

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: P929881

Luminaire Tested: DFN2DS-4P3F0-040DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929881
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P3F0-040DS840-FLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

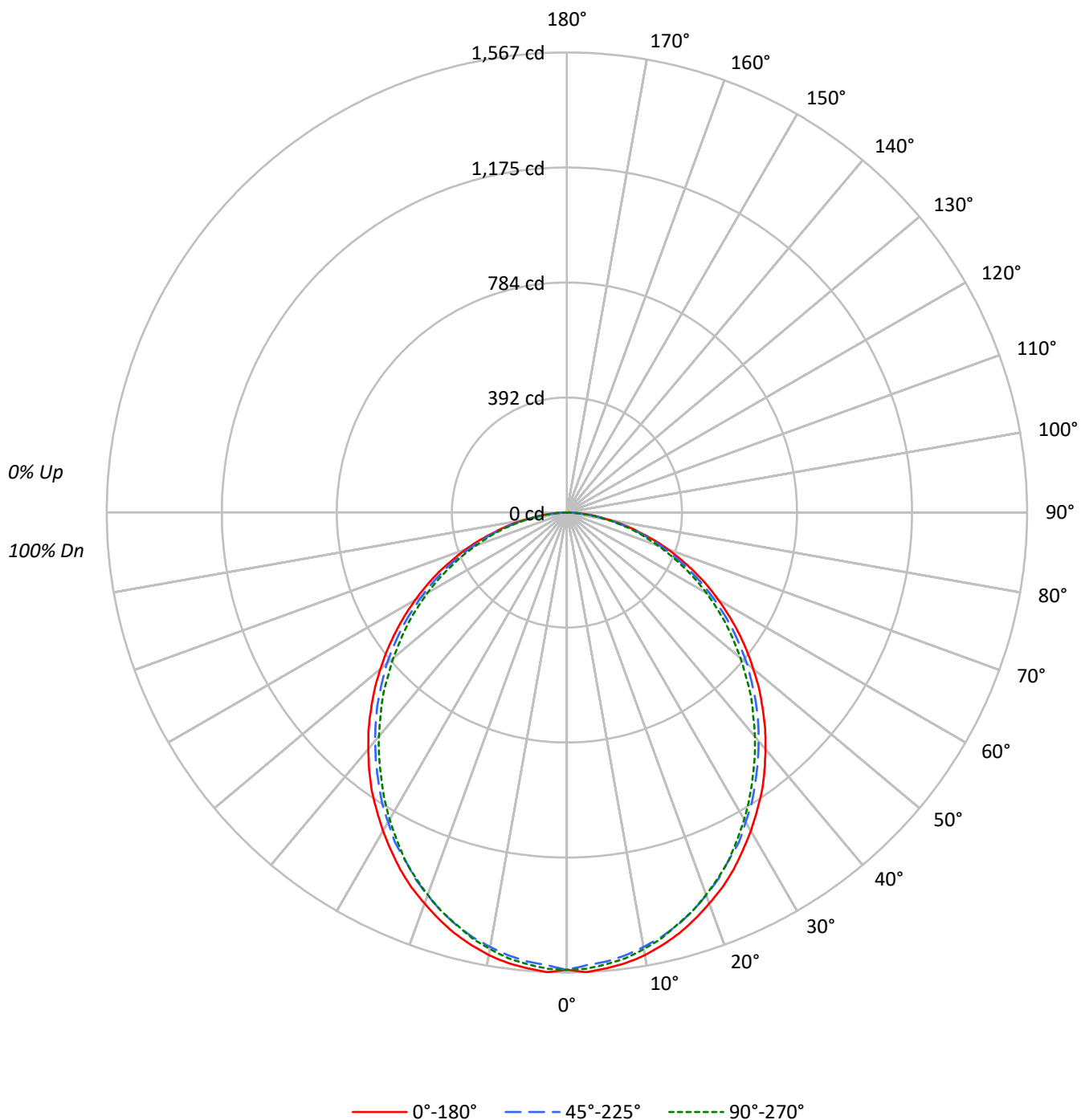
Lumens per Lamp: N/A
Luminaire Lumens: 3963.9 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 40.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1775	1775	1775
5°	1782	1757	1767
10°	1772	1739	1747
15°	1750	1716	1715
20°	1719	1682	1681
25°	1688	1641	1641
30°	1648	1603	1589
35°	1611	1557	1534
40°	1565	1511	1482
45°	1519	1465	1429
50°	1469	1418	1368
55°	1417	1363	1313
60°	1359	1298	1250
65°	1297	1232	1176
70°	1218	1153	1098
75°	1108	1062	1036
80°	983	953	904
85°	803	765	686

