

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P243031

Luminaire Tested: **S121DR-H305D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243031
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H305D935-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 997.7 lumens
Efficiency: N/A
Efficacy: 89.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

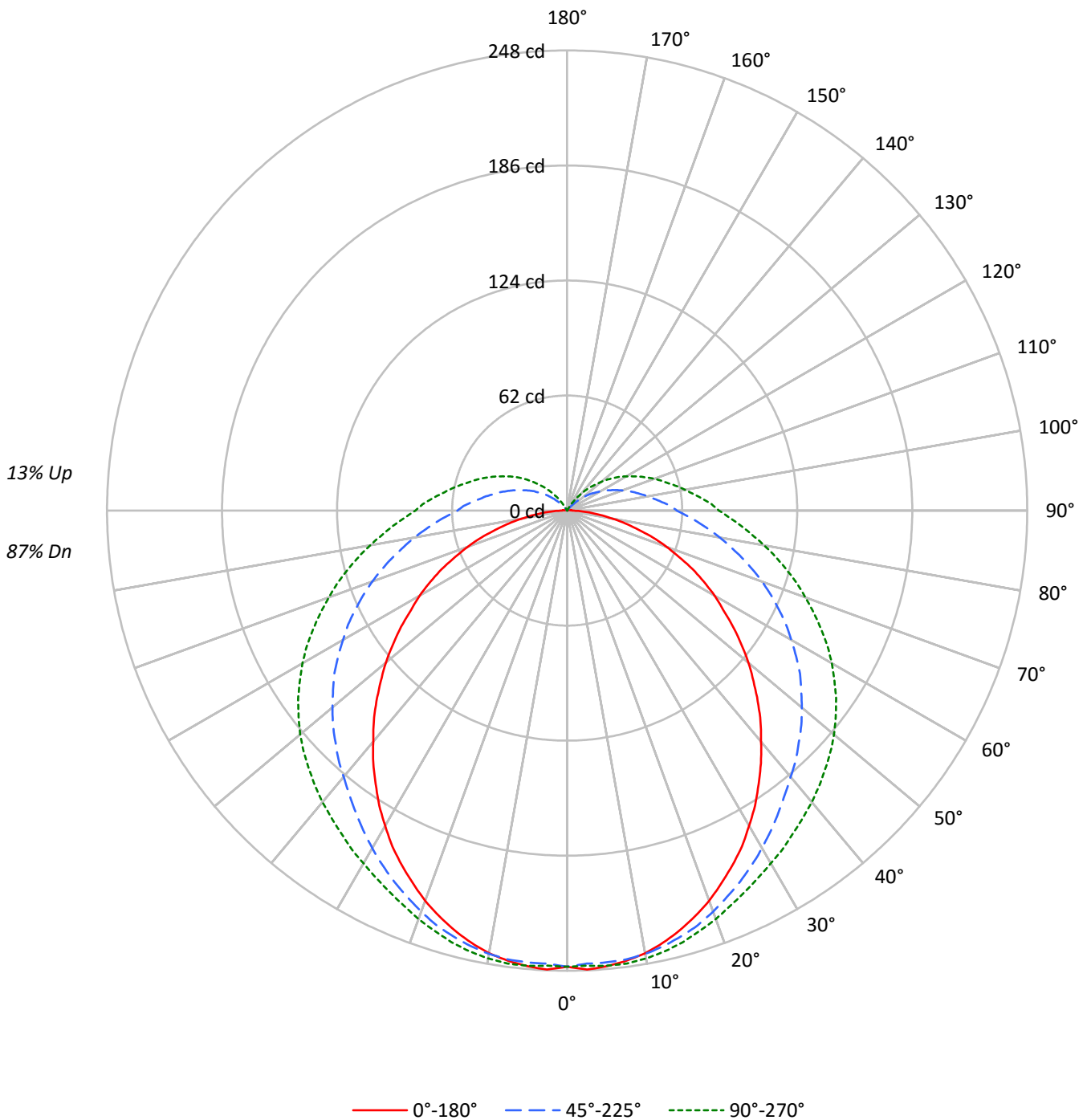
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	29	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7283	7283	7283
5°	7318	6882	6794
10°	7259	6555	6375
15°	7146	6214	5966
20°	7002	5876	5582
25°	6826	5547	5240
30°	6627	5241	4963
35°	6411	4952	4733
40°	6178	4706	4544
45°	5960	4502	4366
50°	5735	4307	4204
55°	5473	4123	4029
60°	5250	3909	3843
65°	5000	3705	3643
70°	4654	3495	3438
75°	4239	3274	3240
80°	3726	3067	3045
85°	3247	2872	2867



