

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: P243395

Luminaire Tested: S123RDRP-H340D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243395
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-64)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-H340D835-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

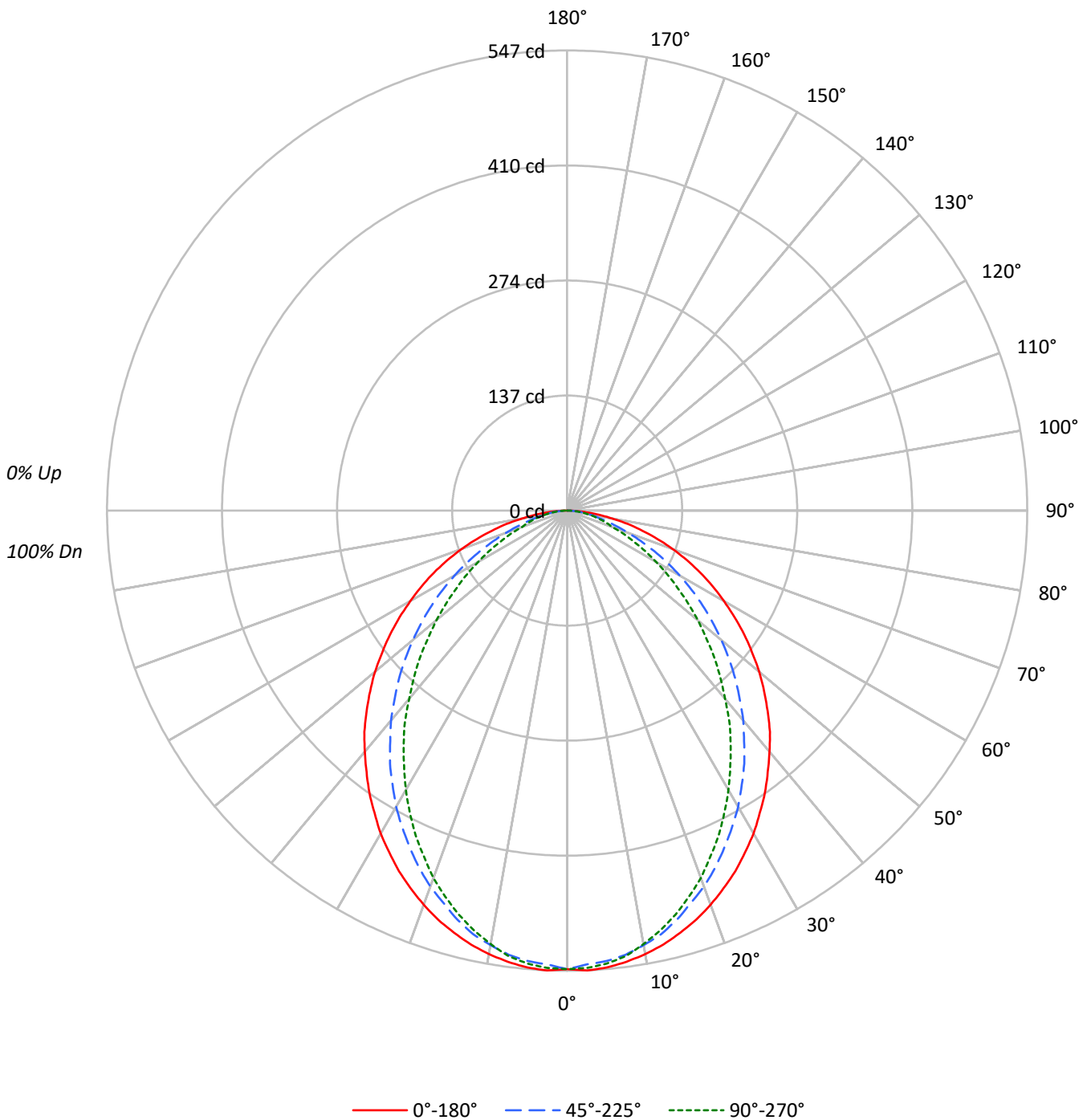
Lumens per Lamp: N/A
Luminaire Lumens: 1230.6 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

