

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: P242178

Luminaire Tested: **S121DR-S685D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242178
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S685D940-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2436.6 lumens
Efficiency: N/A
Efficacy: 92.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

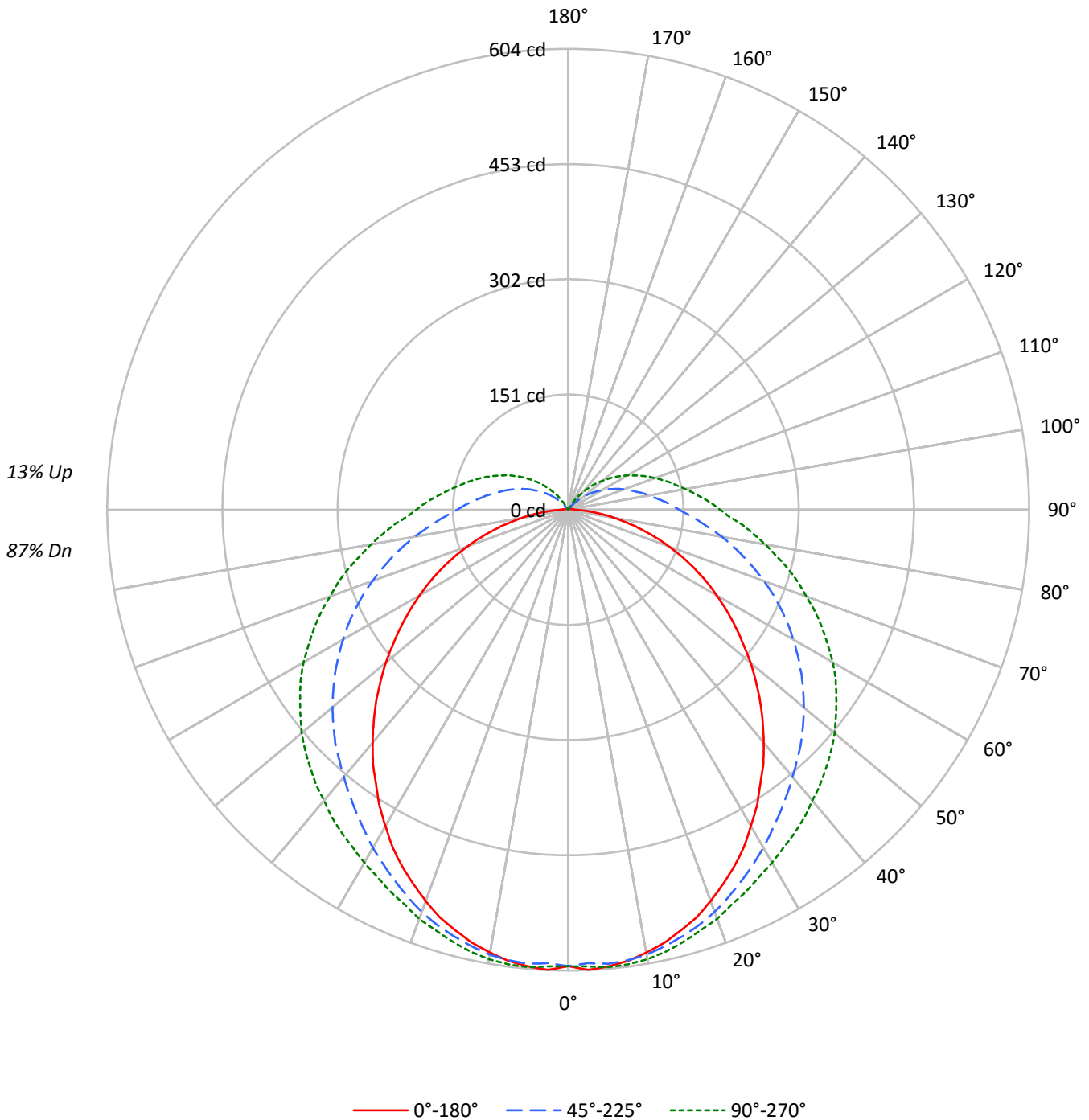
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	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	28	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	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17727	17727	17727
5°	17842	16821	16611
10°	17666	15998	15562
15°	17406	15140	14515
20°	17073	14329	13596
25°	16683	13498	12758
30°	16181	12766	12076
35°	15633	12073	11531
40°	15144	11487	11024
45°	14595	11003	10604
50°	14027	10515	10200
55°	13407	10031	9763
60°	12837	9543	9343
65°	12251	9059	8863
70°	11452	8539	8348
75°	10492	8011	7897
80°	9353	7492	7406
85°	8023	7000	6982



