

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: P931475

Luminaire Tested: DFN2DS-TR4F0-050DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931475
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-TR4F0-050DS940-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

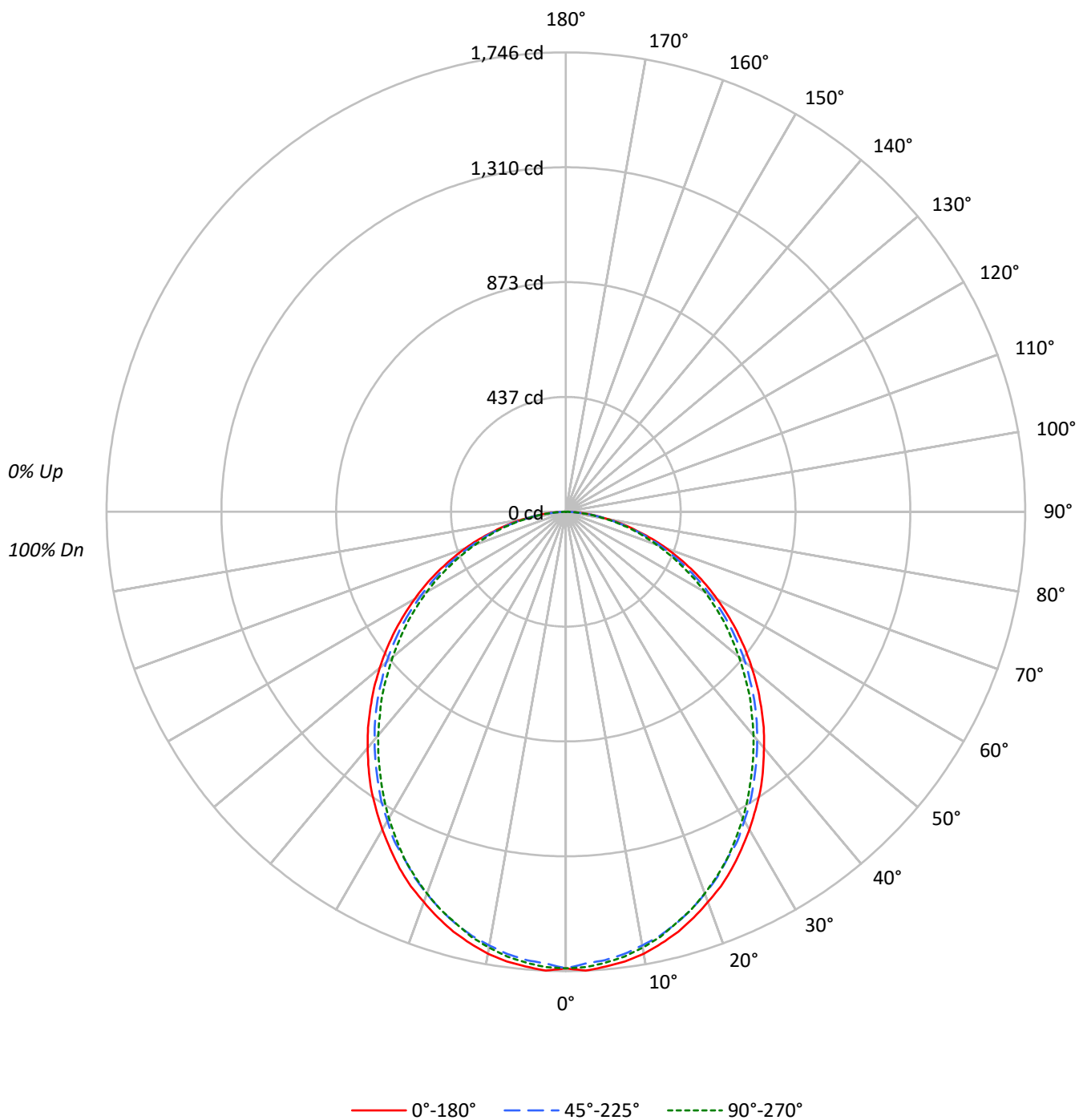
Lumens per Lamp: N/A
Luminaire Lumens: 4415.4 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 48.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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°	1379	1379	1379
5°	1384	1364	1372
10°	1376	1350	1357
15°	1359	1333	1331
20°	1335	1306	1305
25°	1311	1274	1274
30°	1280	1245	1234
35°	1251	1209	1191
40°	1215	1173	1151
45°	1179	1138	1110
50°	1141	1101	1062
55°	1100	1059	1019
60°	1055	1008	970
65°	1007	957	913
70°	946	895	853
75°	860	824	805
80°	764	740	702
85°	623	593	532

