8	411.6	412.2
27.5°	378.9	386.5	394.0	402.8	404.7
30°	365.7	375.1	383.9	394.6	397.1
32.5°	353.1	362.6	373.9	385.2	389.6
35°	338.7	350.0	362.6	376.4	380.8
37.5°	324.2	336.2	351.3	367.6	373.3
40°	309.2	323.0	341.2	358.8	364.5
42.5°	293.5	308.5	330.5	348.7	355.0
45°	277.7	294.7	319.2	338.7	345.6
47.5°	262.7	280.9	307.3	329.3	335.6
50°	246.3	266.4	295.3	318.0	325.5
52.5°	229.4	252.0	283.4	306.6	314.2
55°	212.4	237.5	270.8	295.3	302.9
57.5°	196.7	223.1	258.3	282.8	291.6
60°	179.7	208.0	244.4	270.2	279.0
62.5°	162.7	193.5	230.6	257.0	265.2
65°	147.0	178.5	217.4	243.8	252.0
67.5°	129.4	162.7	203.0	230.6	238.2
70°	113.1	148.3	188.5	216.2	225.0
72.5°	96.8	132.6	174.1	201.7	211.1
75°	81.1	118.1	159.6	187.9	196.1
77.5°	64.7	103.7	145.8	174.1	182.2
80°	50.3	89.2	132.0	160.2	169.0
82.5°	35.8	76.0	119.4	147.0	155.2
85°	24.5	64.7	107.5	134.5	142.6
87.5°	14.5	54.0	96.1	123.2	131.3
90°	6.9	45.2	87.3	113.7	121.9
92.5°	5.7	40.8	81.1	106.8	115.0
95°	5.0	36.4	76.0	101.2	108.7
97.5°	5.0	33.3	71.6	96.1	103.7
100°	4.4	29.5	66.6	90.5	98.7
102.5°	4.4	25.8	62.2	85.5	93.0
105°	3.8	22.6	57.8	80.4	87.3
107.5°	3.1	19.5	52.8	75.4	82.3
110°	3.1	16.3	48.4	70.4	77.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	13.8	44.6	65.4	72.3
115°	2.5	10.7	40.2	60.3	67.2
117.5°	2.5	7.5	35.8	55.3	62.2
120°	1.9	5.0	32.0	50.9	57.2
122.5°	1.9	3.1	27.6	45.9	52.2
125°	1.9	1.3	23.9	40.8	47.1
127.5°	1.3	1.3	19.5	36.4	42.1
130°	1.3	0.6	15.7	31.4	37.1
132.5°	1.3	0.6	11.9	27.0	32.0
135°	0.6	0.6	8.2	22.0	27.6
137.5°	0.6	0.6	4.4	17.6	22.0
140°	0.6	0.0	1.9	13.2	17.0
142.5°	0.6	0.0	0.0	8.8	12.6
145°	0.6	0.0	0.0	5.0	7.5
147.5°	0.0	0.0	0.0	1.3	3.8
150°	0.0	0.0	0.0	0.0	0.6
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	15.69	17.17	16.22	17.70	18.28	18.76	20.23	19.28	20.76	21.35
	3H	17.19	18.54	17.73	19.08	19.70	21.39	22.74	21.93	23.28	23.90
	4H	17.70	18.98	18.26	19.53	20.17	22.67	23.95	23.23	24.51	25.14
	6H	18.01	19.21	18.59	19.78	20.43	23.99	25.19	24.57	25.76	26.41
	8H	18.09	19.24	18.67	19.83	20.48	24.68	25.83	25.26	26.42	27.07
	12H	18.13	19.23	18.72	19.81	20.50	25.43	26.53	26.02	27.12	27.80
4H	2H	16.81	18.09	17.37	18.65	19.28	19.15	20.43	19.71	20.99	21.62
	3H	18.57	19.67	19.14	20.26	20.92	21.99	23.09	22.57	23.69	24.34
	4H	19.22	20.23	19.81	20.83	21.52	23.43	24.44	24.03	25.05	25.73
	6H	19.67	20.56	20.28	21.19	21.89	24.94	25.83	25.55	26.46	27.16
	8H	19.80	20.64	20.41	21.27	21.98	25.72	26.56	26.34	27.19	27.90
	12H	19.87	20.64	20.51	21.29	22.01	26.59	27.35	27.23	28.01	28.72
8H	4H	20.06	20.90	20.68	21.53	22.24	23.63	24.47	24.24	25.10	25.81
	6H	20.72	21.44	21.37	22.11	22.82	25.29	26.00	25.94	26.67	27.39
	8H	20.95	21.60	21.61	22.28	23.00	26.20	26.84	26.86	27.52	28.25
	12H	21.12	21.70	21.78	22.37	23.16	27.23	27.81	27.89	28.47	29.26
12H	4H	20.29	21.05	20.93	21.71	22.42	23.63	24.40	24.27	25.05	25.77
	6H	21.06	21.71	21.72	22.39	23.12	25.32	25.97	25.98	26.65	27.37
	8H	21.40	21.98	22.07	22.65	23.44	26.29	26.87	26.95	27.54	28.33