

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: P243184

Luminaire Tested: S122DRP-H290D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243184
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-H290D830-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

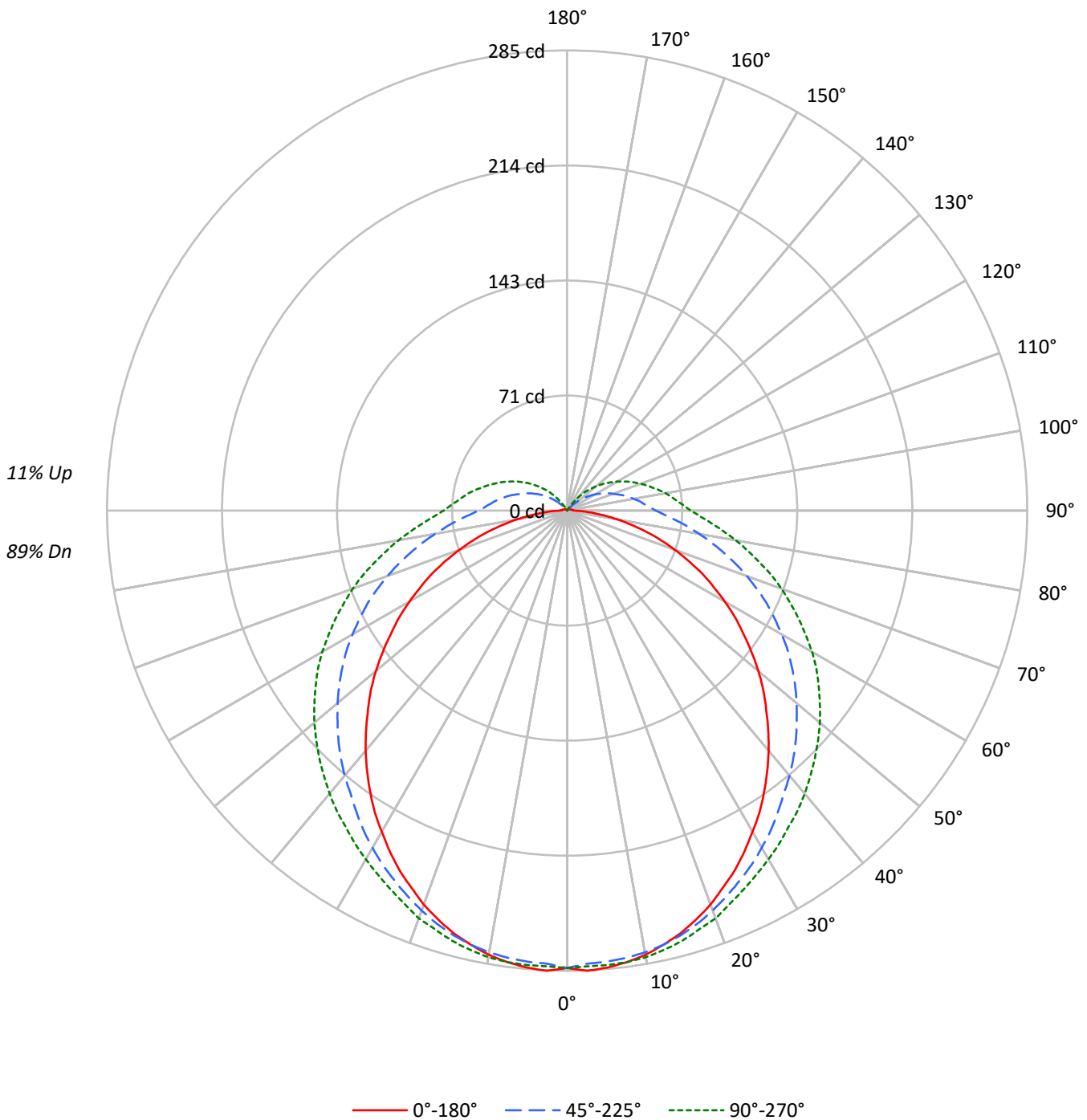
Lumens per Lamp: N/A
Luminaire Lumens: 1087.2 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 11.2
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				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°	5396	5396	5396
5°	5422	5174	5144
10°	5384	5003	4936
15°	5315	4827	4717
20°	5221	4636	4509
25°	5115	4446	4295
30°	4988	4269	4125
35°	4873	4093	3971
40°	4741	3942	3847
45°	4599	3804	3720
50°	4470	3665	3603
55°	4298	3533	3478
60°	4143	3388	3354
65°	3977	3240	3204
70°	3734	3064	3062
75°	3468	2875	2892
80°	3089	2692	2744
85°	2702	2547	2600

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4599 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.9	2.5
10°-20°	77.1	7.1
20°-30°	116.8	10.7
30°-40°	142.5	13.1
40°-50°	153.3	14.1
50°-60°	149.1	13.7
60°-70°	130.3	12.0
70°-80°	100.3	9.2
80°-90°	67.4	6.2
90°-100°	46.7	4.3
100°-110°	34.3	3.2
110°-120°	22.8	2.1
120°-130°	12.9	1.2
130°-140°	5.6	0.5
140°-150°	1.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	220.8	20.3
0°-40°	363.3	33.4
0°-60°	665.7	61.2
0°-90°	963.8	88.7
90°-120°	103.8	9.5
90°-150°	123.3	11.3
90°-180°	123.0	11.3
0°-180°	1087.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	283	283	283	283	283	
5°	284	283	280	283	282	27
15°	271	272	272	276	276	76
25°	246	250	253	258	259	113
35°	213	220	228	236	239	133
45°	174	185	200	213	217	135
55°	133	149	170	186	190	120
65°	92	112	136	153	158	91
75°	51	74	100	118	123	54
