

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: P243370

Luminaire Tested: S123DRP-H340D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243370
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H340D930-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

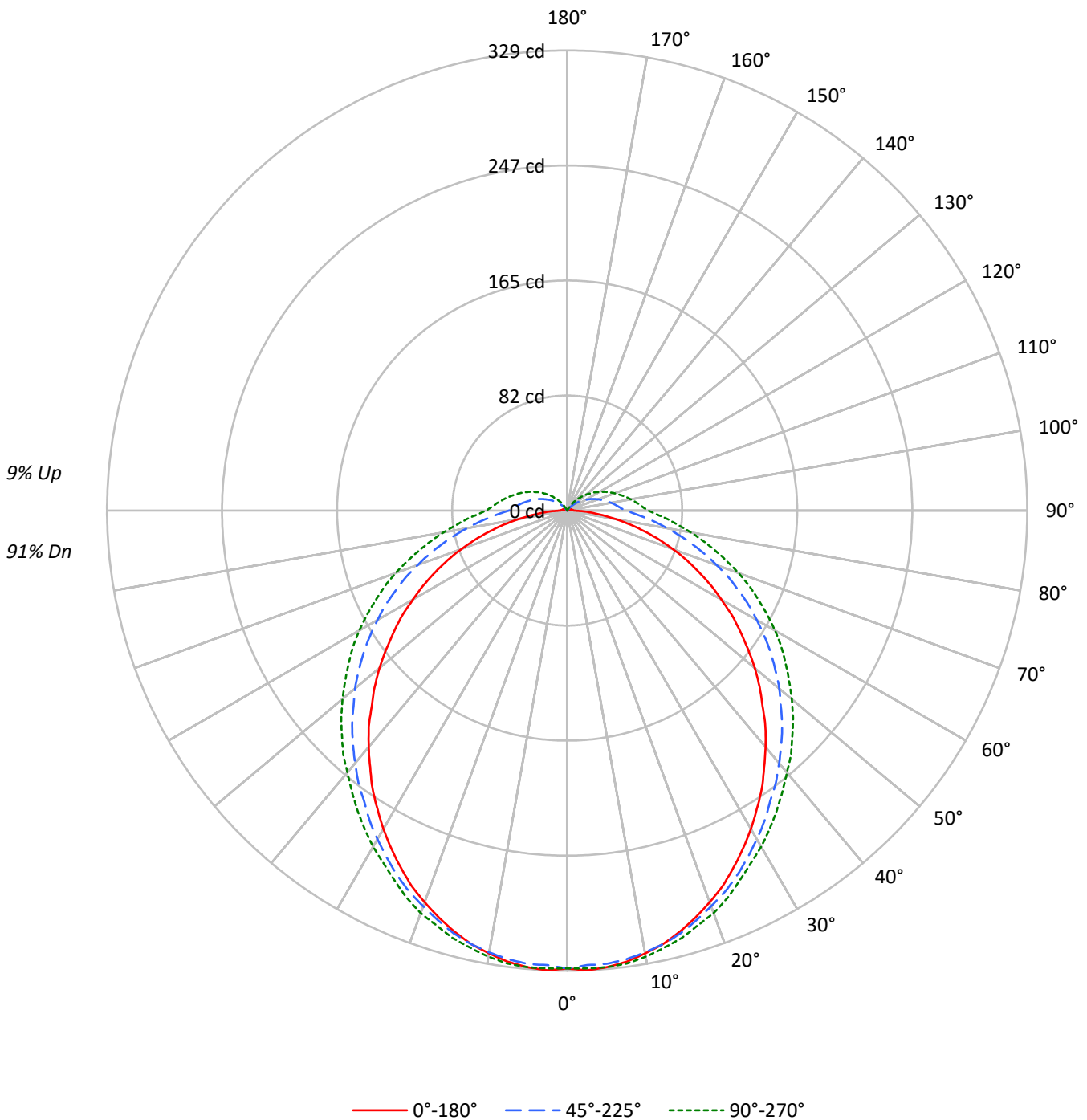
Lumens per Lamp: N/A
Luminaire Lumens: 1110.9 lumens
Efficiency: N/A
Efficacy: 99.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	60
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3967	3967	3967
5°	3980	3866	3864
10°	3942	3768	3746
15°	3888	3661	3618
20°	3814	3533	3488
25°	3729	3414	3337
30°	3633	3281	3210
35°	3538	3148	3083
40°	3432	3037	2963
45°	3316	2929	2862
50°	3219	2819	2758
55°	3100	2705	2654
60°	2975	2581	2554
65°	2846	2448	2432
70°	2694	2305	2312
75°	2471	2148	2170
80°	2190	1994	2047
85°	1942	1870	1953

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3316 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.1	2.8
10°-20°	88.6	8.0
20°-30°	132.7	11.9
30°-40°	158.8	14.3
40°-50°	166.5	15.0
50°-60°	156.5	14.1
60°-70°	131.0	11.8
70°-80°	94.0	8.5
80°-90°	56.3	5.1
90°-100°	35.7	3.2
100°-110°	26.3	2.4
110°-120°	17.6	1.6
120°-130°	10.2	0.9
130°-140°	4.7	0.4
140°-150°	1.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	252.4	22.7
0°-40°	411.1	37.0
0°-60°	734.1	66.1
0°-90°	1015.4	91.4
90°-120°	79.6	7.2
90°-150°	95.5	8.6
90°-180°	96.0	8.6
0°-180°	1110.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	327	327	327	327	327	
5°	328	327	325	328	328	31
15°	312	314	313	317	316	88
25°	282	285	288	292	292	130
35°	243	248	253	260	261	152
45°	198	208	217	225	228	153
55°	151	164	178	187	191	135
65°	104	119	135	147	151	103
75°	57	74	92	105	109	61
85°	17	36	55	68	72	18
