

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: P242539

Luminaire Tested: S123RDRP-S340D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242539
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S340D840-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

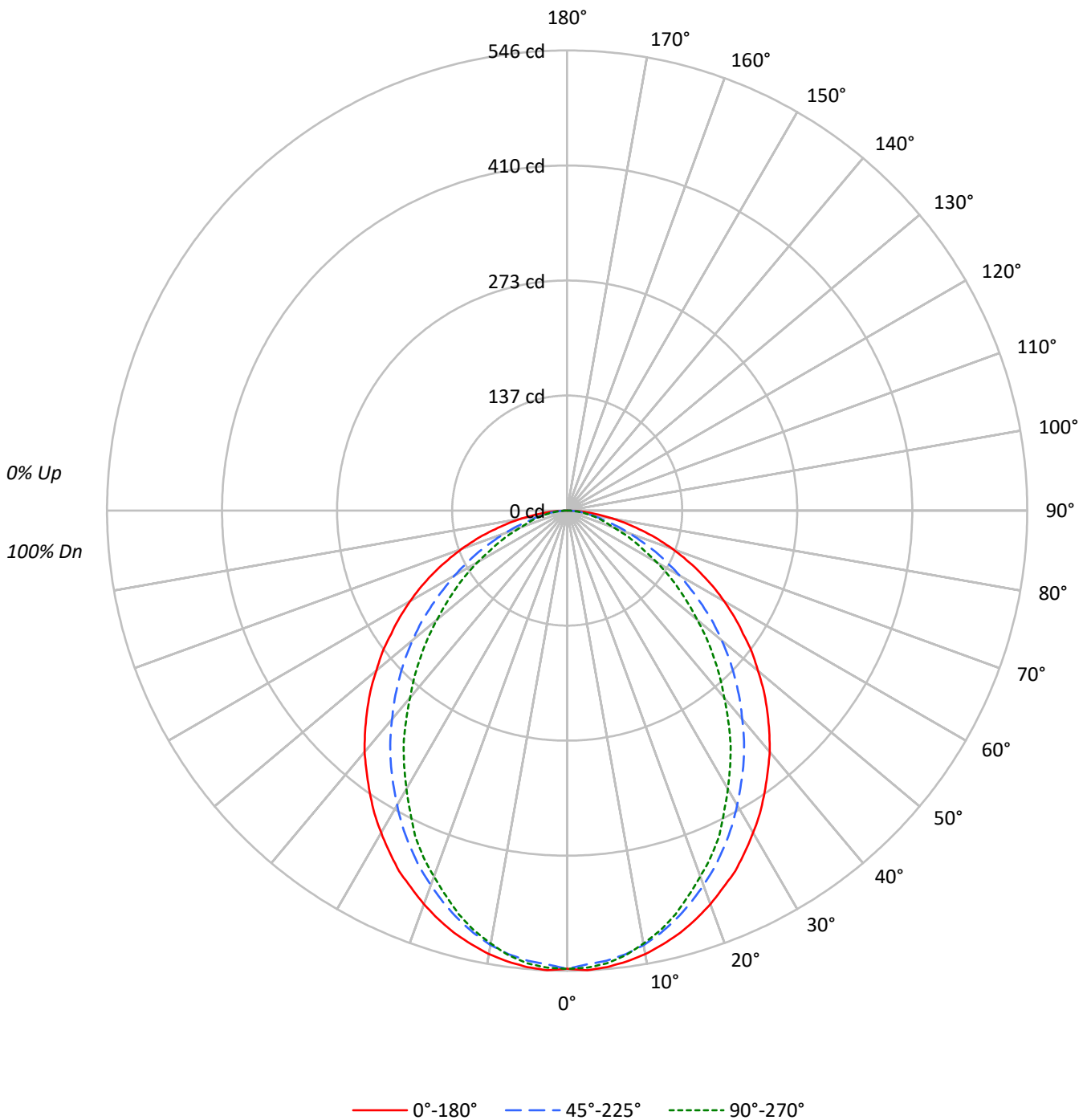
Lumens per Lamp: N/A
Luminaire Lumens: 1228.2 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 11.6
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	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86					86			
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73					73			
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62					62			
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54					54			
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47					47			
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42					42			
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37					37			
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34					34			
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30					30			
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28					28			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6590	6590	6590
5°	6615	6524	6562
10°	6578	6442	6420
15°	6507	6291	6224
20°	6410	6103	5961
25°	6310	5891	5703
30°	6178	5648	5338
35°	6042	5402	5004
40°	5916	5114	4590
45°	5751	4831	4217
50°	5570	4507	3800
55°	5387	4138	3411
60°	5217	3741	2982
65°	4996	3313	2556
70°	4721	2782	2063
75°	4318	2187	1939
80°	3846	1941	1787
85°	3254	1711	1599

