

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: P929874

Luminaire Tested: DFN2DS-4P3F0-030DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929874
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-4P3F0-030DS940-RLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

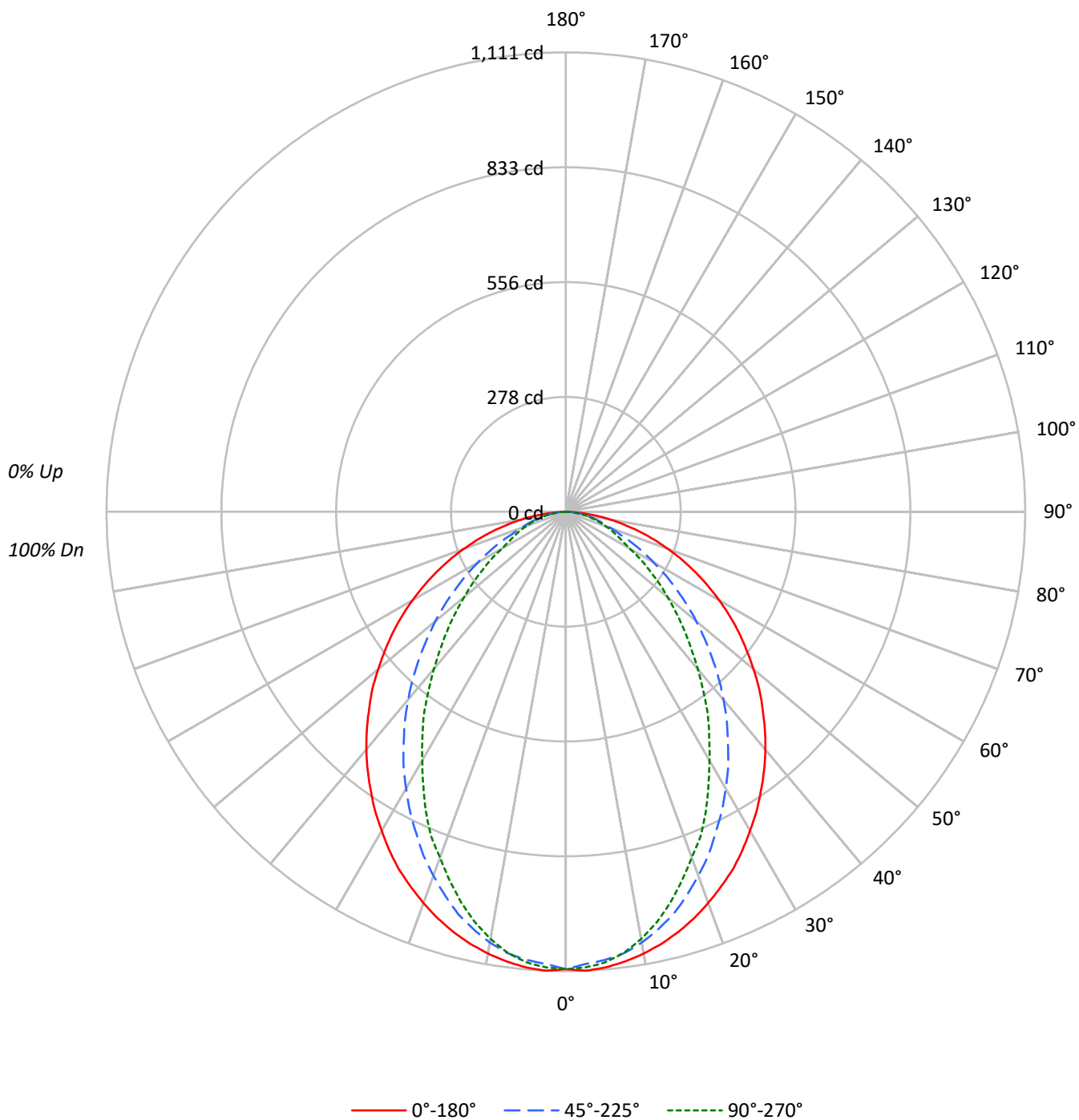
Lumens per Lamp: N/A
Luminaire Lumens: 2274.6 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 28.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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°	1260	1260	1260
5°	1265	1245	1251
10°	1255	1224	1214
15°	1241	1188	1154
20°	1221	1136	1079
25°	1201	1077	1007
30°	1172	1017	914
35°	1145	951	833
40°	1117	883	739
45°	1084	807	653
50°	1051	729	570
55°	1016	646	489
60°	976	559	406
65°	931	469	370
70°	877	387	340
75°	811	353	317
80°	716	315	289
85°	562	248	248

