

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: P243361

Luminaire Tested: S123DRP-H340D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243361
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-H340D835-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

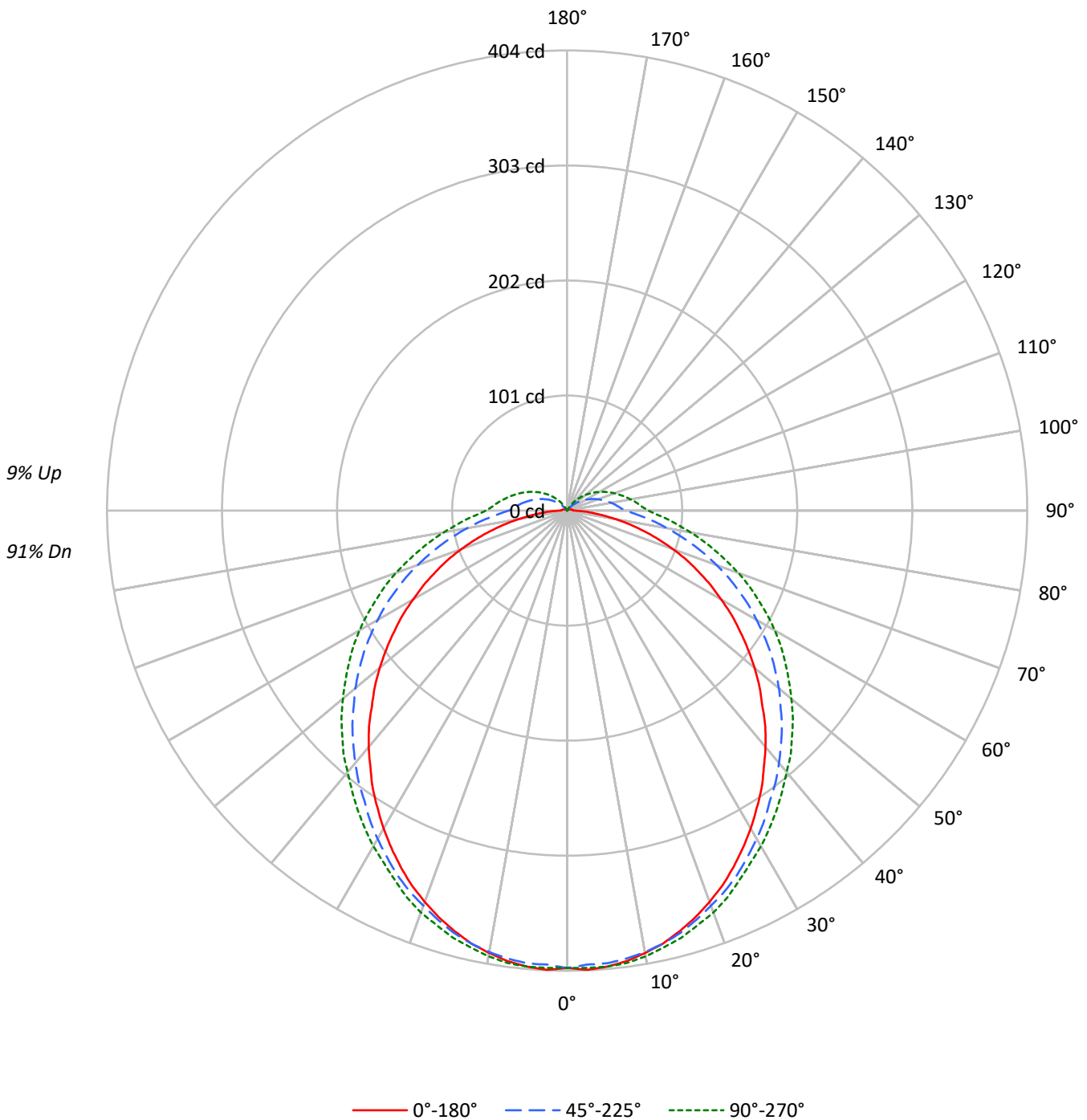
Lumens per Lamp: N/A
Luminaire Lumens: 1362.6 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