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5751 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.1	4.2
10°-20°	142.2	11.6
20°-30°	204.7	16.7
30°-40°	230.5	18.8
40°-50°	220.5	18.0
50°-60°	180.5	14.7
60°-70°	121.7	9.9
70°-80°	61.0	5.0
80°-90°	16.0	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°	398.0	32.4
0°-40°	628.5	51.2
0°-60°	1029.5	83.8
0°-90°	1228.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1228.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	544	544	544	544	544	
5°	544	542	536	540	539	52
15°	518	514	501	499	496	146
25°	472	461	440	431	426	217
35°	408	392	365	346	338	256
45°	336	316	282	257	246	259
55°	255	233	196	170	161	229
65°	174	150	116	94	89	172
75°	92	71	47	42	41	98
85°	23	14	12	12	12	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	543.7	543.7	543.7	543.7	543.7
2.5°	545.9	544.1	538.8	543.7	542.8
5°	543.7	541.5	536.2	540.1	539.3
7.5°	539.7	537.5	530.9	533.5	532.2
10°	534.4	531.3	523.4	523.8	521.6
12.5°	526.9	523.4	513.2	512.8	510.2
15°	518.5	513.7	501.3	499.1	496.0
17.5°	508.4	503.1	487.7	483.3	478.9
20°	496.9	489.9	473.1	467.4	462.1
22.5°	484.1	475.8	457.7	450.2	445.3
25°	471.8	460.8	440.5	431.2	426.4
27.5°	456.8	444.9	422.9	410.5	403.0
30°	441.4	428.1	403.5	388.5	381.4
32.5°	425.9	410.5	384.1	367.3	359.8
35°	408.3	392.4	365.1	346.1	338.2
37.5°	390.7	373.5	344.8	323.6	313.9
40°	373.9	354.5	323.2	300.3	290.1
42.5°	354.9	335.5	302.9	277.3	268.5
45°	335.5	315.7	281.8	256.6	246.0
47.5°	316.6	294.5	261.0	233.7	224.4
50°	295.4	274.7	239.0	211.6	201.5
52.5°	276.5	253.5	218.3	189.6	180.8
55°	254.9	233.3	195.8	170.2	161.4
57.5°	235.5	212.1	174.2	149.9	142.4
60°	215.2	190.9	154.3	130.5	123.0
62.5°	194.9	170.6	134.0	112.0	104.1
65°	174.2	149.9	115.5	93.9	89.1
67.5°	153.4	128.8	95.2	78.9	73.6
70°	133.2	109.4	78.5	63.1	58.2
72.5°	112.9	89.5	62.2	50.3	48.9
75°	92.2	71.0	46.7	42.3	41.4
77.5°	73.2	53.8	36.6	34.0	33.1
80°	55.1	37.0	27.8	26.5	25.6
82.5°	37.9	22.9	19.8	18.5	18.5
85°	23.4	13.7	12.3	11.5	11.5
87.5°	10.6	5.7	5.7	5.3	4.9
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	18.00	19.55	18.36	19.87	20.18	15.37	16.92	15.73	17.24	17.55
	3H	19.78	21.17	20.15	21.50	21.86	16.48	17.88	16.86	18.21	18.57
	4H	20.44	21.75	20.84	22.10	22.48	16.88	18.19	17.27	18.54	18.91
	6H	20.92	22.13	21.33	22.50	22.89	17.19	18.41	17.61	18.77	19.17
	8H	21.07	22.23	21.49	22.61	23.02	17.30	18.46	17.73	18.85	19.25
	12H	21.17	22.28	21.60	22.66	23.09	17.38	18.49	17.81	18.87	19.30
4H	2H	18.26	19.57	18.66	19.92	20.30	16.08	17.40	16.48	17.74	18.12
	3H	20.22	21.31	20.63	21.71	22.11	17.36	18.45	17.77	18.85	19.25
	4H	20.99	21.98	21.42	22.39	22.83	17.84	18.82	18.27	19.24	19.68
	6H	21.59	22.44	22.04	22.89	23.34	18.26	19.11	18.72	19.56	20.02
	8H	21.78	22.58	22.24	23.02	23.49	18.40	19.20	18.87	19.65	20.12
	12H	21.93	22.64	22.41	23.12	23.59	18.52	19.23	19.00	19.71	20.18
8H	4H	21.05	21.85	21.51	22.29	22.76	18.16	18.96	18.62	19.40	19.87
	6H	21.71	22.37	22.20	22.86	23.34	18.68	19.34	19.17	19.83	20.30
	8H	21.94	22.54	22.45	23.04	23.53	18.88	19.47	19.39	19.98	20.47
	12H	22.14	22.67	22.65	23.16	23.72	19.05	19.58	19.56	20.07	20.63
12H	4H	21.04	21.75	21.52	22.23	22.70	18.20	18.92	18.69	19.40	19.87
	6H	21.70	22.29	22.21	22.80	23.29	18.74	19.33	19.25	19.84	20.33
	8H	21.97	22.49	22.47	22.98	23.55	18.99	19.52	19.50	20.01	20.57