90°	5	22	42	54	58	3
95°	4	18	36	48	52	3
105°	3	12	28	38	41	3
115°	2	6	20	28	31	2
125°	1	1	12	20	22	1
135°	1	0	5	11	13	1
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°	327.3	327.3	327.3	327.3	327.3
2.5°	329.0	328.0	325.3	328.3	327.7
5°	327.7	327.3	325.3	328.0	327.7
7.5°	325.3	325.3	323.6	326.6	326.6
10°	321.5	322.5	320.8	324.2	323.9
12.5°	317.4	318.8	317.4	321.2	320.1
15°	311.6	313.7	313.0	317.1	316.4
17.5°	305.1	307.5	307.2	311.3	310.9
20°	298.0	301.0	301.0	305.1	306.2
22.5°	290.5	293.9	294.9	299.0	299.7
25°	281.6	285.3	287.7	292.2	291.8
27.5°	272.4	276.8	279.5	284.3	284.3
30°	262.8	267.9	271.3	276.5	277.5
32.5°	252.6	258.7	262.8	268.3	269.6
35°	242.7	248.5	253.3	259.7	261.4
37.5°	231.4	238.6	245.1	251.9	252.9
40°	220.8	228.7	235.8	243.0	244.4
42.5°	209.9	218.1	226.6	233.8	236.9
45°	197.6	207.5	217.4	224.9	227.7
47.5°	186.7	196.6	207.2	216.0	219.1
50°	175.1	185.3	198.0	206.5	209.6
52.5°	163.1	174.4	187.7	196.9	200.0
55°	151.2	163.8	177.8	187.4	190.8
57.5°	139.9	152.6	167.2	177.8	181.6
60°	127.3	141.3	156.7	167.6	171.7
62.5°	116.0	130.4	146.4	157.3	161.4
65°	103.8	119.1	135.2	147.1	150.9
67.5°	92.5	107.5	124.9	136.9	141.0
70°	80.5	96.2	113.7	125.9	130.4
72.5°	68.6	85.3	103.1	115.7	119.5
75°	57.0	74.4	92.5	105.1	109.2
77.5°	46.1	63.5	82.3	94.9	99.3
80°	35.2	53.2	72.7	85.3	89.8
82.5°	25.6	44.0	63.8	76.1	80.2
85°	17.4	35.5	55.3	67.9	72.4
87.5°	10.2	28.7	47.8	60.4	64.2
90°	4.8	22.5	41.6	54.3	58.0
92.5°	4.4	20.1	38.6	50.5	54.3
95°	3.8	18.4	36.2	47.8	51.5
97.5°	3.8	16.7	34.1	45.4	48.8
100°	3.4	15.0	32.1	42.7	46.1
102.5°	3.1	13.3	29.7	40.3	43.7
105°	2.7	11.9	27.6	37.9	41.0
107.5°	2.4	10.2	25.6	35.5	38.6
110°	2.4	8.9	23.6	33.1	36.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	7.5	21.5	30.7	33.8
