

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: P243187

Luminaire Tested: S122DRP-H865D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243187
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-H865D830-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

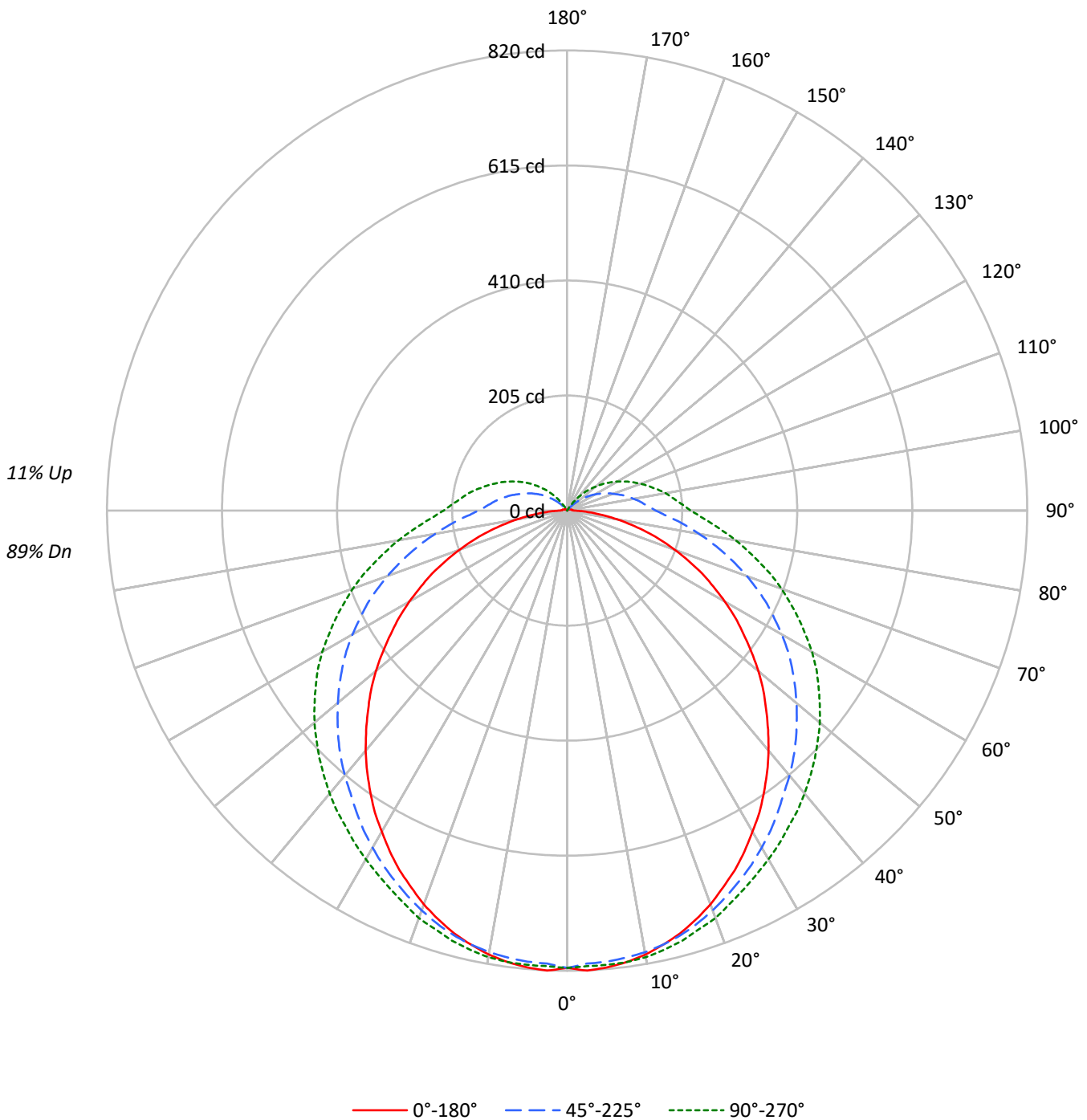
Lumens per Lamp: N/A
Luminaire Lumens: 3126.9 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 31.5
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	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°	15522	15522	15522
5°	15594	14882	14798
10°	15482	14390	14199
15°	15287	13883	13566
20°	15020	13332	12969
25°	14713	12789	12355
30°	14349	12279	11863
35°	14013	11771	11423
40°	13639	11336	11064
45°	13227	10942	10700
50°	12854	10540	10364
55°	12359	10159	10003
60°	11922	9744	9648
65°	11443	9320	9217
70°	10743	8812	8805
75°	9974	8273	8319
80°	8877	7739	7897
85°	7771	7324	7475

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13227 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.3	2.5
10°-20°	221.8	7.1
20°-30°	336.0	10.7
30°-40°	409.8	13.1
40°-50°	441.0	14.1
50°-60°	428.8	13.7
60°-70°	374.9	12.0
70°-80°	288.6	9.2
80°-90°	193.9	6.2
90°-100°	134.2	4.3
100°-110°	98.7	3.2
110°-120°	65.7	2.1
120°-130°	37.2	1.2
130°-140°	16.0	0.5
140°-150°	2.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	635.1	20.3
0°-40°	1044.9	33.4
0°-60°	1914.8	61.2
0°-90°	2772.1	88.7
90°-120°	298.6	9.5
90°-150°	354.7	11.3
90°-180°	355.0	11.4
0°-180°	3126.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	815	815	815	815	815	
5°	817	814	807	814	813	78
15°	780	783	783	793	793	220
25°	707	718	728	743	744	325
35°	612	632	655	680	688	383
45°	502	532	576	612	624	388
55°	384	429	489	533	547	344
65°	266	322	393	440	455	262
75°	146	213	288	339	354	154