85°	15	41	68	84	90	16
90°	4	28	55	71	76	3
95°	3	23	48	64	68	3
105°	2	14	36	50	55	3
115°	2	7	25	38	42	2
125°	1	1	15	26	30	1
135°	0	0	5	14	17	0
145°	0	0	0	3	5	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°	283.3	283.3	283.3	283.3	283.3
2.5°	285.3	284.1	280.9	283.3	282.5
5°	284.1	282.9	280.5	282.9	282.5
7.5°	282.1	281.3	279.4	282.5	282.1
10°	279.4	279.0	277.8	280.9	280.9
12.5°	275.4	275.8	275.4	279.0	278.6
15°	271.1	272.3	272.3	275.8	275.8
17.5°	265.6	267.5	268.3	272.3	271.9
20°	259.6	262.0	263.6	267.9	268.7
22.5°	252.5	256.1	258.4	263.2	263.6
25°	245.8	249.8	252.9	258.4	258.8
27.5°	237.9	242.7	247.4	252.9	254.1
30°	229.6	235.6	241.1	247.8	249.4
32.5°	221.8	227.7	234.8	241.9	244.6
35°	212.7	219.8	227.7	236.4	239.1
37.5°	203.6	211.1	220.6	230.8	234.4
40°	194.1	202.8	214.3	225.3	228.9
42.5°	184.3	193.7	207.5	219.0	222.9
45°	174.4	185.1	200.4	212.7	217.0
47.5°	164.9	176.4	192.9	206.8	210.7
50°	154.7	167.3	185.5	199.7	204.4
52.5°	144.0	158.2	178.0	192.6	197.3
55°	133.4	149.2	170.1	185.5	190.2
57.5°	123.5	140.1	162.2	177.6	183.1
60°	112.8	130.6	153.5	169.7	175.2
62.5°	102.2	121.5	144.8	161.4	166.5
65°	92.3	112.1	136.5	153.1	158.2
67.5°	81.3	102.2	127.4	144.8	149.5
70°	71.0	93.1	118.4	135.7	141.3
72.5°	60.8	83.3	109.3	126.7	132.6
75°	50.9	74.2	100.2	118.0	123.1
77.5°	40.6	65.1	91.5	109.3	114.4
80°	31.6	56.0	82.9	100.6	106.1
82.5°	22.5	47.7	75.0	92.3	97.5
85°	15.4	40.6	67.5	84.4	89.6
87.5°	9.1	33.9	60.4	77.3	82.5
90°	4.3	28.4	54.8	71.4	76.5
92.5°	3.6	25.6	50.9	67.1	72.2
95°	3.2	22.9	47.7	63.5	68.3
97.5°	3.2	20.9	45.0	60.4	65.1
100°	2.8	18.5	41.8	56.8	61.9
102.5°	2.8	16.2	39.1	53.7	58.4
105°	2.4	14.2	36.3	50.5	54.8
107.5°	2.0	12.2	33.1	47.3	51.7
110°	2.0	10.3	30.4	44.2	48.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	8.7	28.0	41.0	45.4