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

TEST NUMBER: P243361

CATALOG NUMBER: S123DRP-H340D835-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P243361

CATALOG NUMBER: S123DRP-H340D835-X4F0-XX-UDD-D-W

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°	4867	4867	4867
5°	4881	4742	4739
10°	4836	4621	4595
15°	4769	4490	4438
20°	4678	4333	4278
25°	4574	4188	4093
30°	4456	4025	3937
35°	4338	3860	3782
40°	4211	3726	3634
45°	4068	3593	3510
50°	3949	3457	3381
55°	3803	3318	3255
60°	3648	3166	3133
65°	3490	3002	2981
70°	3306	2826	2835
75°	3030	2634	2662
80°	2681	2447	2510
85°	2389	2293	2392

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4068 cd/sqm



TEST NUMBER: P243361

CATALOG NUMBER: S123DRP-H340D835-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.1	2.8
10°-20°	108.7	8.0
20°-30°	162.7	11.9
30°-40°	194.7	14.3
40°-50°	204.2	15.0
50°-60°	192.0	14.1
60°-70°	160.7	11.8
70°-80°	115.3	8.5
80°-90°	69.1	5.1
90°-100°	43.8	3.2
100°-110°	32.3	2.4
110°-120°	21.6	1.6
120°-130°	12.5	0.9
130°-140°	5.7	0.4
140°-150°	1.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	309.5	22.7
0°-40°	504.3	37.0
0°-60°	900.4	66.1
0°-90°	1245.4	91.4
90°-120°	97.7	7.2
90°-150°	117.2	8.6
90°-180°	117.0	8.6
0°-180°	1362.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	402	402	402	402	402	
5°	402	402	399	402	402	38
15°	382	385	384	389	388	108
25°	345	350	353	358	358	159
35°	298	305	311	319	321	186
45°	242	254	267	276	279	188
55°	186	201	218	230	234	166
65°	127	146	166	180	185	126
75°	70	91	113	129	134	74
85°	21	44	68	83	89	22
90°	6	28	51	67	71	4
95°	5	23	44	59	63	4
105°	3	15	34	46	50	4
115°	2	8	24	35	38	2
125°	2	2	15	24	27	1
135°	1	0	6	14	16	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



TEST NUMBER: P243361

CATALOG NUMBER: S123DRP-H340D835-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	401.5	401.5	401.5	401.5	401.5
2.5°	403.6	402.3	399.0	402.7	401.9
5°	401.9	401.5	399.0	402.3	401.9
7.5°	399.0	399.0	396.9	400.6	400.6
10°	394.4	395.6	393.5	397.7	397.3
12.5°	389.3	391.0	389.3	393.9	392.7
15°	382.2	384.7	383.9	388.9	388.1
17.5°	374.3	377.2	376.8	381.8	381.4
20°	365.5	369.2	369.2	374.3	375.5
22.5°	356.3	360.4	361.7	366.7	367.6
25°	345.4	350.0	352.9	358.3	357.9
27.5°	334.1	339.5	342.9	348.7	348.7
30°	322.3	328.6	332.8	339.1	340.3
32.5°	309.8	317.3	322.3	329.0	330.7
35°	297.6	304.8	310.6	318.6	320.7
37.5°	283.8	292.6	300.6	308.9	310.2
40°	270.9	280.5	289.3	298.1	299.7
42.5°	257.5	267.5	278.0	286.8	290.5
45°	242.4	254.5	266.7	275.9	279.2
47.5°	229.0	241.1	254.1	265.0	268.8
50°	214.8	227.3	242.8	253.3	257.0
52.5°	200.1	213.9	230.2	241.5	245.3
55°	185.5	200.9	218.1	229.8	234.0
57.5°	171.6	187.1	205.1	218.1	222.7
60°	156.1	173.3	192.2	205.5	210.6
62.5°	142.3	159.9	179.6	193.0	198.0
65°	127.3	146.1	165.8	180.4	185.0
67.5°	113.4	131.9	153.2	167.9	172.9
70°	98.8	118.1	139.4	154.5	159.9
72.5°	84.1	104.7	126.4	141.9	146.5
75°	69.9	91.3	113.4	128.9	134.0
77.5°	56.5	77.9	100.9	116.4	121.8
80°	43.1	65.3	89.2	104.7	110.1
82.5°	31.4	54.0	78.3	93.4	98.4
85°	21.4	43.5	67.8	83.3	88.7
87.5°	12.6	35.2	58.6	74.1	78.7
90°	5.9	27.6	51.1	66.6	71.2
92.5°	5.4	24.7	47.3	62.0	66.6
95°	4.6	22.6	44.4	58.6	63.2
97.5°	4.6	20.5	41.9	55.7	59.9
100°	4.2	18.4	39.4	52.3	56.5
102.5°	3.8	16.3	36.4	49.4	53.6
105°	3.3	14.7	33.9	46.5	50.2
107.5°	2.9	12.6	31.4	43.5	47.3
110°	2.9	10.9	28.9	40.6	44.4



