

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P930882

Luminaire Tested: DFN2DS-SQ2F0-070DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930882
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ2F0-070DS940-RLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

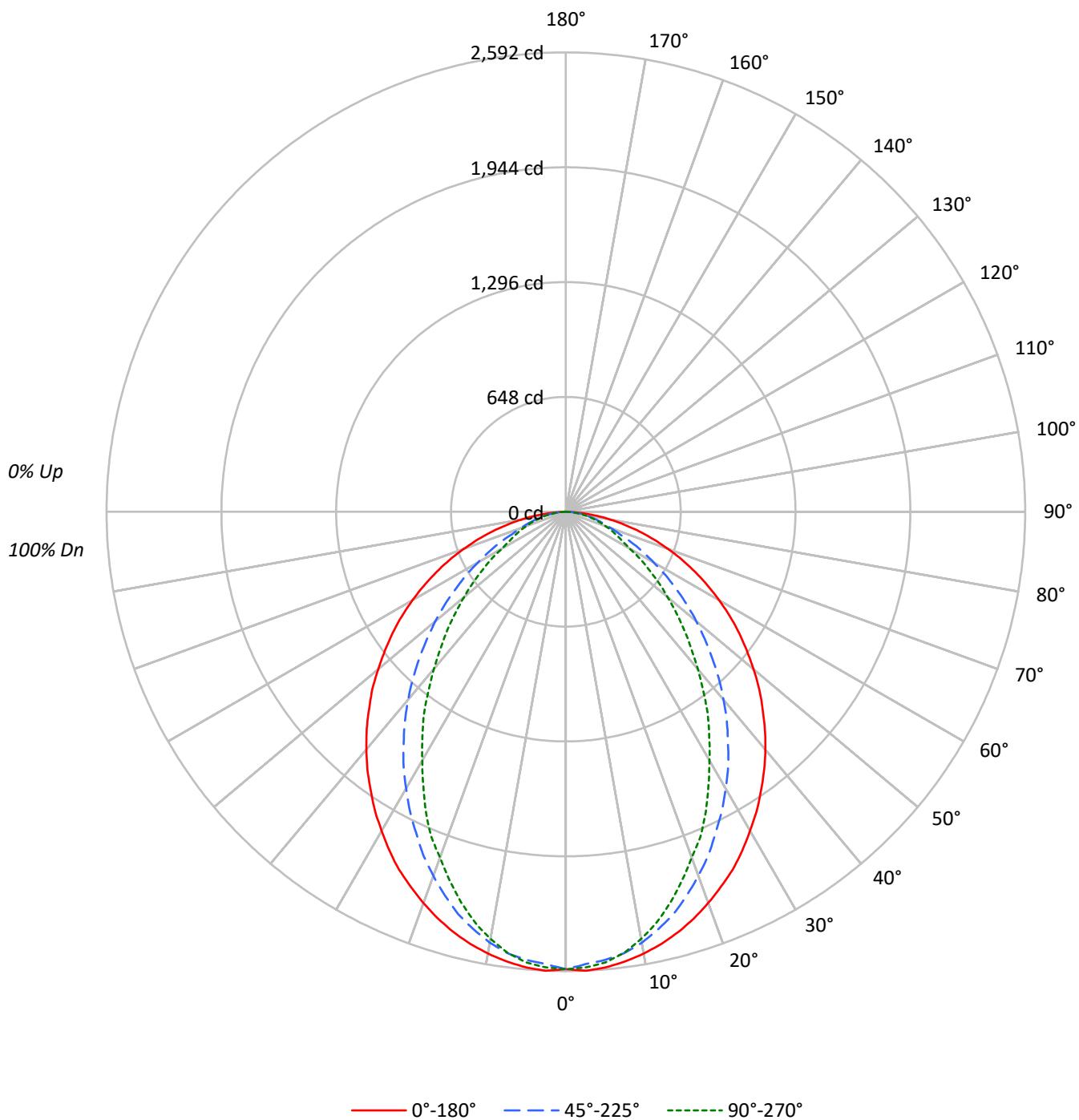
Lumens per Lamp: N/A
Luminaire Lumens: 5307.4 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')
CIE Type: Direct

Input Watts (W): 71.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5674	5674	5674
5°	5696	5603	5634
10°	5653	5512	5465
15°	5588	5348	5194
20°	5498	5115	4858
25°	5406	4850	4533
30°	5278	4577	4115
35°	5153	4282	3749
40°	5028	3975	3325
45°	4881	3632	2941
50°	4730	3284	2565
55°	4575	2909	2203
60°	4396	2516	1829
65°	4192	2115	1664
70°	3949	1741	1531
75°	3651	1587	1429
80°	3223	1418	1302
85°	2533	1118	1118

