

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: P243356

Luminaire Tested: S123DRP-H340D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243356
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-H340D830-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

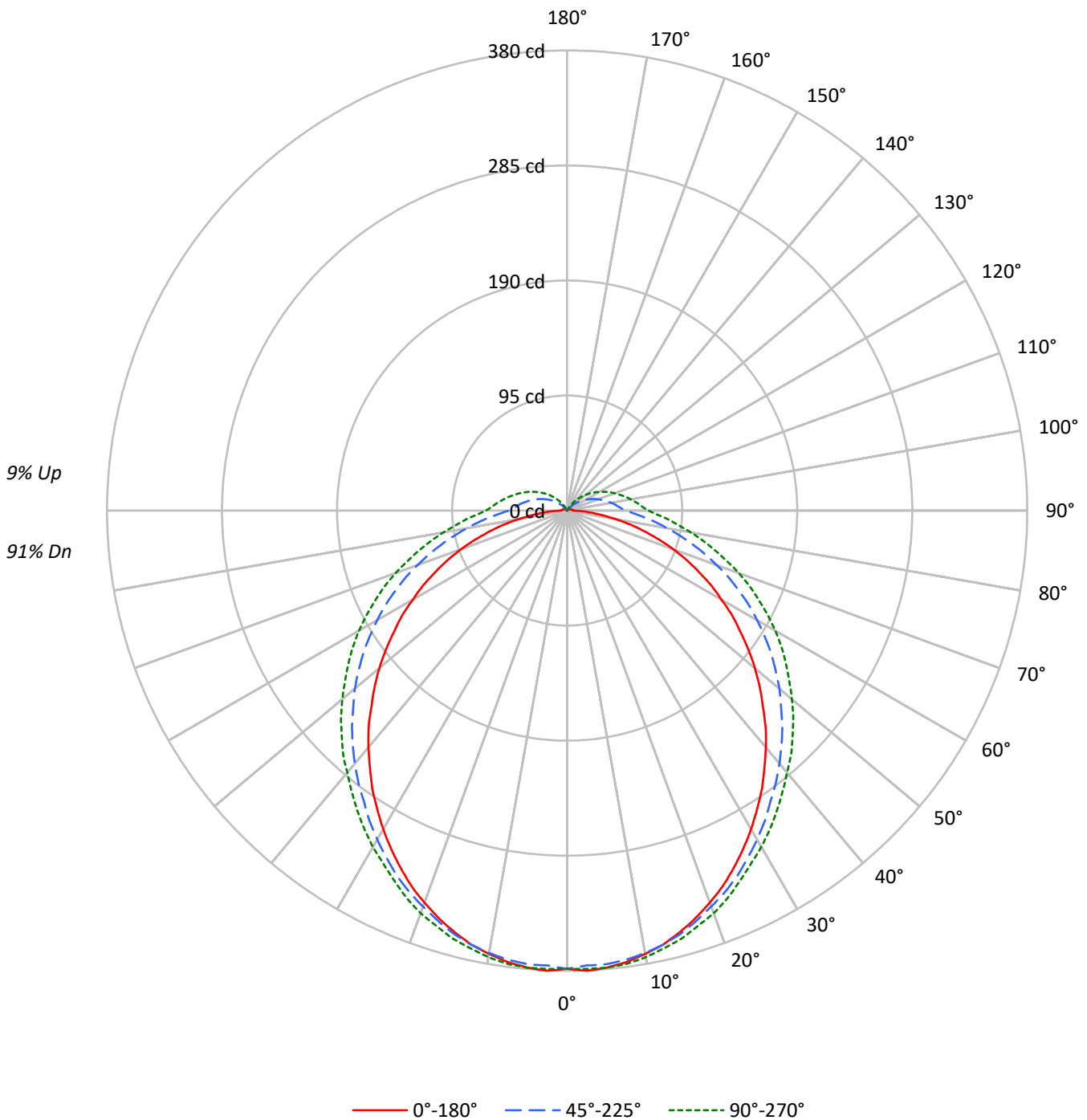
Lumens per Lamp: N/A
Luminaire Lumens: 1284.3 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