TEST NUMBER: P243361

CATALOG NUMBER: S123DRP-H340D835-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	9.2	26.4	37.7	41.4
115°	2.1	7.5	23.9	34.7	38.5
117.5°	2.1	5.9	21.4	32.2	35.6
120°	2.1	4.6	19.3	29.3	32.7
122.5°	1.7	2.9	17.2	26.8	30.1
125°	1.7	1.7	14.7	23.9	27.2
127.5°	1.3	0.8	12.6	21.4	24.3
130°	1.3	0.8	10.5	18.8	21.8
132.5°	0.8	0.8	8.4	16.3	19.3
135°	0.8	0.4	6.3	13.8	16.3
137.5°	0.8	0.4	4.2	11.3	13.8
140°	0.4	0.4	2.1	8.8	11.3
142.5°	0.4	0.0	0.4	6.7	8.8
145°	0.4	0.0	0.0	4.2	5.9
147.5°	0.4	0.0	0.0	2.1	3.8
150°	0.4	0.0	0.0	0.0	1.3
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

TEST NUMBER: P243361
 CATALOG NUMBER: S123DRP-H340D835-X4F0-XX-UDD-D-W

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	14.53	16.03	15.02	16.52	17.04	16.60	18.10	17.09	18.59	19.11
	3H	16.08	17.45	16.59	17.95	18.51	19.00	20.37	19.50	20.86	21.42
	4H	16.61	17.91	17.14	18.42	18.99	20.11	21.41	20.64	21.92	22.50
	6H	16.95	18.16	17.49	18.68	19.27	21.24	22.45	21.78	22.97	23.56
	8H	17.04	18.19	17.59	18.74	19.34	21.80	22.96	22.35	23.51	24.10
	12H	17.08	18.19	17.64	18.74	19.36	22.42	23.53	22.98	24.07	24.70
4H	2H	15.45	16.74	15.97	17.26	17.83	17.05	18.35	17.58	18.86	19.44
	3H	17.25	18.35	17.79	18.91	19.51	19.66	20.77	20.20	21.32	21.92
	4H	17.92	18.93	18.48	19.49	20.12	20.94	21.95	21.50	22.51	23.14
	6H	18.39	19.28	18.97	19.87	20.51	22.24	23.13	22.82	23.72	24.36
	8H	18.52	19.36	19.11	19.95	20.61	22.90	23.74	23.48	24.33	24.98
	12H	18.61	19.37	19.22	19.99	20.65	23.63	24.39	24.23	25.01	25.66
8H	4H	18.56	19.40	19.15	19.99	20.65	21.16	22.00	21.74	22.59	23.24
	6H	19.22	19.93	19.84	20.56	21.22	22.62	23.33	23.24	23.96	24.62
	8H	19.45	20.09	20.08	20.73	21.41	23.41	24.05	24.03	24.69	25.36
	12H	19.62	20.19	20.25	20.82	21.56	24.30	24.87	24.93	25.50	26.24
12H	4H	18.72	19.49	19.33	20.10	20.76	21.17	21.93	21.78	22.55	23.21
	6H	19.47	20.11	20.10	20.75	21.42	22.66	23.30	23.29	23.94	24.62
	8H	19.79	20.37	20.42	20.99	21.73	23.51	24.08	24.14	24.71	25.45