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: P243395

CATALOG NUMBER: S123RDRP-H340D835-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P243395

CATALOG NUMBER: S123RDRP-H340D835-X4F0-XX-UDD-F-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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86																												
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73																												
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62																												
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54																												
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47																												
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42																												
7	67	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37																												
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																												
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																												
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6607	6607	6607
5°	6633	6540	6577
10°	6590	6456	6441
15°	6519	6320	6241
20°	6432	6135	5994
25°	6327	5913	5700
30°	6205	5690	5368
35°	6064	5432	5012
40°	5923	5154	4617
45°	5777	4844	4248
50°	5621	4507	3820
55°	5431	4159	3388
60°	5217	3745	2953
65°	5008	3278	2521
70°	4717	2743	2017
75°	4351	2178	1920
80°	3797	1927	1752
85°	3199	1683	1627

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5777 cd/sqm



TEST NUMBER: P243395

CATALOG NUMBER: S123RDRP-H340D835-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.3	4.2
10°-20°	142.8	11.6
20°-30°	205.5	16.7
30°-40°	231.5	18.8
40°-50°	221.1	18.0
50°-60°	180.8	14.7
60°-70°	121.4	9.9
70°-80°	60.6	4.9
80°-90°	15.7	1.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	399.5	32.5
0°-40°	631.0	51.3
0°-60°	1033.0	83.9
0°-90°	1230.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1230.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	545	545	545	545	545	
5°	545	543	538	542	540	52
15°	520	516	504	501	497	146
25°	473	463	442	432	426	218
35°	410	394	367	347	339	256
45°	337	317	283	258	248	260
55°	257	234	197	170	160	230
65°	175	150	114	93	88	173
75°	93	71	46	42	41	98
85°	23	13	12	11	12	27
90°	0	0	0	0	0	



TEST NUMBER: P243395

CATALOG NUMBER: S123RDRP-H340D835-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	545.1	545.1	545.1	545.1	545.1	545.1	545.1	545.1	545.1	545.1	545.1
2.5°	547.2	545.9	544.2	544.6	545.1	545.5	545.5	545.1	543.8	542.1	540.0
5°	545.1	543.8	542.1	542.1	543.0	543.0	543.0	542.5	541.3	539.6	537.5
7.5°	540.9	540.0	537.9	538.4	538.8	538.8	538.8	538.4	536.7	534.6	532.5
10°	535.4	534.2	532.5	532.5	532.9	532.9	532.9	532.1	530.0	527.5	524.5
12.5°	528.3	527.1	525.4	525.4	525.4	525.4	525.4	524.1	520.8	518.3	515.8
15°	519.5	518.3	516.6	516.6	516.2	515.8	514.9	512.8	509.9	507.0	503.6
17.5°	509.9	508.2	506.1	505.7	505.3	504.9	503.6	502.4	498.2	494.0	489.0
20°	498.6	496.9	494.8	494.4	493.1	491.9	491.1	488.5	483.9	478.9	475.6
22.5°	486.0	484.4	482.3	481.4	478.9	478.1	476.8	473.1	468.0	463.4	459.7
25°	473.1	471.0	468.4	467.2	464.3	462.6	462.2	456.7	451.7	446.7	442.1
27.5°	458.0	456.3	454.2	451.7	448.8	446.7	445.8	440.8	434.5	428.7	424.5
30°	443.3	440.8	438.7	435.8	431.6	429.5	427.8	422.8	417.4	410.3	406.5
32.5°	426.2	424.5	422.0	419.0	414.9	413.2	410.7	404.4	397.3	392.3	386.4
35°	409.8	408.2	404.4	401.5	395.6	393.9	391.4	386.0	378.0	372.2	367.1
37.5°	391.8	389.7	386.8	382.6	377.6	375.5	372.2	366.7	357.5	351.6	345.4
40°	374.3	371.3	368.0	363.4	358.3	356.3	353.3	345.4	337.8	331.1	325.7
42.5°	356.7	353.3	349.1	345.0	339.5	336.6	333.2	325.7	317.3	311.0	303.5
45°	337.0	334.5	330.3	325.3	319.0	316.9	313.1	305.2	296.8	290.1	282.6
47.5°	317.7	314.8	310.6	305.6	299.3	296.4	292.6	284.7	276.3	267.9	261.2
50°	298.1	295.1	290.1	285.1	279.2	275.5	272.1	264.2	254.9	247.4	239.0
52.5°	277.1	274.6	270.4	265.4	257.9	254.9	251.6	242.8	234.0	225.2	217.7
55°	257.0	255.4	250.3	245.3	237.4	234.0	230.7	221.5	212.7	203.9	196.8
57.5°	236.1	234.9	229.8	224.0	216.9	213.5	209.3	200.1	191.7	182.9	175.4
60°	215.2	213.9	208.9	203.0	196.3	192.2	187.5	180.4	170.8	162.8	154.5
62.5°	195.1	193.4	189.2	182.9	175.4	171.2	167.0	158.7	149.9	141.5	134.0
65°	174.6	172.5	167.5	161.2	154.1	150.3	146.1	138.1	129.4	121.4	114.3
67.5°	154.1	152.0	146.5	141.5	133.1	129.4	125.6	117.6	109.3	101.3	94.6
70°	133.1	131.0	126.8	120.1	113.0	109.3	105.5	97.1	89.6	83.7	77.4
72.5°	112.6	110.9	106.8	100.5	93.8	90.0	85.8	78.7	72.0	65.7	61.1
75°	92.9	90.4	86.7	80.8	74.1	70.7	67.8	60.7	54.4	50.2	46.5
77.5°	74.1	71.2	67.0	62.4	56.1	52.7	49.8	44.0	39.8	36.8	36.0
80°	54.4	54.0	49.8	44.8	39.4	36.8	33.9	30.1	28.9	28.5	27.6
82.5°	38.1	36.4	33.1	28.5	24.3	22.6	21.8	20.9	20.1	20.1	19.3
85°	23.0	21.4	18.4	14.7	13.8	13.4	13.0	13.0	12.6	12.1	12.1
87.5°	10.0	8.4	6.3	5.9	5.4	5.4	5.9	5.9	5.9	5.4	5.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243395