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°	4587	4587	4587
5°	4600	4469	4467
10°	4558	4356	4332
15°	4494	4231	4183
20°	4409	4084	4031
25°	4310	3947	3858
30°	4200	3794	3711
35°	4089	3639	3564
40°	3968	3512	3425
45°	3834	3386	3309
50°	3721	3259	3188
55°	3584	3128	3068
60°	3440	2983	2953
65°	3290	2830	2810
70°	3115	2664	2672
75°	2857	2483	2509
80°	2526	2304	2366
85°	2244	2161	2258

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3834 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.9	2.8
10°-20°	102.4	8.0
20°-30°	153.4	11.9
30°-40°	183.5	14.3
40°-50°	192.5	15.0
50°-60°	180.9	14.1
60°-70°	151.4	11.8
70°-80°	108.7	8.5
80°-90°	65.1	5.1
90°-100°	41.3	3.2
100°-110°	30.4	2.4
110°-120°	20.4	1.6
120°-130°	11.7	0.9
130°-140°	5.4	0.4
140°-150°	1.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	291.7	22.7
0°-40°	475.3	37.0
0°-60°	848.7	66.1
0°-90°	1173.9	91.4
90°-120°	92.0	7.2
90°-150°	110.4	8.6
90°-180°	110.0	8.6
0°-180°	1284.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	378	378	378	378	378	
5°	379	378	376	379	379	36
15°	360	363	362	367	366	102
25°	326	330	333	338	337	150
35°	280	287	293	300	302	175
45°	228	240	251	260	263	177
55°	175	189	206	217	221	157
65°	120	138	156	170	174	119
75°	66	86	107	122	126	70
85°	20	41	64	78	84	21
90°	6	26	48	63	67	4
95°	4	21	42	55	60	4
105°	3	14	32	44	47	3
115°	2	7	22	33	36	2
125°	2	2	14	22	26	1
135°	1	0	6	13	15	1
145°	0	0	0	4	6	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°	378.4	378.4	378.4	378.4	378.4
2.5°	380.4	379.2	376.0	379.6	378.8
5°	378.8	378.4	376.0	379.2	378.8
7.5°	376.0	376.0	374.1	377.6	377.6
10°	371.7	372.9	370.9	374.8	374.5
12.5°	367.0	368.5	367.0	371.3	370.1
15°	360.2	362.6	361.8	366.6	365.8
17.5°	352.8	355.5	355.1	359.9	359.5
20°	344.5	348.0	348.0	352.8	353.9
22.5°	335.8	339.7	340.9	345.6	346.4
25°	325.5	329.9	332.6	337.8	337.4
27.5°	314.9	320.0	323.2	328.7	328.7
30°	303.8	309.7	313.7	319.6	320.8
32.5°	292.0	299.1	303.8	310.1	311.7
35°	280.5	287.3	292.8	300.3	302.2
37.5°	267.5	275.8	283.3	291.2	292.4
40°	255.3	264.4	272.7	280.9	282.5
42.5°	242.7	252.1	262.0	270.3	273.8
45°	228.5	239.9	251.3	260.0	263.2
47.5°	215.8	227.3	239.5	249.8	253.3
50°	202.4	214.3	228.9	238.7	242.3
52.5°	188.6	201.6	217.0	227.7	231.2
55°	174.8	189.4	205.6	216.6	220.6
57.5°	161.8	176.4	193.3	205.6	209.9
60°	147.2	163.4	181.1	193.7	198.5
62.5°	134.2	150.7	169.3	181.9	186.6