115°	1.7	6.1	19.5	28.3	31.4
117.5°	1.7	4.8	17.4	26.3	29.0
120°	1.7	3.8	15.7	23.9	26.6
122.5°	1.4	2.4	14.0	21.8	24.6
125°	1.4	1.4	11.9	19.5	22.2
127.5°	1.0	0.7	10.2	17.4	19.8
130°	1.0	0.7	8.5	15.4	17.7
132.5°	0.7	0.7	6.8	13.3	15.7
135°	0.7	0.3	5.1	11.3	13.3
137.5°	0.7	0.3	3.4	9.2	11.3
140°	0.3	0.3	1.7	7.2	9.2
142.5°	0.3	0.0	0.3	5.5	7.2
145°	0.3	0.0	0.0	3.4	4.8
147.5°	0.3	0.0	0.0	1.7	3.1
150°	0.3	0.0	0.0	0.0	1.0
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	13.82	15.33	14.32	15.81	16.33	15.89	17.39	16.38	17.88	18.40
	3H	15.38	16.74	15.88	17.24	17.80	18.29	19.66	18.79	20.15	20.71
	4H	15.90	17.20	16.43	17.71	18.29	19.40	20.70	19.93	21.21	21.79
	6H	16.24	17.45	16.78	17.97	18.56	20.53	21.74	21.07	22.26	22.85
	8H	16.33	17.49	16.88	18.03	18.63	21.09	22.25	21.64	22.80	23.39
	12H	16.38	17.49	16.93	18.03	18.65	21.71	22.82	22.27	23.36	23.99
4H	2H	14.74	16.04	15.27	16.55	17.12	16.34	17.64	16.87	18.15	18.73
	3H	16.54	17.65	17.08	18.20	18.80	18.95	20.06	19.49	20.61	21.21
	4H	17.21	18.22	17.77	18.78	19.41	20.23	21.24	20.79	21.80	22.43
	6H	17.68	18.57	18.26	19.16	19.80	21.53	22.42	22.11	23.01	23.65
	8H	17.82	18.65	18.40	19.24	19.90	22.19	23.03	22.77	23.62	24.27
	12H	17.90	18.66	18.51	19.28	19.94	22.92	23.68	23.52	24.30	24.96
8H	4H	17.85	18.69	18.44	19.28	19.94	20.45	21.29	21.03	21.88	22.53
	6H	18.51	19.22	19.13	19.85	20.51	21.91	22.62	22.53	23.25	23.91
	8H	18.74	19.38	19.37	20.02	20.70	22.70	23.34	23.32	23.98	24.65
	12H	18.91	19.48	19.54	20.11	20.85	23.59	24.16	24.22	24.79	25.53
12H	4H	18.01	18.78	18.62	19.39	20.05	20.46	21.22	21.07	21.84	22.50
	6H	18.76	19.40	19.39	20.04	20.71	21.95	22.59	22.58	23.23	23.91
	8H	19.08	19.66	19.71	20.28	21.02	22.80	23.37	23.43	24.00	24.74