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1179 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.3	3.7
10°-20°	459.6	10.4
20°-30°	675.4	15.3
30°-40°	784.4	17.8
40°-50°	783.4	17.7
50°-60°	683.1	15.5
60°-70°	505.0	11.4
70°-80°	285.7	6.5
80°-90°	75.4	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°	1298.3	29.4
0°-40°	2082.7	47.2
0°-60°	3549.3	80.4
0°-90°	4415.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4415.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1735	1735	1735	1735	1735	
5°	1735	1729	1710	1724	1721	165
15°	1652	1642	1620	1627	1619	465
25°	1495	1482	1454	1457	1454	688
35°	1290	1273	1247	1236	1228	806
45°	1050	1038	1013	995	988	810
55°	794	784	764	744	736	710
65°	536	526	509	494	486	530
75°	280	277	269	259	262	299
85°	68	67	65	60	58	80
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1735.4	1735.4	1735.4	1735.4	1735.4
2.5°	1745.5	1737.2	1718.8	1735.4	1732.3
5°	1735.4	1728.9	1710.4	1723.7	1720.6
7.5°	1723.7	1713.8	1695.4	1708.9	1705.5
10°	1705.5	1693.8	1673.8	1687.0	1682.1
12.5°	1680.3	1670.4	1650.5	1658.8	1655.4
15°	1652.0	1642.1	1620.3	1627.1	1618.7
17.5°	1616.9	1607.0	1585.3	1593.6	1585.3
20°	1578.6	1568.7	1545.3	1550.2	1543.7
22.5°	1540.3	1525.2	1503.5	1503.5	1500.1
25°	1495.2	1481.9	1453.5	1456.7	1453.5
27.5°	1445.0	1433.4	1411.8	1406.8	1398.5
30°	1395.1	1381.7	1356.7	1351.7	1345.0
32.5°	1341.7	1331.8	1305.0	1294.9	1288.2
35°	1289.9	1273.3	1246.6	1236.5	1228.2
37.5°	1231.5	1216.5	1189.7	1178.1	1169.8
40°	1171.6	1158.1	1131.3	1116.4	1109.7
42.5°	1113.1	1099.7	1073.1	1056.2	1046.3
45°	1049.7	1038.0	1012.9	994.7	987.9
47.5°	987.9	976.2	949.5	931.1	921.2
50°	922.8	914.5	891.1	867.7	859.4
52.5°	859.4	847.7	826.1	807.7	796.0
55°	794.4	784.3	764.3	744.3	736.0
57.5°	729.2	720.9	699.1	679.2	672.4
60°	664.1	657.6	634.2	615.7	610.8
62.5°	600.8	589.1	572.4	555.7	549.0
65°	535.7	525.7	509.0	494.0	485.6
67.5°	469.0	460.5	445.6	434.0	427.2
70°	407.2	400.5	385.4	373.7	367.2
72.5°	343.9	337.1	328.8	317.1	312.1
75°	280.3	277.1	268.6	258.7	262.1
77.5°	223.6	216.8	213.5	208.5	203.6
80°	167.0	165.2	161.8	156.9	153.5
82.5°	113.5	113.5	111.9	105.2	105.2
85°	68.3	66.7	65.1	60.0	58.4
87.5°	30.1	26.8	23.4	18.4	16.7
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	12.40	14.01	12.76	14.32	14.64	11.95	13.56	12.32	13.88	14.19
	3H	14.15	15.60	14.53	15.93	16.29	13.66	15.11	14.03	15.44	15.80
	4H	14.79	16.16	15.19	16.51	16.89	14.30	15.67	14.70	16.02	16.39
	6H	15.26	16.53	15.67	16.90	17.29	14.76	16.03	15.17	16.40	16.79
	8H	15.41	16.62	15.83	17.01	17.41	14.90	16.11	15.33	16.50	16.90
	12H	15.50	16.66	15.93	17.04	17.47	14.99	16.15	15.41	16.53	16.96
4H	2H	12.96	14.33	13.36	14.68	15.05	12.61	13.98	13.00	14.32	14.70
	3H	14.93	16.08	15.34	16.48	16.88	14.53	15.67	14.94	16.07	16.47
	4H	15.71	16.75	16.14	17.16	17.60	15.29	16.32	15.72	16.74	17.17
	6H	16.31	17.21	16.76	17.65	18.11	15.87	16.78	16.33	17.22	17.68
	8H	16.50	17.34	16.96	17.79	18.25	16.06	16.90	16.52	17.35	17.81
	12H	16.63	17.39	17.11	17.86	18.33	16.18	16.94	16.66	17.41	17.88
8H	4H	15.98	16.83	16.44	17.27	17.74	15.61	16.46	16.07	16.90	17.36
	6H	16.70	17.40	17.19	17.89	18.36	16.32	17.02	16.81	17.51	17.98
	8H	16.96	17.59	17.47	18.09	18.58	16.57	17.20	17.08	17.70	18.19
	12H	17.16	17.71	17.66	18.21	18.77	16.74	17.30	17.25	17.79	18.35
12H	4H	16.01	16.77	16.49	17.25	17.71	15.65	16.41	16.13	16.88	17.35
	6H	16.74	17.38	17.25	17.88	18.37	16.37	17.01	16.88	17.51	18.00
	8H	17.06	17.61	17.56	18.11	18.67	16.68	17.24	17.19	17.73	18.29