85°	44	117	194	243	258	46
90°	12	82	158	205	220	8
95°	9	66	137	183	196	7
105°	7	41	104	145	158	7
115°	4	19	73	109	121	4
125°	3	2	43	74	85	3
135°	1	1	15	40	50	1
145°	1	0	0	9	14	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°	814.9	814.9	814.9	814.9	814.9
2.5°	820.5	817.1	808.1	814.9	812.6
5°	817.1	813.7	806.9	813.7	812.6
7.5°	811.5	809.2	803.5	812.6	811.5
10°	803.5	802.4	799.0	808.1	808.1
12.5°	792.2	793.3	792.2	802.4	801.3
15°	779.7	783.1	783.1	793.3	793.3
17.5°	763.8	769.5	771.7	783.1	782.0
20°	746.8	753.6	758.1	770.6	772.9
22.5°	726.3	736.6	743.4	757.0	758.1
25°	707.1	718.4	727.5	743.4	744.5
27.5°	684.4	698.0	711.6	727.5	730.9
30°	660.5	677.5	693.4	712.7	717.3
32.5°	637.8	654.8	675.3	695.7	703.6
35°	611.7	632.1	654.8	679.8	687.8
37.5°	585.6	607.2	634.4	663.9	674.1
40°	558.4	583.3	616.3	648.0	658.3
42.5°	530.0	557.2	597.0	629.9	641.2
45°	501.6	532.3	576.5	611.7	624.2
47.5°	474.4	507.3	555.0	594.7	606.0
50°	444.9	481.2	533.4	574.3	587.9
52.5°	414.2	455.1	511.8	553.8	567.5
55°	383.6	429.0	489.1	533.4	547.0
57.5°	355.2	402.9	466.5	510.7	526.6
60°	324.6	375.7	441.5	488.0	503.9
62.5°	293.9	349.6	416.5	464.2	478.9
65°	265.6	322.3	392.7	440.3	455.1
67.5°	233.8	293.9	366.6	416.5	430.1
70°	204.3	267.8	340.5	390.4	406.3
72.5°	174.8	239.5	314.4	364.3	381.3
75°	146.4	213.4	288.3	339.3	354.1
77.5°	116.9	187.3	263.3	314.4	329.1
80°	90.8	161.2	238.3	289.4	305.3
82.5°	64.7	137.3	215.6	265.6	280.3
85°	44.3	116.9	194.1	242.9	257.6
87.5°	26.1	97.6	173.6	222.4	237.2
90°	12.5	81.7	157.8	205.4	220.2
92.5°	10.2	73.8	146.4	192.9	207.7
95°	9.1	65.8	137.3	182.7	196.3
97.5°	9.1	60.2	129.4	173.6	187.3
100°	7.9	53.3	120.3	163.4	178.2
102.5°	7.9	46.5	112.4	154.3	168.0
105°	6.8	40.9	104.4	145.3	157.8
107.5°	5.7	35.2	95.3	136.2	148.7