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4881 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.9	4.6
10°-20°	664.0	12.5
20°-30°	932.2	17.6
30°-40°	1016.1	19.1
40°-50°	933.9	17.6
50°-60°	733.5	13.8
60°-70°	477.4	9.0
70°-80°	245.7	4.6
80°-90°	62.7	1.2
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°	1838.0	34.6
0°-40°	2854.1	53.8
0°-60°	4521.5	85.2
0°-90°	5307.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5307.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2581	2581	2581	2581	2581	
5°	2581	2569	2538	2560	2553	245
15°	2454	2429	2349	2305	2282	692
25°	2228	2153	1999	1903	1868	1025
35°	1920	1801	1595	1448	1396	1202
45°	1570	1413	1168	1002	946	1212
55°	1193	1011	759	619	575	1066
65°	806	616	406	327	320	799
75°	430	266	187	170	168	454
85°	100	51	44	44	44	120
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2580.6	2580.6	2580.6	2580.6	2580.6
2.5°	2592.2	2580.6	2554.9	2578.4	2573.7
5°	2580.6	2569.0	2538.5	2559.6	2552.6
7.5°	2559.6	2545.7	2513.0	2522.1	2510.5
10°	2531.6	2515.3	2468.6	2461.5	2447.6
12.5°	2496.6	2475.6	2412.4	2398.5	2372.7
15°	2454.5	2428.7	2349.4	2305.1	2281.8
17.5°	2405.5	2368.1	2270.0	2218.6	2181.2
20°	2349.4	2302.6	2185.9	2127.7	2076.1
22.5°	2288.8	2235.0	2099.4	2020.1	1985.2
25°	2228.0	2153.2	1999.1	1903.4	1868.3
27.5°	2155.7	2076.1	1905.7	1796.0	1742.2
30°	2078.6	1989.7	1802.8	1683.9	1620.8
32.5°	2003.8	1896.3	1705.0	1564.7	1506.2
35°	1919.8	1800.6	1595.3	1448.1	1396.5
37.5°	1838.1	1709.4	1492.4	1331.0	1272.9
40°	1751.5	1611.6	1384.8	1219.1	1158.4
42.5°	1662.9	1513.5	1277.5	1104.6	1046.4
45°	1569.5	1412.8	1167.8	1001.8	945.8
47.5°	1480.7	1315.0	1062.7	896.7	845.4
50°	1382.6	1216.9	959.9	798.6	749.8
52.5°	1286.7	1111.5	861.8	707.6	663.3
55°	1193.3	1011.2	758.9	619.0	574.6
57.5°	1097.7	910.8	668.0	537.2	499.8
60°	999.6	812.7	572.1	453.2	415.8
62.5°	903.9	717.1	490.3	378.4	359.7
65°	805.7	616.5	406.4	327.1	319.9
67.5°	712.4	523.1	327.1	287.1	280.3
70°	614.2	432.1	270.8	247.5	238.1
72.5°	520.8	347.9	226.5	207.9	203.2
75°	429.7	266.1	186.8	170.5	168.2
77.5°	338.7	189.0	147.2	137.7	133.1
80°	254.5	135.5	112.0	102.8	102.8
82.5°	177.4	91.2	77.1	72.3	72.3
85°	100.4	51.3	44.3	44.3	44.3
87.5°	37.4	18.6	18.6	16.3	16.3
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	17.27	18.79	17.63	19.10	19.42	13.23	14.75	13.59	15.06	15.38
	3H	19.03	20.40	19.41	20.72	21.09	14.49	15.86	14.87	16.18	16.55
	4H	19.70	20.98	20.10	21.33	21.71	14.99	16.27	15.39	16.62	17.00
	6H	20.19	21.37	20.60	21.74	22.13	15.37	16.56	15.79	16.92	17.32
	8H	20.35	21.48	20.78	21.87	22.27	15.50	16.63	15.93	17.02	17.42
	12H	20.46	21.53	20.89	21.92	22.34	15.58	16.66	16.01	17.04	17.47
4H	2H	17.37	18.65	17.77	19.00	19.38	13.92	15.20	14.32	15.55	15.93
	3H	19.30	20.37	19.71	20.77	21.17	15.37	16.43	15.78	16.83	17.23
	4H	20.05	21.01	20.49	21.42	21.86	15.96	16.92	16.40	17.34	17.78
	6H	20.64	21.48	21.10	21.92	22.38	16.45	17.28	16.91	17.73	18.19
	8H	20.86	21.64	21.32	22.08	22.55	16.61	17.39	17.08	17.84	18.30
	12H	21.01	21.71	21.49	22.19	22.66	16.73	17.43	17.21	17.90	18.38
8H	4H	20.08	20.85	20.54	21.30	21.77	16.32	17.10	16.78	17.54	18.01
	6H	20.71	21.36	21.21	21.85	22.33	16.91	17.55	17.40	18.04	18.52
	8H	20.96	21.54	21.48	22.05	22.54	17.13	17.70	17.64	18.21	18.70
	12H	21.17	21.68	21.68	22.17	22.74	17.30	17.81	17.81	18.31	18.87
12H	4H	20.06	20.76	20.54	21.23	21.71	16.36	17.06	16.84	17.53	18.01
	6H	20.70	21.27	21.21	21.78	22.27	16.97	17.55	17.48	18.06	18.54
	8H	20.98	21.49	21.49	21.98	22.55	17.24	17.75	17.75	18.24	18.81