65°	120.0	137.7	156.3	170.1	174.4
67.5°	106.9	124.3	144.4	158.2	163.0
70°	93.1	111.3	131.4	145.6	150.7
72.5°	79.3	98.6	119.2	133.8	138.1
75°	65.9	86.0	106.9	121.5	126.3
77.5°	53.3	73.4	95.1	109.7	114.8
80°	40.6	61.6	84.0	98.6	103.8
82.5°	29.6	50.9	73.8	88.0	92.7
85°	20.1	41.0	63.9	78.5	83.7
87.5°	11.8	33.1	55.2	69.8	74.2
90°	5.5	26.0	48.1	62.7	67.1
92.5°	5.1	23.3	44.6	58.4	62.7
95°	4.3	21.3	41.8	55.2	59.6
97.5°	4.3	19.3	39.5	52.5	56.4
100°	3.9	17.4	37.1	49.3	53.3
102.5°	3.6	15.4	34.3	46.6	50.5
105°	3.2	13.8	32.0	43.8	47.3
107.5°	2.8	11.8	29.6	41.0	44.6
110°	2.8	10.3	27.2	38.3	41.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	8.7	24.9	35.5	39.1
115°	2.0	7.1	22.5	32.7	36.3
117.5°	2.0	5.5	20.1	30.4	33.5
120°	2.0	4.3	18.2	27.6	30.8
122.5°	1.6	2.8	16.2	25.3	28.4
125°	1.6	1.6	13.8	22.5	25.6
127.5°	1.2	0.8	11.8	20.1	22.9
130°	1.2	0.8	9.9	17.8	20.5
132.5°	0.8	0.8	7.9	15.4	18.2
135°	0.8	0.4	5.9	13.0	15.4
137.5°	0.8	0.4	3.9	10.7	13.0
140°	0.4	0.4	2.0	8.3	10.7
142.5°	0.4	0.0	0.4	6.3	8.3
145°	0.4	0.0	0.0	3.9	5.5
147.5°	0.4	0.0	0.0	2.0	3.6
150°	0.4	0.0	0.0	0.0	1.2
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	14.33	15.83	14.82	16.31	16.84	16.40	17.90	16.89	18.38	18.90
	3H	15.88	17.25	16.38	17.74	18.31	18.79	20.16	19.30	20.65	21.22
	4H	16.41	17.70	16.93	18.21	18.79	19.91	21.20	20.43	21.72	22.29
	6H	16.75	17.95	17.28	18.48	19.07	21.03	22.24	21.57	22.76	23.36
	8H	16.83	17.99	17.38	18.54	19.13	21.60	22.75	22.15	23.30	23.90
	12H	16.88	17.99	17.44	18.53	19.16	22.21	23.32	22.77	23.86	24.49
4H	2H	15.24	16.54	15.77	17.05	17.63	16.85	18.14	17.37	18.66	19.23
	3H	17.04	18.15	17.58	18.70	19.30	19.46	20.56	20.00	21.12	21.71
	4H	17.71	18.73	18.27	19.29	19.92	20.73	21.74	21.29	22.31	22.94
	6H	18.18	19.08	18.76	19.67	20.31	22.03	22.93	22.61	23.52	24.16
	8H	18.32	19.16	18.90	19.75	20.40	22.69	23.53	23.28	24.12	24.77
	12H	18.40	19.17	19.01	19.78	20.44	23.42	24.18	24.03	24.80	25.46
8H	4H	18.36	19.20	18.94	19.79	20.44	20.95	21.79	21.54	22.38	23.04
	6H	19.01	19.73	19.63	20.36	21.02	22.41	23.13	23.03	23.76	24.42
	8H	19.25	19.89	19.88	20.53	21.20	23.20	23.84	23.83	24.48	25.15
	12H	19.42	19.99	20.05	20.62	21.36	24.10	24.67	24.72	25.30	26.03
12H	4H	18.52	19.28	19.12	19.90	20.56	20.97	21.73	21.57	22.34	23.00
	6H	19.26	19.91	19.89	20.54	21.22	22.45	23.10	23.08	23.74	24.41
	8H	19.59	20.16	20.22	20.79	21.53	23.31	23.88	23.94	24.51	25.24