110°	5.7	29.5	87.4	127.1	139.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.5	25.0	80.6	118.0	130.5
115°	4.5	19.3	72.6	109.0	121.4
117.5°	4.5	13.6	64.7	99.9	112.4
120°	3.4	9.1	57.9	91.9	103.3
122.5°	3.4	5.7	49.9	82.8	94.2
125°	3.4	2.3	43.1	73.8	85.1
127.5°	2.3	2.3	35.2	65.8	76.0
130°	2.3	1.1	28.4	56.7	67.0
132.5°	2.3	1.1	21.6	48.8	57.9
135°	1.1	1.1	14.8	39.7	49.9
137.5°	1.1	1.1	7.9	31.8	39.7
140°	1.1	0.0	3.4	23.8	30.6
142.5°	1.1	0.0	0.0	15.9	22.7
145°	1.1	0.0	0.0	9.1	13.6
147.5°	0.0	0.0	0.0	2.3	6.8
150°	0.0	0.0	0.0	0.0	1.1
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	17.75	19.22	18.27	19.75	20.34	20.81	22.29	21.34	22.82	23.40
	3H	19.25	20.60	19.79	21.14	21.76	23.44	24.79	23.98	25.33	25.95
	4H	19.75	21.03	20.31	21.59	22.22	24.72	26.00	25.28	26.56	27.19
	6H	20.07	21.26	20.64	21.83	22.48	26.05	27.24	26.62	27.81	28.46
	8H	20.14	21.29	20.73	21.88	22.54	26.73	27.88	27.32	28.47	29.12
	12H	20.18	21.28	20.77	21.87	22.55	27.48	28.58	28.08	29.17	29.85
4H	2H	18.86	20.15	19.43	20.70	21.34	21.20	22.49	21.76	23.04	23.67
	3H	20.62	21.72	21.20	22.32	22.97	24.05	25.15	24.62	25.74	26.40
	4H	21.27	22.28	21.87	22.89	23.57	25.49	26.50	26.08	27.10	27.78
	6H	21.72	22.62	22.34	23.25	23.94	26.99	27.89	27.60	28.51	29.21
	8H	21.85	22.69	22.47	23.32	24.03	27.77	28.61	28.39	29.24	29.95
	12H	21.93	22.69	22.57	23.35	24.06	28.64	29.41	29.28	30.06	30.78
8H	4H	22.11	22.95	22.73	23.58	24.29	25.68	26.52	26.30	27.15	27.86
	6H	22.77	23.49	23.42	24.16	24.87	27.34	28.06	27.99	28.73	29.44
	8H	23.01	23.65	23.67	24.33	25.06	28.25	28.90	28.91	29.57	30.30
	12H	23.18	23.75	23.84	24.42	25.21	29.28	29.86	29.95	30.53	31.32
12H	4H	22.34	23.11	22.98	23.76	24.48	25.69	26.45	26.33	27.11	27.82
	6H	23.12	23.77	23.78	24.44	25.17	27.38	28.02	28.04	28.70	29.43
	8H	23.46	24.04	24.12	24.70	25.49	28.35	28.92	29.01	29.59	30.38