

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: P242441

Luminaire Tested: S123DRP-S340D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242441
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-S340D930-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

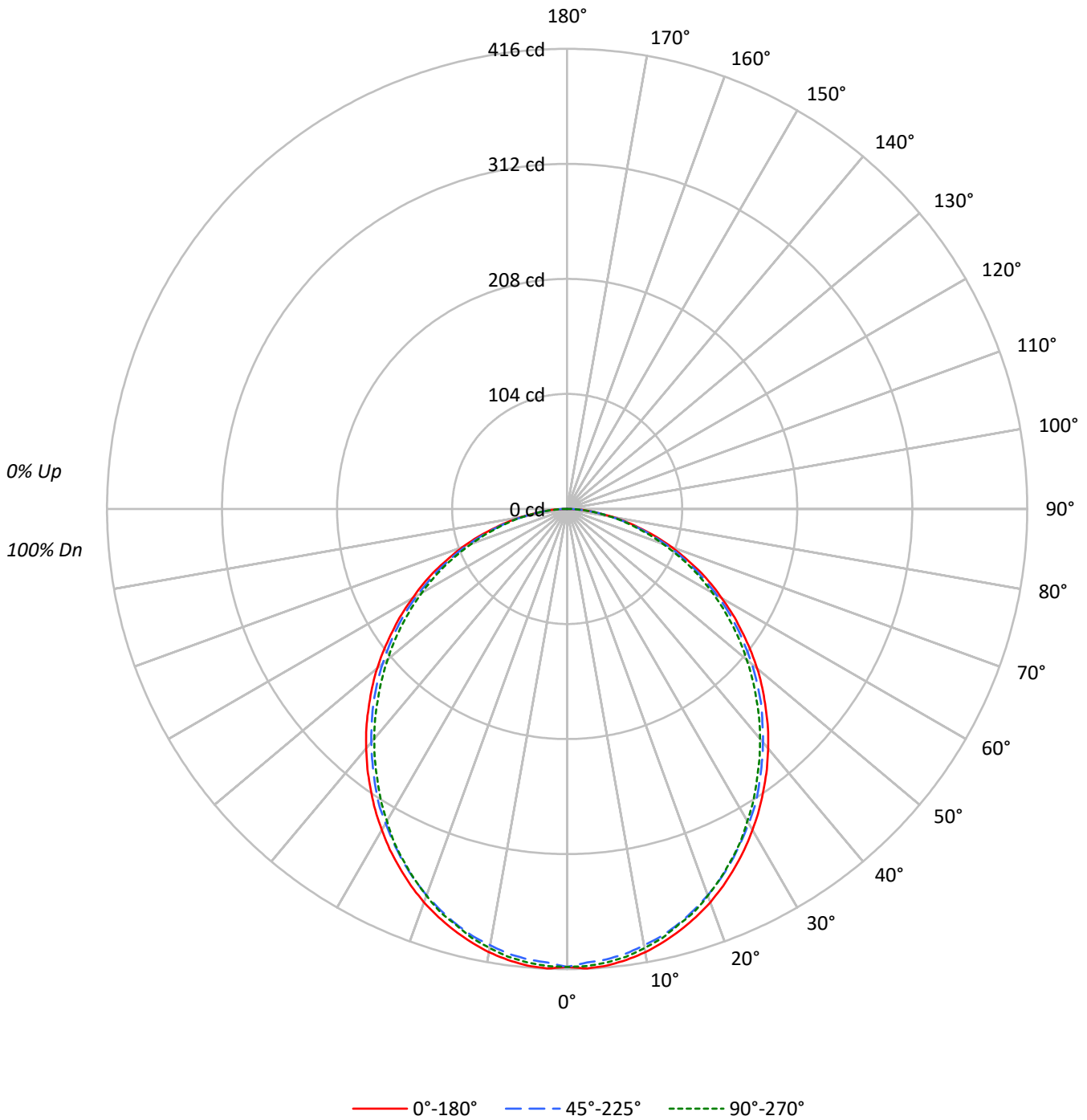
Lumens per Lamp: N/A
Luminaire Lumens: 1077.5 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

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	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°	5018	5018	5018
5°	5042	4973	5007
10°	5008	4929	4960
15°	4949	4874	4883
20°	4881	4793	4798
25°	4789	4700	4689
30°	4689	4594	4559
35°	4583	4482	4424
40°	4472	4359	4293
45°	4351	4248	4143
50°	4230	4109	3994
55°	4070	3964	3844
60°	3910	3796	3675
65°	3769	3614	3502
70°	3558	3406	3253
75°	3250	3133	3002
80°	2932	2806	2785
85°	2573	2476	2378