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.4	2.3
10°-20°	67.2	6.7
20°-30°	101.6	10.2
30°-40°	124.2	12.4
40°-50°	134.8	13.5
50°-60°	133.1	13.3
60°-70°	119.2	11.9
70°-80°	95.9	9.6
80°-90°	69.3	6.9
90°-100°	49.6	5.0
100°-110°	35.4	3.6
110°-120°	23.4	2.3
120°-130°	13.3	1.3
130°-140°	6.0	0.6
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°	192.2	19.3
0°-40°	316.4	31.7
0°-60°	584.3	58.6
0°-90°	868.7	87.1
90°-120°	108.5	10.9
90°-150°	129.1	12.9
90°-180°	129.0	12.9
0°-180°	997.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	246	246	246	246	246	
5°	246	246	244	247	246	23
15°	234	237	238	241	241	66
25°	211	216	221	226	227	97
35°	180	189	199	209	212	113
45°	145	159	177	192	197	112
55°	109	128	153	171	177	98
65°	75	98	126	145	151	74
75°	40	67	97	116	122	43
85°	12	40	71	89	94	12
90°	3	30	59	77	82	2
95°	2	24	52	68	73	2
105°	1	14	38	52	57	1
115°	1	7	26	39	43	1
125°	0	1	16	27	31	0
135°	0	0	6	15	18	0
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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	245.8	245.8	245.8	245.8	245.8
2.5°	247.6	246.2	244.4	246.2	245.5
5°	246.5	245.8	244.4	246.9	246.2
7.5°	244.7	244.7	244.0	246.5	246.2
10°	242.2	242.9	242.6	245.5	245.1
12.5°	238.6	240.1	240.4	243.7	243.3
15°	234.3	236.8	237.5	240.8	240.8
17.5°	229.2	232.5	234.3	237.5	237.5
20°	223.8	227.4	230.0	233.9	234.3
22.5°	217.3	222.4	225.3	230.0	230.3
25°	210.9	216.3	220.6	225.6	226.7
27.5°	204.0	210.1	215.5	221.3	223.1
30°	196.1	202.9	210.1	217.0	219.5
32.5°	188.5	196.4	204.4	213.0	216.3
35°	179.9	189.2	198.6	209.1	212.3
37.5°	171.6	181.7	192.8	204.7	208.7
40°	162.6	174.1	187.4	200.8	205.1
42.5°	154.3	166.2	182.4	196.1	201.1
45°	145.3	159.0	176.6	191.8	196.8
47.5°	136.2	151.0	171.2	186.7	192.5
50°	127.6	143.1	165.1	182.0	187.8
52.5°	118.2	135.9	159.0	176.3	182.4
55°	109.2	127.6	153.2	170.8	177.0
57.5°	99.8	120.7	146.3	165.1	170.8
60°	91.9	112.8	139.5	158.6	164.7
62.5°	82.9	105.2	133.0	151.7	158.2
65°	74.6	97.7	125.8	145.3	151.0
67.5°	65.2	90.1	118.9	138.0	143.8
70°	56.9	82.5	111.7	130.8	136.6
72.5°	48.7	75.3	104.5	124.0	129.8
75°	40.0	67.4	97.3	116.4	122.2
77.5°	32.4	60.2	90.1	109.2	115.0
80°	24.5	53.0	83.6	102.4	107.8
82.5°	18.0	46.5	76.8	95.5	100.6
85°	11.9	40.4	70.6	88.7	94.1
87.5°	6.8	35.0	64.5	82.5	87.6
90°	2.9	30.3	59.1	76.8	81.8
92.5°	2.2	27.4	55.9	72.8	77.9
95°	2.2	24.1	51.5	68.1	73.2
97.5°	1.8	21.3	47.6	63.8	68.5
100°	1.4	18.7	44.3	59.8	64.5
102.5°	1.4	16.6	40.7	55.9	60.6
105°	1.1	14.4	37.8	52.3	56.6
107.5°	1.1	12.3	34.6	49.0	53.3
110°	0.7	10.5	31.7	45.8	50.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	8.7	28.8	42.5	46.5
115°	0.7	6.8	26.0	39.3	43.3
117.5°	0.4	5.0	23.4	36.0	40.0
120°	0.4	3.6	20.9	32.8	36.8
122.5°	0.4	1.8	18.0	29.9	33.9
125°	0.4	0.7	15.9	27.0	30.6
127.5°	0.0	0.0	13.3	23.8	27.4
130°	0.0	0.0	10.8	20.9	24.1
132.5°	0.0	0.0	8.7	18.0	20.9
135°	0.0	0.0	6.1	15.1	18.0
137.5°	0.0	0.0	4.0	12.3	15.1
140°	0.0	0.0	1.8	9.4	11.9
142.5°	0.0	0.0	0.4	6.8	9.0
145°	0.0	0.0	0.0	4.0	6.5
147.5°	0.0	0.0	0.0	1.4	3.6
150°	0.0	0.0	0.0	0.0	1.1
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

(END OF REPORT)