CATALOG NUMBER: S123RDRP-H340D835-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	545.1	545.1	545.1	545.1	545.1	545.1	545.1	545.1	545.1	545.1
2.5°	540.9	543.0	544.2	544.6	544.6	544.6	545.1	545.1	544.6	544.2
5°	537.9	540.0	540.9	541.7	541.7	541.7	541.7	541.7	541.3	540.5
7.5°	533.3	534.6	535.8	535.4	535.4	535.0	534.6	535.0	534.2	534.2
10°	525.0	526.2	527.1	525.8	525.8	526.2	526.2	525.8	524.5	523.3
12.5°	515.3	516.6	515.3	515.8	514.9	514.1	513.7	513.2	512.0	511.1
15°	502.8	502.8	501.9	501.9	500.7	499.0	498.6	499.0	497.3	497.3
17.5°	489.0	488.1	486.9	486.0	485.6	485.6	483.9	483.9	481.8	481.4
20°	473.9	473.1	471.8	469.7	468.9	469.3	467.6	466.4	465.1	464.7
22.5°	458.0	455.9	454.6	452.5	450.9	450.9	449.6	447.5	446.3	445.0
25°	440.0	437.9	435.4	433.7	432.4	430.4	429.5	427.8	426.6	426.2
27.5°	421.6	418.2	414.9	413.2	412.4	409.8	408.6	407.7	405.2	404.8
30°	401.9	399.4	395.2	392.3	390.2	390.6	387.7	386.0	384.7	383.5
32.5°	383.0	378.9	374.7	370.9	368.4	368.0	365.0	363.4	362.1	360.9
35°	361.7	357.5	352.5	349.1	346.6	345.4	342.4	341.6	339.5	338.7
37.5°	340.3	335.7	330.7	326.5	324.9	321.9	320.7	318.6	316.9	316.9
40°	319.4	314.0	308.9	303.9	301.8	300.2	296.8	295.1	293.0	291.8
42.5°	297.6	291.4	286.8	282.2	279.2	278.0	274.2	272.1	270.0	269.6
45°	275.9	269.6	263.7	259.1	257.9	255.4	251.6	248.7	248.2	247.8
47.5°	253.7	247.4	242.0	236.9	235.3	232.3	229.8	227.7	225.2	224.0
50°	232.3	226.1	220.2	214.8	212.7	210.2	207.6	204.7	203.9	202.6
52.5°	211.0	203.9	197.6	192.6	190.9	188.8	185.9	183.4	182.1	181.3
55°	189.2	182.1	176.7	171.6	169.5	168.3	164.9	162.8	161.2	160.3
57.5°	167.9	160.8	155.7	152.0	149.0	147.8	144.4	142.3	141.5	141.1
60°	147.8	141.1	135.6	131.9	129.4	128.1	125.6	123.5	122.2	121.8
62.5°	127.7	121.8	116.8	113.0	111.4	109.7	107.6	105.9	104.7	104.7
65°	108.4	102.6	98.0	95.0	93.4	92.5	90.0	89.2	87.9	87.9