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4351 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.0	3.6
10°-20°	110.2	10.2
20°-30°	162.8	15.1
30°-40°	190.1	17.6
40°-50°	191.1	17.7
50°-60°	167.9	15.6
60°-70°	125.0	11.6
70°-80°	71.1	6.6
80°-90°	20.2	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°	312.0	29.0
0°-40°	502.1	46.6
0°-60°	861.1	79.9
0°-90°	1077.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1077.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	414	414	414	414	414	
5°	414	413	409	412	412	39
15°	394	393	388	391	389	111
25°	358	356	351	352	351	165
35°	310	308	303	301	299	194
45°	254	252	248	244	242	196
55°	193	192	188	184	182	173
65°	131	130	126	123	122	130
75°	69	68	67	65	64	74
85°	18	18	18	17	17	21
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	414.0	414.0	414.0	414.0	414.0
2.5°	415.8	414.4	410.4	414.0	413.6
5°	414.4	412.6	408.7	412.2	411.5
7.5°	411.2	409.4	405.5	408.7	408.3
10°	406.9	405.1	400.5	403.7	403.0
12.5°	401.2	399.8	395.5	397.6	397.3
15°	394.4	393.0	388.4	391.2	389.1
17.5°	386.9	385.2	380.5	382.7	382.0
20°	378.4	376.3	371.6	373.1	372.0
22.5°	368.8	366.7	362.0	363.1	361.7
25°	358.1	356.0	351.4	351.7	350.6
27.5°	347.1	344.9	340.0	340.3	339.2
30°	335.0	333.2	328.2	328.2	325.7
32.5°	322.9	320.4	316.8	314.3	313.3
35°	309.7	307.6	302.9	300.8	299.0
37.5°	296.5	293.7	289.1	286.6	285.5
40°	282.6	280.5	275.5	272.7	271.3
42.5°	268.8	266.3	261.3	258.4	257.0
45°	253.8	252.4	247.8	243.5	241.7
47.5°	239.2	237.1	232.8	228.5	227.1
50°	224.3	222.5	217.9	213.9	211.8
52.5°	208.6	207.5	202.6	199.3	197.2
55°	192.6	192.2	187.6	183.7	181.9
57.5°	177.6	176.2	172.6	169.1	167.0
60°	161.3	160.9	156.6	153.4	151.6
62.5°	146.7	145.6	141.3	138.1	137.1
65°	131.4	129.6	126.0	123.2	122.1
67.5°	115.0	113.6	110.7	108.2	106.8
70°	100.4	98.3	96.1	93.6	91.8
72.5°	85.1	83.7	81.2	79.0	78.3
75°	69.4	68.0	66.9	65.1	64.1
77.5°	55.5	54.8	53.4	52.0	52.0
80°	42.0	40.9	40.2	39.9	39.9
82.5°	28.8	28.8	28.8	28.1	27.8
85°	18.5	17.8	17.8	17.1	17.1
87.5°	9.3	8.2	7.8	7.5	7.5
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	16.96	18.58	17.33	18.89	19.21	16.65	18.27	17.01	18.58	18.89
	3H	18.73	20.20	19.11	20.52	20.88	18.36	19.83	18.74	20.15	20.51
	4H	19.39	20.77	19.79	21.12	21.49	19.00	20.38	19.40	20.73	21.10
	6H	19.88	21.15	20.29	21.52	21.91	19.49	20.76	19.90	21.13	21.52
	8H	20.03	21.25	20.46	21.64	22.04	19.65	20.87	20.07	21.25	21.65
	12H	20.14	21.30	20.57	21.69	22.12	19.75	20.92	20.18	21.30	21.73
4H	2H	17.54	18.92	17.94	19.27	19.64	17.29	18.67	17.69	19.02	19.39
	3H	19.54	20.69	19.94	21.09	21.49	19.23	20.38	19.64	20.78	21.18
	4H	20.32	21.36	20.75	21.78	22.21	19.99	21.03	20.42	21.45	21.88
	6H	20.94	21.85	21.39	22.29	22.75	20.60	21.51	21.06	21.96	22.41
	8H	21.14	21.99	21.60	22.43	22.90	20.81	21.66	21.27	22.11	22.57
	12H	21.29	22.06	21.77	22.53	23.00	20.96	21.73	21.44	22.20	22.67
8H	4H	20.60	21.46	21.06	21.90	22.37	20.31	21.17	20.77	21.61	22.07
	6H	21.34	22.05	21.83	22.54	23.01	21.05	21.76	21.54	22.25	22.72
	8H	21.61	22.25	22.12	22.76	23.24	21.33	21.97	21.84	22.47	22.96
	12H	21.84	22.40	22.35	22.90	23.46	21.55	22.12	22.06	22.61	23.17
12H	4H	20.63	21.40	21.11	21.88	22.34	20.35	21.12	20.83	21.59	22.06
	6H	21.39	22.03	21.90	22.54	23.02	21.11	21.75	21.62	22.25	22.74
	8H	21.72	22.29	22.23	22.78	23.34	21.45	22.01	21.95	22.50	23.06