

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: P930818

Luminaire Tested: DFN2DS-SQ2F0-040DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930818
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-SQ2F0-040DS840-RLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

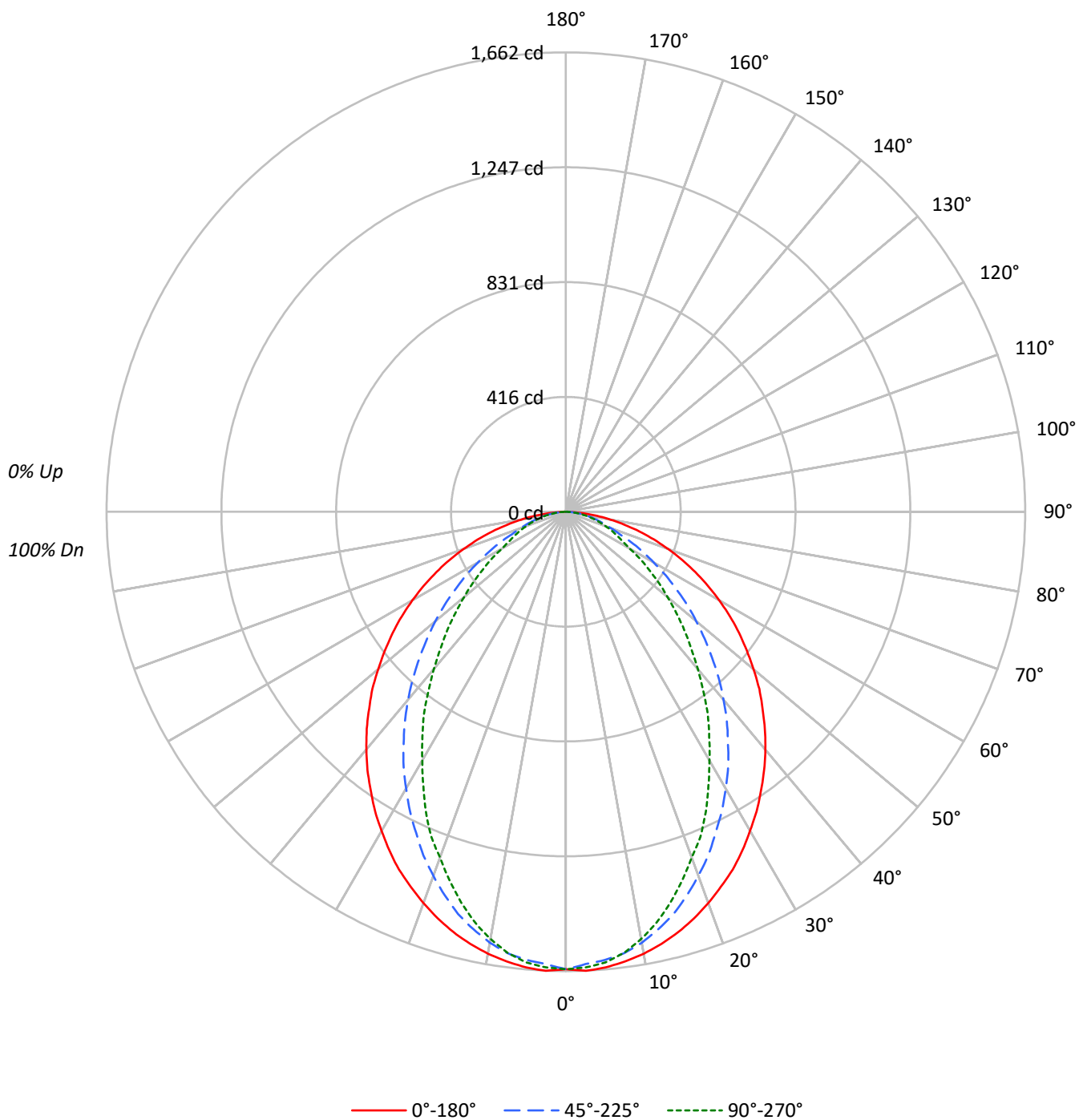
Lumens per Lamp: N/A
Luminaire Lumens: 3403.4 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')
CIE Type: Direct

Input Watts (W): 37.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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°	3639	3639	3639
5°	3653	3593	3613
10°	3625	3535	3505
15°	3583	3430	3331
20°	3525	3280	3115
25°	3466	3110	2907
30°	3384	2935	2639
35°	3305	2746	2404
40°	3224	2549	2132
45°	3130	2329	1886
50°	3033	2106	1645
55°	2934	1866	1413
60°	2819	1614	1173
65°	2688	1356	1067
70°	2532	1117	982
75°	2341	1018	917
80°	2067	909	836
85°	1625	717	717

