

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: P242432

Luminaire Tested: S123DRP-S340D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242432
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S340D835-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

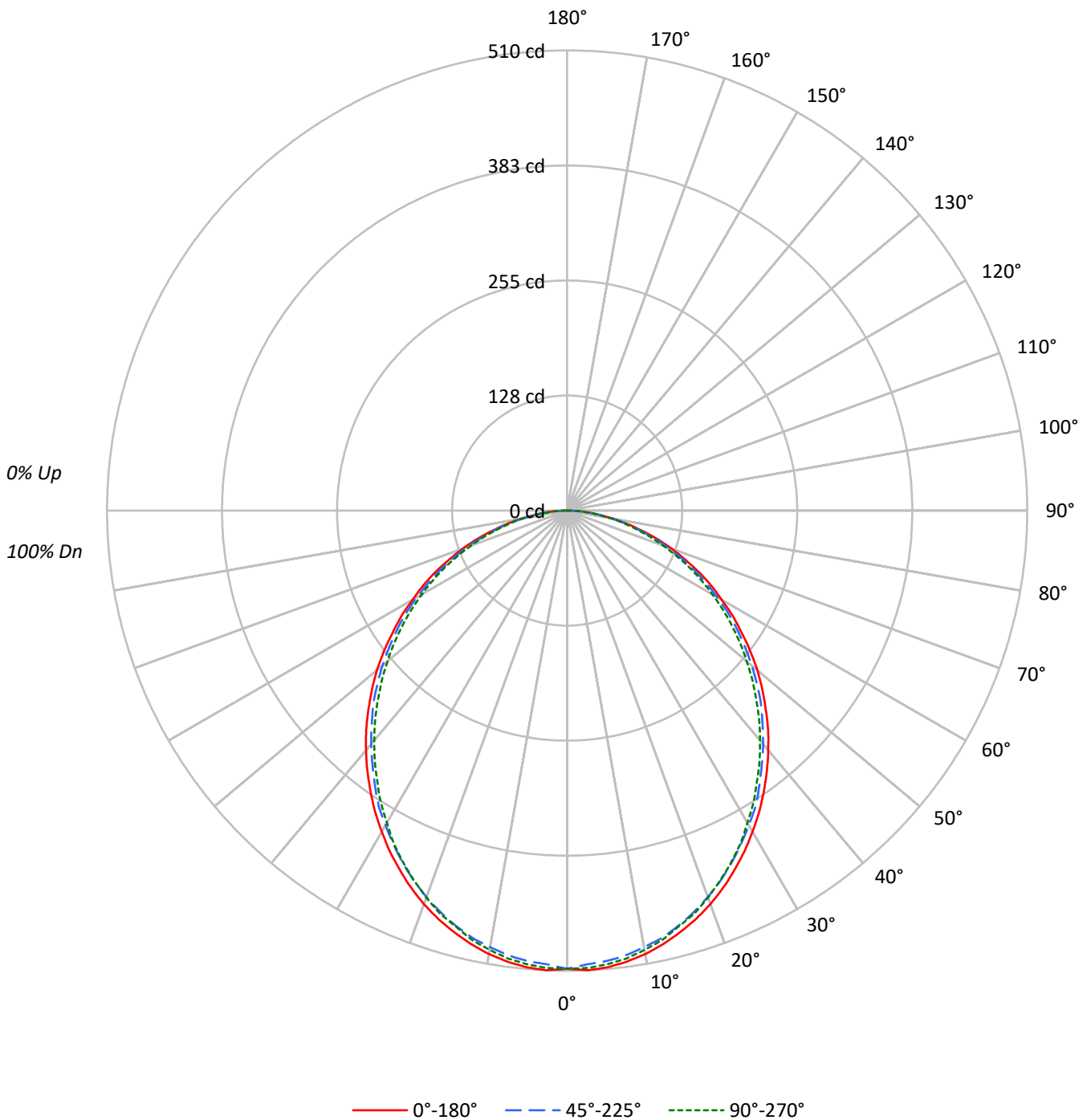
Lumens per Lamp: N/A
Luminaire Lumens: 1321.6 lumens
Efficiency: N/A
Efficacy: 113.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 11.6
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	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					100			
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70					70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59					59			
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51					51			
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44					44			
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28					28			
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6155	6155	6155
5°	6184	6098	6141
10°	6143	6046	6084
15°	6071	5978	5988
20°	5986	5879	5886
25°	5874	5763	5752
30°	5751	5635	5592
35°	5621	5499	5428
40°	5486	5347	5264
45°	5336	5209	5083
50°	5188	5039	4899
55°	4992	4863	4715
60°	4795	4657	4509
65°	4621	4434	4296
70°	4363	4178	3991
75°	3985	3845	3681
80°	3595	3441	3413
85°	3157	3032	2921

