

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: P931096

Luminaire Tested: DFN2DS-SQ4F0-070DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931096
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-SQ4F0-070DS935-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

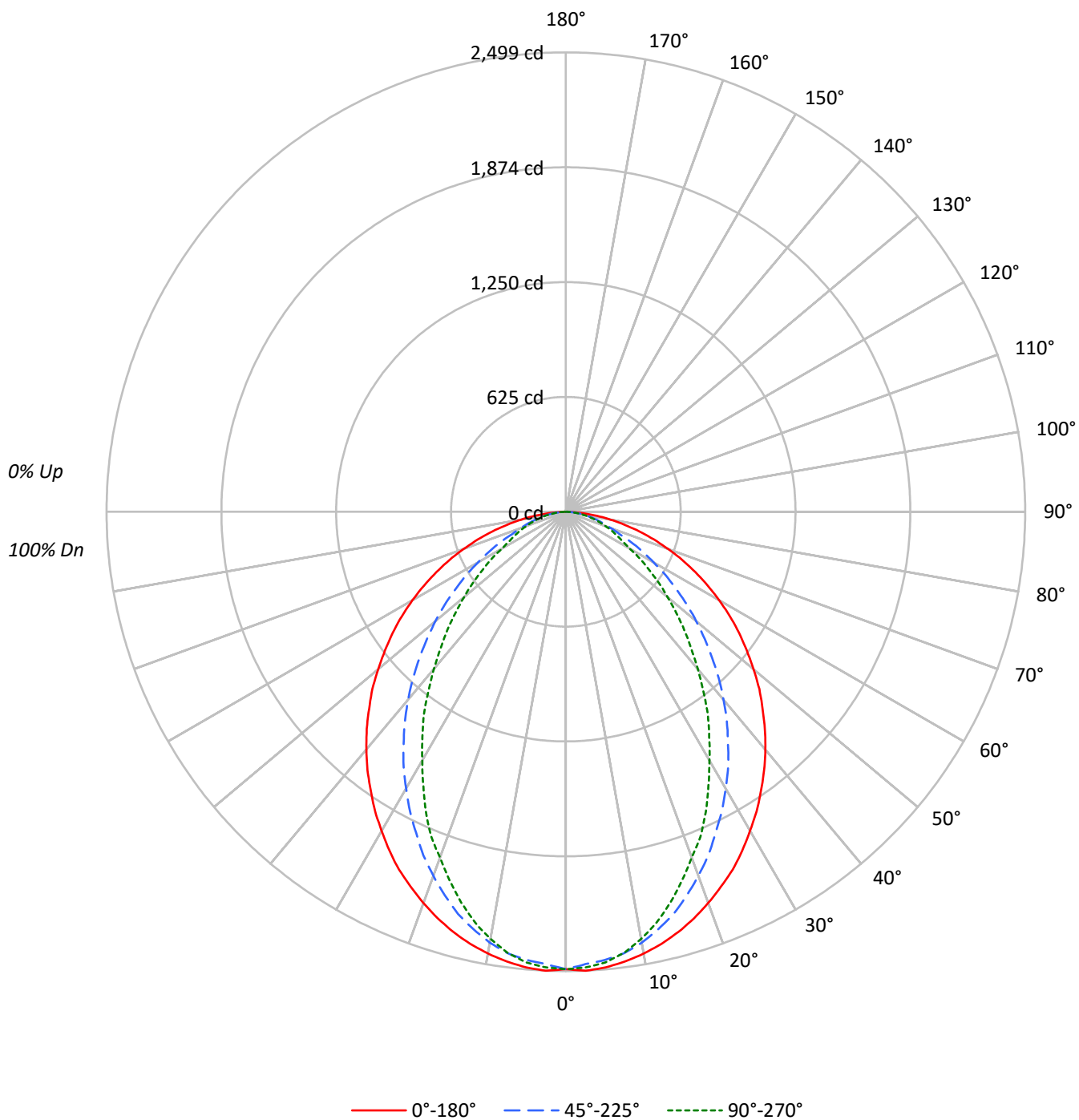
Lumens per Lamp: N/A
Luminaire Lumens: 5117.0 lumens
Efficiency: N/A
Efficacy: 73.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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°	1746	1746	1746
5°	1753	1724	1733
10°	1739	1696	1681
15°	1719	1646	1598
20°	1691	1574	1495
25°	1663	1492	1395
30°	1624	1408	1266
35°	1585	1317	1153
40°	1547	1223	1023
45°	1502	1117	905
50°	1455	1010	789
55°	1407	895	678
60°	1352	774	562
65°	1290	651	512
70°	1215	536	471
75°	1123	488	440
80°	992	436	401
85°	779	344	344