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3130 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.1	4.6
10°-20°	425.8	12.5
20°-30°	597.8	17.6
30°-40°	651.6	19.1
40°-50°	598.9	17.6
50°-60°	470.3	13.8
60°-70°	306.1	9.0
70°-80°	157.6	4.6
80°-90°	40.2	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°	1178.6	34.6
0°-40°	1830.2	53.8
0°-60°	2899.4	85.2
0°-90°	3403.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3403.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1655	1655	1655	1655	1655	
5°	1655	1647	1628	1641	1637	157
15°	1574	1558	1507	1478	1463	444
25°	1429	1381	1282	1221	1198	657
35°	1231	1155	1023	928	896	771
45°	1006	906	749	642	606	777
55°	765	648	487	397	368	684
65°	517	395	261	210	205	512
75°	276	171	120	109	108	291
85°	64	33	28	28	28	77
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1654.9	1654.9	1654.9	1654.9	1654.9
2.5°	1662.4	1654.9	1638.3	1653.5	1650.3
5°	1654.9	1647.3	1627.8	1641.3	1636.9
7.5°	1641.3	1632.4	1611.5	1617.3	1609.9
10°	1623.4	1612.9	1583.0	1578.4	1569.6
12.5°	1601.0	1587.5	1546.9	1538.0	1521.5
15°	1574.0	1557.5	1506.6	1478.2	1463.3
17.5°	1542.5	1518.5	1455.6	1422.7	1398.7
20°	1506.6	1476.6	1401.7	1364.4	1331.3
22.5°	1467.7	1433.2	1346.2	1295.4	1273.1
25°	1428.7	1380.8	1281.9	1220.6	1198.0
27.5°	1382.4	1331.3	1222.0	1151.7	1117.1
30°	1332.9	1275.9	1156.1	1079.8	1039.3
32.5°	1285.0	1216.0	1093.3	1003.4	965.9
35°	1231.1	1154.7	1022.9	928.5	895.5
37.5°	1178.7	1096.2	957.0	853.6	816.2
40°	1123.2	1033.4	888.1	781.8	742.8
42.5°	1066.3	970.5	819.2	708.3	671.0
45°	1006.4	906.0	748.8	642.4	606.5
47.5°	949.5	843.2	681.5	575.1	542.1
50°	886.6	780.3	615.5	512.1	480.8
52.5°	825.1	712.8	552.7	453.8	425.3
55°	765.3	648.4	486.7	396.9	368.5
57.5°	703.9	584.1	428.3	344.4	320.5
60°	640.9	521.1	366.9	290.6	266.7
62.5°	579.7	459.9	314.4	242.6	230.7
65°	516.7	395.3	260.6	209.7	205.1
67.5°	456.9	335.4	209.7	184.2	179.7
70°	393.9	277.1	173.7	158.8	152.7
72.5°	334.0	223.1	145.2	133.3	130.3
75°	275.5	170.7	119.8	109.3	107.9
77.5°	217.2	121.2	94.4	88.4	85.3
80°	163.2	86.9	71.8	66.0	66.0
82.5°	113.8	58.5	49.4	46.3	46.3
85°	64.4	32.9	28.4	28.4	28.4
87.5°	24.0	11.9	11.9	10.5	10.5
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	15.72	17.24	16.09	17.56	17.87	11.68	13.20	12.05	13.52	13.83
	3H	17.49	18.85	17.87	19.18	19.54	12.95	14.31	13.33	14.64	15.00
	4H	18.15	19.43	18.55	19.78	20.16	13.45	14.73	13.85	15.08	15.46
	6H	18.64	19.83	19.06	20.19	20.58	13.83	15.01	14.24	15.38	15.77
	8H	18.81	19.94	19.23	20.32	20.73	13.96	15.08	14.38	15.47	15.87
	12H	18.91	19.99	19.34	20.37	20.80	14.04	15.11	14.47	15.50	15.93
4H	2H	15.83	17.11	16.23	17.46	17.83	12.38	13.66	12.78	14.01	14.39
	3H	17.76	18.82	18.17	19.22	19.62	13.82	14.88	14.23	15.28	15.69
	4H	18.51	19.47	18.94	19.88	20.32	14.42	15.38	14.85	15.79	16.23
	6H	19.10	19.93	19.56	20.38	20.84	14.91	15.74	15.37	16.18	16.64
	8H	19.32	20.09	19.78	20.54	21.00	15.07	15.85	15.53	16.29	16.76
	12H	19.47	20.16	19.95	20.64	21.11	15.19	15.88	15.67	16.36	16.83
8H	4H	18.53	19.31	19.00	19.75	20.22	14.77	15.55	15.24	16.00	16.46
	6H	19.17	19.81	19.67	20.30	20.78	15.36	16.00	15.86	16.50	16.97
	8H	19.42	20.00	19.94	20.51	21.00	15.58	16.16	16.10	16.67	17.16
	12H	19.63	20.14	20.14	20.63	21.19	15.76	16.27	16.27	16.76	17.33
12H	4H	18.52	19.21	19.00	19.69	20.16	14.82	15.51	15.30	15.99	16.46
	6H	19.15	19.73	19.67	20.24	20.73	15.43	16.00	15.94	16.51	17.00
	8H	19.44	19.95	19.95	20.44	21.00	15.70	16.21	16.21	16.70	17.26