115°	1.6	6.7	25.3	37.9	42.2
117.5°	1.6	4.7	22.5	34.7	39.1
120°	1.2	3.2	20.1	32.0	35.9
122.5°	1.2	2.0	17.4	28.8	32.7
125°	1.2	0.8	15.0	25.6	29.6
127.5°	0.8	0.8	12.2	22.9	26.4
130°	0.8	0.4	9.9	19.7	23.3
132.5°	0.8	0.4	7.5	17.0	20.1
135°	0.4	0.4	5.1	13.8	17.4
137.5°	0.4	0.4	2.8	11.0	13.8
140°	0.4	0.0	1.2	8.3	10.7
142.5°	0.4	0.0	0.0	5.5	7.9
145°	0.4	0.0	0.0	3.2	4.7
147.5°	0.0	0.0	0.0	0.8	2.4
150°	0.0	0.0	0.0	0.0	0.4
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	14.08	15.55	14.60	16.08	16.67	17.14	18.62	17.67	19.15	19.73
	3H	15.58	16.93	16.12	17.47	18.09	19.77	21.12	20.31	21.66	22.28
	4H	16.08	17.36	16.64	17.92	18.55	21.05	22.33	21.61	22.89	23.52
	6H	16.40	17.59	16.97	18.16	18.81	22.38	23.57	22.95	24.14	24.79
	8H	16.47	17.62	17.06	18.21	18.86	23.06	24.21	23.65	24.80	25.45
	12H	16.51	17.61	17.10	18.20	18.88	23.81	24.91	24.41	25.50	26.18
4H	2H	15.19	16.48	15.76	17.03	17.67	17.53	18.82	18.09	19.37	20.00
	3H	16.95	18.05	17.53	18.65	19.30	20.38	21.48	20.95	22.07	22.73
	4H	17.60	18.61	18.19	19.21	19.90	21.82	22.83	22.41	23.43	24.11
	6H	18.05	18.95	18.67	19.58	20.27	23.32	24.21	23.93	24.84	25.54
	8H	18.18	19.02	18.80	19.65	20.36	24.10	24.94	24.72	25.57	26.28
	12H	18.26	19.02	18.90	19.68	20.39	24.97	25.74	25.61	26.39	27.11
8H	4H	18.44	19.28	19.06	19.91	20.62	22.01	22.85	22.63	23.48	24.19
	6H	19.10	19.82	19.75	20.49	21.20	23.67	24.39	24.32	25.06	25.77
	8H	19.34	19.98	20.00	20.66	21.39	24.58	25.23	25.24	25.90	26.63
	12H	19.50	20.08	20.17	20.75	21.54	25.61	26.19	26.27	26.86	27.65
12H	4H	18.67	19.44	19.31	20.09	20.81	22.02	22.78	22.65	23.44	24.15
	6H	19.45	20.10	20.11	20.77	21.50	23.70	24.35	24.36	25.03	25.76
	8H	19.79	20.36	20.45	21.03	21.82	24.67	25.25	25.34	25.92	26.71