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5336 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	3.6
10°-20°	135.2	10.2
20°-30°	199.6	15.1
30°-40°	233.2	17.6
40°-50°	234.4	17.7
50°-60°	205.9	15.6
60°-70°	153.3	11.6
70°-80°	87.3	6.6
80°-90°	24.8	1.9
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°	382.7	29.0
0°-40°	615.8	46.6
0°-60°	1056.1	79.9
0°-90°	1321.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1321.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	508	508	508	508	508	
5°	508	506	501	506	505	48
15°	484	482	476	480	477	136
25°	439	437	431	431	430	202
35°	380	377	372	369	367	238
45°	311	310	304	299	296	240
55°	236	236	230	225	223	212
65°	161	159	155	151	150	159
75°	85	83	82	80	79	91
85°	23	22	22	21	21	26
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	507.8	507.8	507.8	507.8	507.8
2.5°	510.0	508.2	503.4	507.8	507.4
5°	508.2	506.0	501.2	505.6	504.7
7.5°	504.3	502.1	497.3	501.2	500.8
10°	499.1	496.9	491.2	495.1	494.3
12.5°	492.1	490.3	485.1	487.7	487.3
15°	483.8	482.0	476.4	479.8	477.2
17.5°	474.6	472.4	466.7	469.4	468.5
20°	464.1	461.5	455.8	457.6	456.3
22.5°	452.3	449.7	444.0	445.4	443.6
25°	439.2	436.6	430.9	431.4	430.1
27.5°	425.7	423.1	417.0	417.4	416.1
30°	410.9	408.7	402.6	402.6	399.5
32.5°	396.0	393.0	388.6	385.5	384.2
35°	379.9	377.2	371.6	368.9	366.8
37.5°	363.7	360.2	354.5	351.5	350.2
40°	346.7	344.1	337.9	334.5	332.7
42.5°	329.7	326.6	320.5	317.0	315.2
45°	311.3	309.6	303.9	298.7	296.5
47.5°	293.4	290.8	285.6	280.3	278.6
50°	275.1	272.9	267.2	262.4	259.8
52.5°	255.9	254.6	248.4	244.5	241.9
55°	236.2	235.8	230.1	225.3	223.1
57.5°	217.9	216.1	211.8	207.4	204.8
60°	197.8	197.4	192.1	188.2	186.0
62.5°	179.9	178.6	173.3	169.4	168.1
65°	161.1	158.9	154.6	151.1	149.8
67.5°	141.0	139.3	135.8	132.7	131.0
70°	123.1	120.5	117.9	114.8	112.6
72.5°	104.4	102.6	99.6	96.9	96.1
75°	85.1	83.4	82.1	79.9	78.6
77.5°	68.1	67.2	65.5	63.7	63.7
80°	51.5	50.2	49.3	48.9	48.9
82.5°	35.4	35.4	35.4	34.5	34.1
85°	22.7	21.8	21.8	21.0	21.0
87.5°	11.4	10.0	9.6	9.2	9.2
90°	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	17.67	19.29	18.04	19.60	19.92	17.36	18.98	17.72	19.29	19.60
	3H	19.44	20.90	19.82	21.23	21.59	19.07	20.53	19.45	20.86	21.22
	4H	20.10	21.48	20.50	21.82	22.20	19.71	21.09	20.11	21.43	21.81
	6H	20.59	21.86	21.00	22.23	22.62	20.20	21.47	20.61	21.84	22.23
	8H	20.74	21.96	21.16	22.35	22.75	20.36	21.57	20.78	21.96	22.36
	12H	20.85	22.01	21.28	22.40	22.82	20.46	21.63	20.89	22.01	22.44
4H	2H	18.25	19.63	18.65	19.98	20.35	18.00	19.38	18.40	19.73	20.10
	3H	20.24	21.40	20.65	21.80	22.20	19.94	21.09	20.35	21.49	21.89
	4H	21.03	22.07	21.46	22.49	22.92	20.70	21.74	21.13	22.16	22.59
	6H	21.65	22.56	22.10	23.00	23.45	21.31	22.22	21.77	22.66	23.12
	8H	21.85	22.70	22.31	23.14	23.61	21.52	22.37	21.98	22.81	23.28
	12H	22.00	22.77	22.48	23.24	23.71	21.67	22.44	22.15	22.91	23.38
8H	4H	21.31	22.17	21.77	22.61	23.07	21.02	21.88	21.48	22.32	22.78
	6H	22.05	22.76	22.54	23.25	23.72	21.76	22.47	22.25	22.95	23.43
	8H	22.32	22.96	22.83	23.47	23.95	22.04	22.67	22.55	23.18	23.67
	12H	22.55	23.12	23.06	23.61	24.17	22.26	22.82	22.77	23.32	23.88
12H	4H	21.34	22.11	21.82	22.58	23.05	21.06	21.83	21.54	22.30	22.77
	6H	22.10	22.74	22.61	23.24	23.73	21.82	22.46	22.33	22.96	23.45
	8H	22.43	23.00	22.94	23.49	24.05	22.16	22.72	22.66	23.21	23.77