

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: P931098

Luminaire Tested: DFN2DS-SQ4F0-070DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931098
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-SQ4F0-070DS940-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

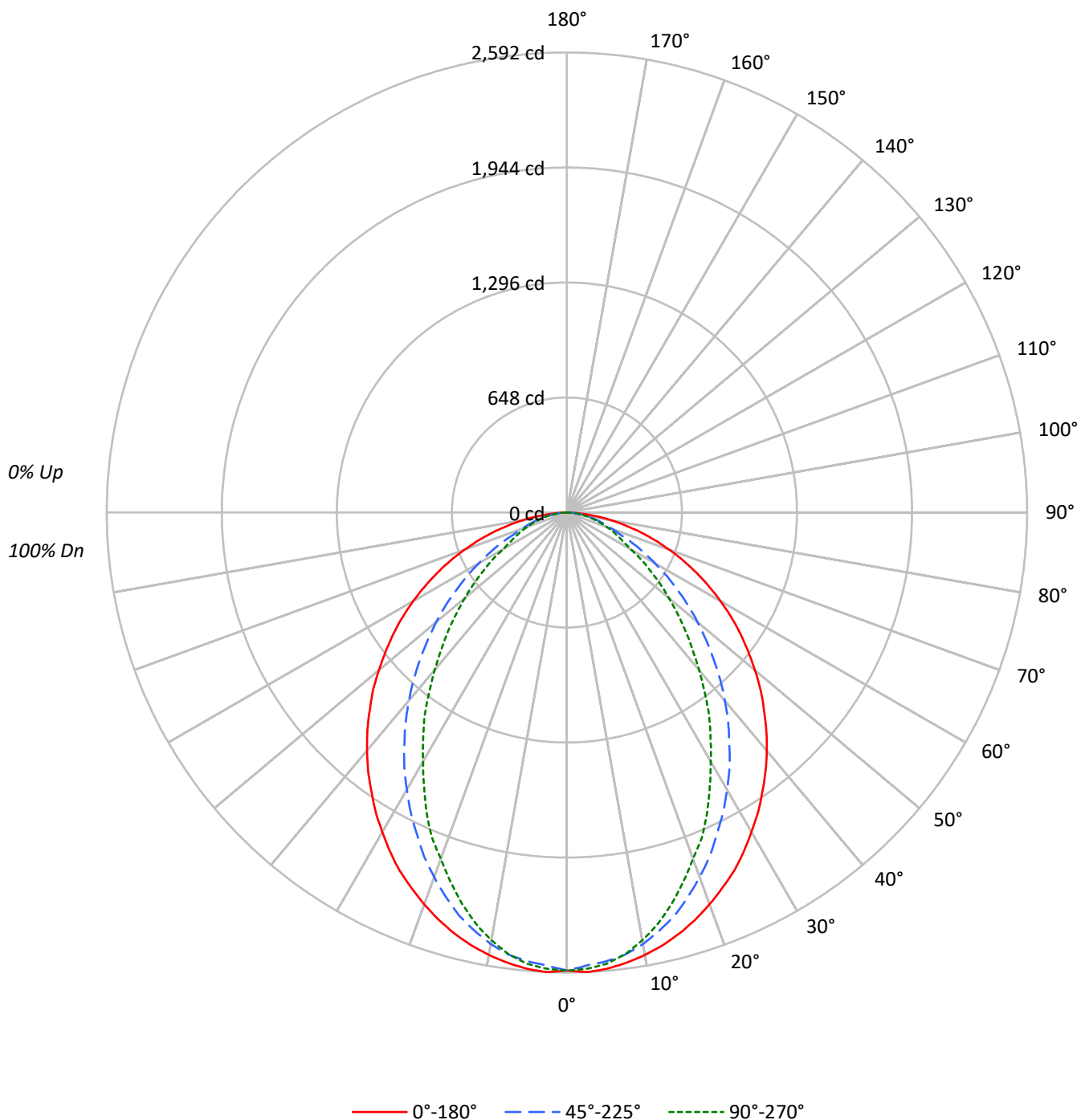
Lumens per Lamp: N/A
Luminaire Lumens: 5307.4 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 69.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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°	1811	1811	1811
5°	1818	1788	1798
10°	1804	1759	1744
15°	1783	1707	1658
20°	1754	1632	1550
25°	1725	1548	1446
30°	1684	1461	1313
35°	1644	1367	1196
40°	1604	1268	1061
45°	1557	1159	939
50°	1509	1048	818
55°	1460	928	703
60°	1403	803	584
65°	1338	675	531
70°	1260	556	488
75°	1165	506	456
80°	1028	453	415
85°	808	357	357

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1557 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	13.30	14.82	13.66	15.13	15.45	9.26	10.78	9.62	11.09	11.41
	3H	15.06	16.43	15.44	16.76	17.12	10.52	11.89	10.90	12.22	12.58
	4H	15.73	17.01	16.13	17.36	17.74	11.03	12.31	11.42	12.65	13.03
	6H	16.22	17.40	16.63	17.77	18.16	11.41	12.59	11.82	12.96	13.35
	8H	16.38	17.51	16.81	17.90	18.30	11.53	12.66	11.96	13.05	13.45
	12H	16.49	17.56	16.92	17.95	18.38	11.61	12.69	12.04	13.07	13.50
4H	2H	13.40	14.68	13.80	15.03	15.41	9.95	11.23	10.35	11.58	11.96
	3H	15.33	16.40	15.75	16.80	17.20	11.40	12.46	11.81	12.86	13.26
	4H	16.08	17.04	16.52	17.46	17.90	12.00	12.95	12.43	13.37	13.81
	6H	16.68	17.51	17.13	17.95	18.41	12.48	13.32	12.94	13.76	14.22
	8H	16.89	17.67	17.35	18.11	18.58	12.65	13.42	13.11	13.87	14.33
	12H	17.04	17.74	17.53	18.22	18.69	12.76	13.46	13.25	13.94	14.41
8H	4H	16.11	16.89	16.57	17.33	17.80	12.35	13.13	12.81	13.57	14.04
	6H	16.75	17.39	17.24	17.88	18.36	12.94	13.58	13.43	14.07	14.55
	8H	17.00	17.57	17.51	18.08	18.57	13.16	13.73	13.67	14.24	14.73
	12H	17.20	17.71	17.71	18.20	18.77	13.34	13.85	13.85	14.34	14.90
12H	4H	16.09	16.79	16.58	17.27	17.74	12.39	13.09	12.88	13.57	14.04
	6H	16.73	17.30	17.24	17.81	18.30	13.00	13.58	13.51	14.09	14.58
	8H	17.01	17.52	17.52	18.01	18.58	13.27	13.78	13.78	14.27	14.84