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.1	2.3
10°-20°	163.8	6.7
20°-30°	247.7	10.2
30°-40°	302.9	12.4
40°-50°	328.9	13.5
50°-60°	324.4	13.3
60°-70°	291.2	12.0
70°-80°	234.4	9.6
80°-90°	169.3	6.9
90°-100°	121.0	5.0
100°-110°	86.6	3.6
110°-120°	57.8	2.4
120°-130°	33.2	1.4
130°-140°	15.0	0.6
140°-150°	3.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	468.7	19.2
0°-40°	771.6	31.7
0°-60°	1424.9	58.5
0°-90°	2119.8	87.0
90°-120°	265.4	10.9
90°-150°	316.9	13.0
90°-180°	317.0	13.0
0°-180°	2436.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	598	598	598	598	598	
5°	601	600	597	603	602	57
15°	571	579	579	587	586	161
25°	515	529	537	549	552	237
35°	439	463	484	508	517	275
45°	356	388	432	466	478	274
55°	268	314	373	416	429	239
65°	183	241	308	353	367	181
75°	99	166	238	284	298	105
85°	29	100	172	216	229	31
90°	8	75	145	186	199	6
95°	6	60	126	166	177	5
105°	4	36	92	128	138	4
115°	3	18	64	95	105	3
125°	2	3	39	66	75	2
135°	1	1	15	38	45	1
145°	0	0	0	11	15	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°	598.3	598.3	598.3	598.3	598.3
2.5°	603.7	601.0	594.8	601.0	599.2
5°	601.0	600.1	597.4	602.8	601.9
7.5°	596.6	598.3	595.7	602.8	601.0
10°	589.4	593.9	592.1	599.2	598.3
12.5°	581.4	586.7	585.9	593.9	593.0
15°	570.7	578.7	578.7	586.7	585.9
17.5°	560.0	568.0	570.7	579.6	577.8
20°	545.7	556.4	560.9	568.9	570.7
22.5°	530.6	543.9	549.3	559.1	560.0
25°	515.4	528.8	536.8	549.3	552.0
27.5°	498.5	513.6	524.3	538.6	542.2
30°	478.8	497.6	511.8	527.9	534.1
32.5°	460.1	480.6	497.6	519.0	525.2
35°	438.7	462.8	484.2	508.3	517.2
37.5°	420.0	445.0	470.8	498.5	508.3
40°	398.6	425.3	457.4	487.8	497.6
42.5°	377.2	407.5	444.1	478.0	488.7
45°	355.8	387.9	431.6	466.4	478.0
47.5°	333.5	370.1	417.3	454.8	467.3
50°	312.1	351.3	403.1	442.3	455.7
52.5°	288.9	332.6	387.9	428.9	442.3
55°	267.5	313.9	372.7	415.5	428.9
57.5°	246.1	295.2	356.7	400.4	415.5
60°	224.7	276.4	340.6	385.2	400.4
62.5°	204.2	258.6	324.6	370.1	383.4
65°	182.8	240.8	307.6	353.1	367.4
67.5°	161.4	222.0	290.7	336.2	350.4
70°	140.0	202.4	272.9	319.2	331.7
72.5°	119.5	184.6	255.0	302.3	315.7
75°	99.0	165.9	238.1	283.6	297.8
77.5°	79.4	148.0	221.1	266.6	279.1
80°	61.5	130.2	204.2	249.7	262.2
82.5°	44.6	115.0	187.3	231.8	245.2
85°	29.4	99.9	172.1	215.8	229.2
87.5°	17.8	86.5	157.8	200.6	211.3
90°	8.0	74.9	145.3	186.4	198.9
92.5°	7.1	66.9	135.5	176.6	188.2
95°	6.2	59.7	125.7	165.9	176.6
97.5°	5.4	52.6	115.9	155.2	165.9
100°	4.5	46.4	107.9	145.3	156.0
102.5°	4.5	41.0	99.9	135.5	146.2
105°	3.6	35.7	91.8	127.5	138.2
107.5°	3.6	31.2	84.7	119.5	129.3
110°	3.6	26.8	77.6	111.5	121.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	22.3	71.3	103.4	113.2
115°	2.7	17.8	64.2	95.4	105.2
117.5°	2.7	13.4	58.0	88.3	97.2
120°	1.8	9.8	50.8	81.1	90.1
122.5°	1.8	6.2	45.5	73.1	82.0
125°	1.8	2.7	39.2	66.0	74.9
127.5°	1.8	0.9	33.0	58.9	66.9
130°	0.9	0.9	27.6	51.7	58.9
132.5°	0.9	0.9	21.4	44.6	52.6
135°	0.9	0.9	15.2	37.5	44.6
137.5°	0.9	0.0	9.8	30.3	36.6
140°	0.9	0.0	5.4	24.1	29.4
142.5°	0.9	0.0	0.9	16.9	23.2
145°	0.0	0.0	0.0	10.7	15.2
147.5°	0.0	0.0	0.0	4.5	8.9
150°	0.0	0.0	0.0	0.0	2.7
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)