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1519 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.6	3.7
10°-20°	412.6	10.4
20°-30°	606.3	15.3
30°-40°	704.2	17.8
40°-50°	703.3	17.7
50°-60°	613.3	15.5
60°-70°	453.4	11.4
70°-80°	256.5	6.5
80°-90°	67.7	1.7
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°	1165.5	29.4
0°-40°	1869.8	47.2
0°-60°	3186.4	80.4
0°-90°	3963.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3963.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1558	1558	1558	1558	1558	
5°	1558	1552	1536	1547	1545	148
15°	1483	1474	1455	1461	1453	418
25°	1342	1330	1305	1308	1305	618
35°	1158	1143	1119	1110	1103	723
45°	942	932	909	893	887	727
55°	713	704	686	668	661	638
65°	481	472	457	443	436	476
75°	252	249	241	232	235	269
85°	61	60	58	54	52	72
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1558.0	1558.0	1558.0	1558.0	1558.0
2.5°	1567.1	1559.6	1543.0	1558.0	1555.2
5°	1558.0	1552.1	1535.5	1547.4	1544.6
7.5°	1547.4	1538.5	1522.0	1534.1	1531.1
10°	1531.1	1520.6	1502.7	1514.6	1510.1
12.5°	1508.5	1499.6	1481.7	1489.2	1486.1
15°	1483.1	1474.2	1454.7	1460.7	1453.3
17.5°	1451.7	1442.7	1423.2	1430.6	1423.2
20°	1417.1	1408.2	1387.3	1391.7	1385.9
22.5°	1382.8	1369.3	1349.7	1349.7	1346.7
25°	1342.2	1330.3	1304.9	1307.8	1304.9
27.5°	1297.3	1286.8	1267.5	1263.0	1255.6
30°	1252.5	1240.4	1218.0	1213.5	1207.5
32.5°	1204.5	1195.6	1171.6	1162.6	1156.5
35°	1158.1	1143.1	1119.1	1110.1	1102.6
37.5°	1105.6	1092.1	1068.1	1057.7	1050.1
40°	1051.8	1039.6	1015.6	1002.3	996.3
42.5°	999.3	987.2	963.4	948.2	939.3
45°	942.3	931.9	909.3	893.0	886.9
47.5°	886.9	876.4	852.5	835.9	827.0
50°	828.4	820.9	800.0	779.0	771.5
52.5°	771.5	761.1	741.6	725.1	714.6
55°	713.2	704.1	686.2	668.2	660.8
57.5°	654.7	647.2	627.6	609.7	603.7
60°	596.2	590.3	569.4	552.9	548.3
62.5°	539.3	528.8	513.9	498.9	492.9
65°	481.0	471.9	457.0	443.4	436.0
67.5°	421.0	413.4	400.1	389.6	383.6
70°	365.6	359.6	346.0	335.5	329.6
72.5°	308.7	302.6	295.2	284.7	280.2
75°	251.7	248.7	241.1	232.2	235.2
77.5°	200.7	194.7	191.7	187.2	182.8
80°	149.8	148.2	145.2	140.8	137.8
82.5°	101.9	101.9	100.5	94.4	94.4
85°	61.4	60.0	58.5	53.9	52.5
87.5°	27.0	24.0	21.0	16.5	14.9
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	13.28	14.89	13.64	15.20	15.52	12.83	14.44	13.20	14.76	15.07
	3H	15.03	16.48	15.40	16.81	17.17	14.54	15.99	14.91	16.32	16.68
	4H	15.67	17.04	16.07	17.39	17.77	15.18	16.55	15.58	16.90	17.27
	6H	16.14	17.41	16.55	17.78	18.17	15.64	16.91	16.05	17.27	17.67
	8H	16.29	17.50	16.71	17.89	18.28	15.78	16.99	16.21	17.38	17.78
	12H	16.38	17.54	16.81	17.92	18.35	15.86	17.02	16.29	17.41	17.83
4H	2H	13.84	15.21	14.24	15.55	15.93	13.48	14.85	13.88	15.20	15.58
	3H	15.81	16.96	16.22	17.36	17.76	15.41	16.55	15.82	16.95	17.35
	4H	16.59	17.63	17.02	18.04	18.47	16.17	17.20	16.60	17.61	18.05
	6H	17.19	18.09	17.64	18.53	18.99	16.75	17.66	17.21	18.10	18.55
	8H	17.37	18.22	17.84	18.66	19.13	16.94	17.78	17.40	18.23	18.69
	12H	17.51	18.27	17.99	18.74	19.21	17.05	17.81	17.53	18.29	18.76
8H	4H	16.86	17.71	17.32	18.15	18.62	16.49	17.33	16.95	17.78	18.24
	6H	17.58	18.28	18.07	18.77	19.24	17.19	17.90	17.69	18.39	18.86
	8H	17.84	18.47	18.35	18.97	19.46	17.44	18.07	17.95	18.58	19.07
	12H	18.04	18.59	18.54	19.08	19.65	17.62	18.18	18.13	18.67	19.23
12H	4H	16.89	17.65	17.37	18.12	18.59	16.52	17.28	17.00	17.76	18.23
	6H	17.62	18.25	18.13	18.76	19.25	17.25	17.89	17.76	18.39	18.88
	8H	17.94	18.49	18.44	18.98	19.55	17.56	18.12	18.06	18.61	19.17