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1084 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.7	4.6
10°-20°	284.6	12.5
20°-30°	399.5	17.6
30°-40°	435.5	19.1
40°-50°	400.3	17.6
50°-60°	314.3	13.8
60°-70°	204.6	9.0
70°-80°	105.3	4.6
80°-90°	26.9	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°	787.7	34.6
0°-40°	1223.2	53.8
0°-60°	1937.8	85.2
0°-90°	2274.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2274.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1106	1101	1088	1097	1094	105
15°	1052	1041	1007	988	978	296
25°	955	923	857	816	801	439
35°	823	772	684	621	598	515
45°	673	606	500	429	405	519
55°	511	433	325	265	246	457
65°	345	264	174	140	137	342
75°	184	114	80	73	72	195
85°	43	22	19	19	19	52
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1106.0	1106.0	1106.0	1106.0	1106.0
2.5°	1111.0	1106.0	1094.9	1105.0	1103.0
5°	1106.0	1101.0	1088.0	1097.0	1093.9
7.5°	1097.0	1091.0	1077.0	1080.9	1075.9
10°	1084.9	1078.0	1058.0	1054.9	1049.0
12.5°	1070.0	1060.9	1033.9	1027.9	1016.9
15°	1051.9	1040.9	1006.9	987.9	977.9
17.5°	1030.9	1014.9	972.8	950.9	934.8
20°	1006.9	986.8	936.8	911.9	889.8
22.5°	980.9	957.8	899.8	865.8	850.8
25°	954.9	922.8	856.8	815.7	800.7
27.5°	923.8	889.8	816.7	769.7	746.6
30°	890.8	852.8	772.7	721.7	694.6
32.5°	858.7	812.7	730.7	670.6	645.5
35°	822.8	771.7	683.6	620.6	598.5
37.5°	787.7	732.6	639.6	570.4	545.5
40°	750.7	690.7	593.5	522.4	496.5
42.5°	712.6	648.7	547.5	473.4	448.4
45°	672.7	605.5	500.5	429.3	405.3
47.5°	634.6	563.6	455.5	384.3	362.3
50°	592.6	521.5	411.4	342.3	321.3
52.5°	551.4	476.4	369.4	303.3	284.3
55°	511.4	433.3	325.2	265.3	246.3
57.5°	470.4	390.3	286.3	230.2	214.2
60°	428.3	348.3	245.2	194.2	178.2
62.5°	387.4	307.3	210.2	162.2	154.2
65°	345.3	264.2	174.1	140.1	137.1
67.5°	305.3	224.2	140.1	123.1	120.1
70°	263.2	185.2	116.0	106.1	102.0
72.5°	223.2	149.1	97.0	89.1	87.1
75°	184.1	114.1	80.1	73.1	72.1
77.5°	145.1	81.0	63.1	59.1	57.0
80°	109.1	58.1	48.0	44.1	44.1
82.5°	76.0	39.1	33.0	31.0	31.0
85°	43.0	21.9	19.0	19.0	19.0
87.5°	16.1	7.9	7.9	7.0	7.0
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	12.04	13.56	12.40	13.87	14.19	8.00	9.52	8.36	9.83	10.15
	3H	13.80	15.17	14.18	15.50	15.86	9.26	10.63	9.64	10.96	11.32
	4H	14.47	15.75	14.87	16.10	16.48	9.77	11.05	10.17	11.40	11.77
	6H	14.96	16.14	15.37	16.51	16.90	10.15	11.33	10.56	11.70	12.09
	8H	15.12	16.25	15.55	16.64	17.04	10.27	11.40	10.70	11.79	12.19
	12H	15.23	16.31	15.66	16.69	17.12	10.35	11.43	10.78	11.81	12.24
4H	2H	12.14	13.42	12.54	13.77	14.15	8.69	9.97	9.09	10.32	10.70
	3H	14.08	15.14	14.49	15.54	15.94	10.14	11.20	10.55	11.60	12.00
	4H	14.83	15.78	15.26	16.20	16.64	10.74	11.69	11.17	12.11	12.55
	6H	15.42	16.25	15.87	16.69	17.15	11.23	12.06	11.68	12.50	12.96
	8H	15.63	16.41	16.09	16.85	17.32	11.39	12.17	11.85	12.61	13.08
	12H	15.78	16.48	16.27	16.96	17.43	11.50	12.20	11.99	12.68	13.15
8H	4H	14.85	15.63	15.31	16.07	16.54	11.09	11.87	11.55	12.31	12.78
	6H	15.49	16.13	15.98	16.62	17.10	11.68	12.32	12.18	12.81	13.29
	8H	15.74	16.31	16.25	16.82	17.31	11.90	12.48	12.41	12.99	13.47
	12H	15.94	16.45	16.45	16.94	17.51	12.08	12.59	12.59	13.08	13.64
12H	4H	14.83	15.53	15.32	16.01	16.48	11.13	11.83	11.62	12.31	12.78
	6H	15.47	16.05	15.98	16.55	17.04	11.74	12.32	12.26	12.83	13.32
	8H	15.75	16.26	16.26	16.75	17.32	12.01	12.52	12.52	13.02	13.58