67.5°	89.6	85.4	82.1	78.3	77.0	77.0	74.5	73.7	72.8	72.8
70°	73.3	69.5	65.7	63.6	62.4	62.0	59.9	58.6	57.8	56.9
72.5°	57.4	54.0	50.7	50.2	50.2	49.8	49.8	49.0	49.0	49.4
75°	44.0	43.1	42.3	42.3	41.9	41.4	41.4	41.0	41.0	41.0
77.5°	35.2	34.7	34.3	33.9	33.9	33.5	33.1	33.1	33.1	33.1
80°	26.8	26.4	26.4	26.0	25.5	26.0	25.5	25.5	25.1	25.1
82.5°	18.8	18.8	18.8	18.4	18.4	18.4	18.4	18.0	18.0	18.4
85°	11.7	11.7	11.7	11.7	11.3	11.7	11.3	11.3	11.3	11.7
87.5°	5.0	5.4	5.0	5.4	5.4	5.0	5.0	5.0	5.0	5.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243395
 CATALOG NUMBER: S123RDRP-H340D835-X4F0-XX-UDD-F-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	18.09	19.64	18.45	19.95	20.27	15.28	16.83	15.64	17.15	17.46
	3H	19.91	21.31	20.29	21.64	22.00	16.35	17.75	16.73	18.08	18.44
	4H	20.60	21.91	21.00	22.26	22.64	16.75	18.06	17.15	18.41	18.79
	6H	21.10	22.31	21.51	22.67	23.07	17.07	18.28	17.48	18.65	19.04
	8H	21.25	22.41	21.68	22.80	23.20	17.18	18.33	17.61	18.72	19.12
	12H	21.35	22.46	21.78	22.84	23.27	17.26	18.36	17.69	18.74	19.17
4H	2H	18.33	19.64	18.73	19.99	20.36	16.00	17.31	16.40	17.66	18.03
	3H	20.32	21.40	20.73	21.80	22.20	17.22	18.31	17.63	18.71	19.11
	4H	21.10	22.09	21.54	22.50	22.94	17.71	18.69	18.14	19.10	19.54
	6H	21.72	22.58	22.18	23.02	23.48	18.13	18.98	18.58	19.42	19.88
	8H	21.93	22.72	22.39	23.17	23.63	18.27	19.07	18.73	19.51	19.98
	12H	22.07	22.78	22.55	23.26	23.73	18.38	19.10	18.86	19.57	20.05
8H	4H	21.14	21.94	21.60	22.38	22.85	18.02	18.82	18.49	19.27	19.73
	6H	21.81	22.47	22.30	22.96	23.44	18.54	19.20	19.03	19.69	20.17
	8H	22.05	22.64	22.56	23.15	23.64	18.74	19.34	19.26	19.84	20.33
	12H	22.24	22.77	22.75	23.26	23.82	18.92	19.44	19.43	19.93	20.50
12H	4H	21.13	21.84	21.61	22.32	22.79	18.06	18.78	18.54	19.25	19.72
	6H	21.79	22.39	22.31	22.90	23.38	18.59	19.19	19.11	19.70	20.18
	8H	22.07	22.59	22.58	23.09	23.65	18.85	19.37	19.36	19.87	20.43