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1502 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.2	4.6
10°-20°	640.1	12.5
20°-30°	898.7	17.6
30°-40°	979.7	19.1
40°-50°	900.4	17.6
50°-60°	707.1	13.8
60°-70°	460.3	9.0
70°-80°	236.9	4.6
80°-90°	60.5	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°	1772.1	34.6
0°-40°	2751.7	53.8
0°-60°	4359.3	85.2
0°-90°	5117.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5117.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2488	2488	2488	2488	2488	
5°	2488	2477	2448	2468	2461	236
15°	2366	2342	2265	2222	2200	667
25°	2148	2076	1927	1835	1801	988
35°	1851	1736	1538	1396	1346	1158
45°	1513	1362	1126	966	912	1169
55°	1150	975	732	597	554	1028
65°	777	594	392	315	308	770
75°	414	256	180	164	162	438
85°	97	49	43	43	43	116
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2488.1	2488.1	2488.1	2488.1	2488.1
2.5°	2499.2	2488.1	2463.2	2485.9	2481.4
5°	2488.1	2476.8	2447.5	2467.8	2461.1
7.5°	2467.8	2454.4	2422.9	2431.6	2420.5
10°	2440.8	2425.0	2380.0	2373.2	2359.8
12.5°	2407.1	2386.8	2325.9	2312.5	2287.6
15°	2366.5	2341.6	2265.2	2222.4	2200.0
17.5°	2319.2	2283.1	2188.5	2139.0	2103.0
20°	2265.2	2220.0	2107.5	2051.4	2001.6
22.5°	2206.7	2154.8	2024.1	1947.6	1914.0
25°	2148.1	2076.0	1927.3	1835.2	1801.3
27.5°	2078.4	2001.6	1837.3	1731.5	1679.7
30°	2004.1	1918.3	1738.1	1623.5	1562.6
32.5°	1931.9	1828.3	1643.8	1508.6	1452.2
35°	1850.9	1736.0	1538.0	1396.1	1346.4
37.5°	1772.1	1648.1	1438.9	1283.3	1227.2
40°	1688.7	1553.8	1335.2	1175.4	1116.8
42.5°	1603.2	1459.2	1231.7	1064.9	1008.9
45°	1513.2	1362.2	1125.9	965.9	911.9
47.5°	1427.6	1267.8	1024.6	864.6	815.1
50°	1333.0	1173.2	925.4	770.0	722.9
52.5°	1240.6	1071.6	830.8	682.2	639.5
55°	1150.5	974.9	731.7	596.8	554.0
57.5°	1058.3	878.1	644.1	517.9	481.9
60°	963.7	783.5	551.6	437.0	400.8
62.5°	871.4	691.4	472.7	364.8	346.8
65°	776.8	594.3	391.8	315.4	308.4
67.5°	686.8	504.3	315.4	276.8	270.2
70°	592.2	416.6	261.1	238.6	229.5
72.5°	502.2	335.4	218.4	200.5	195.9
75°	414.3	256.5	180.1	164.3	162.2
77.5°	326.5	182.2	141.9	132.8	128.3
80°	245.4	130.6	108.0	99.2	99.2
82.5°	171.1	87.9	74.3	69.7	69.7
85°	96.8	49.4	42.7	42.7	42.7
87.5°	36.0	17.9	17.9	15.7	15.7
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	13.17	14.69	13.54	15.01	15.32	9.13	10.65	9.50	10.97	11.28
	3H	14.94	16.30	15.31	16.63	16.99	10.40	11.76	10.77	12.09	12.45
	4H	15.60	16.88	16.00	17.23	17.61	10.90	12.18	11.30	12.53	12.91
	6H	16.09	17.27	16.50	17.64	18.03	11.28	12.46	11.69	12.83	13.22
	8H	16.26	17.38	16.68	17.77	18.17	11.40	12.53	11.83	12.92	13.32
	12H	16.36	17.44	16.79	17.82	18.25	11.48	12.56	11.91	12.94	13.37
4H	2H	13.27	14.55	13.67	14.90	15.28	9.83	11.11	10.23	11.46	11.83
	3H	15.21	16.27	15.62	16.67	17.07	11.27	12.33	11.68	12.73	13.13
	4H	15.96	16.91	16.39	17.33	17.77	11.87	12.83	12.30	13.24	13.68
	6H	16.55	17.38	17.01	17.82	18.28	12.36	13.19	12.81	13.63	14.09
	8H	16.76	17.54	17.23	17.98	18.45	12.52	13.30	12.98	13.74	14.21
	12H	16.92	17.61	17.40	18.09	18.56	12.64	13.33	13.12	13.81	14.28
8H	4H	15.98	16.76	16.44	17.20	17.67	12.22	13.00	12.69	13.44	13.91
	6H	16.62	17.26	17.12	17.75	18.23	12.81	13.45	13.31	13.94	14.42
	8H	16.87	17.45	17.38	17.96	18.44	13.03	13.61	13.54	14.12	14.61
	12H	17.07	17.58	17.58	18.08	18.64	13.21	13.72	13.72	14.21	14.78
12H	4H	15.97	16.66	16.45	17.14	17.61	12.27	12.96	12.75	13.44	13.91
	6H	16.60	17.18	17.11	17.69	18.17	12.87	13.45	13.39	13.96	14.45
	8H	16.88	17.39	17.39	17.89	18.45	13.15	13.66	13.66	14.15	14.71