

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: P930417

Luminaire Tested: DFN2DS-PN2F0-020DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930417
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-PN2F0-020DS830-FLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

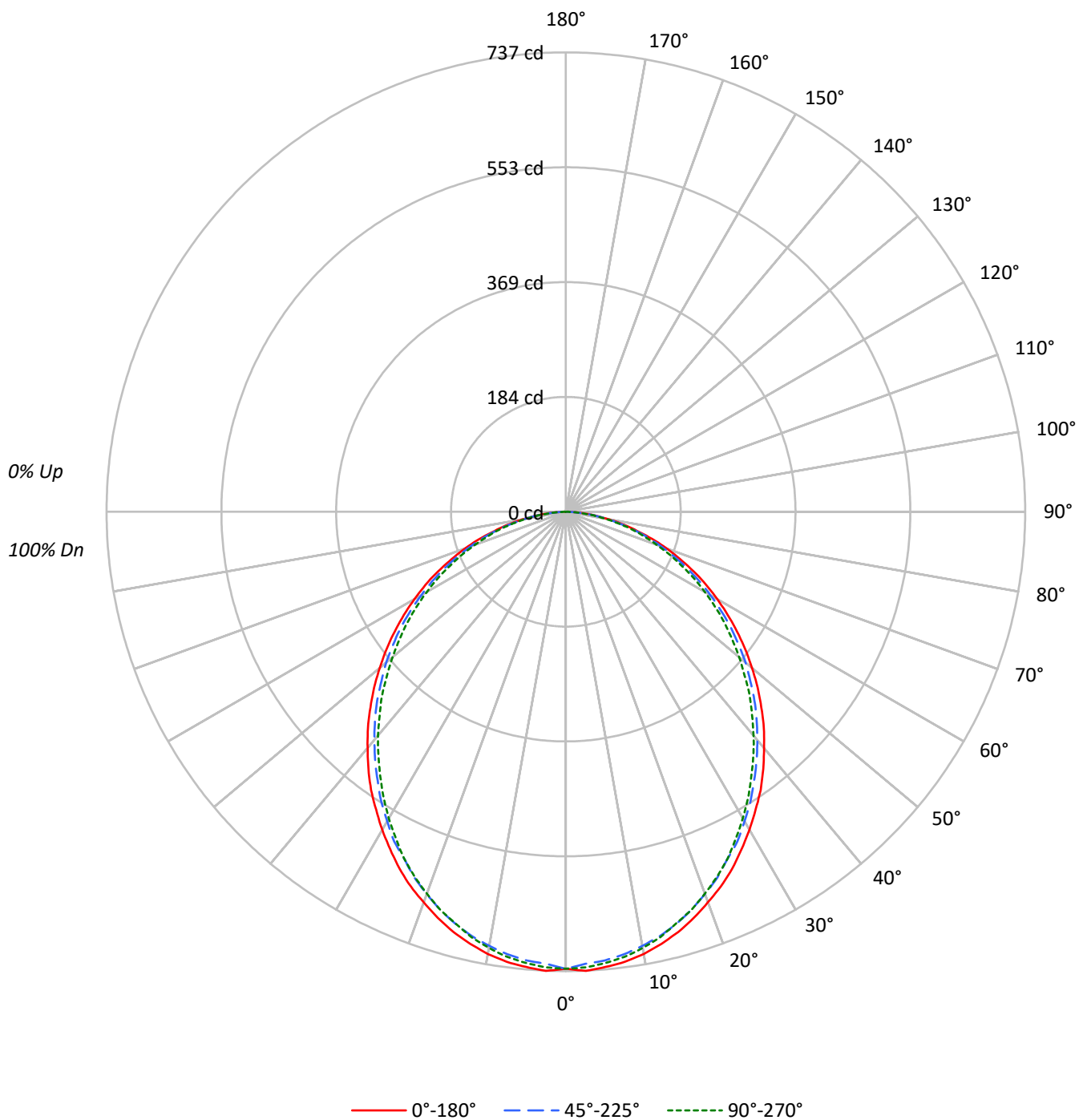
Lumens per Lamp: N/A
Luminaire Lumens: 1865.2 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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°	1588	1588	1588
5°	1594	1571	1580
10°	1584	1555	1563
15°	1565	1535	1533
20°	1537	1504	1503
25°	1509	1467	1467
30°	1474	1433	1421
35°	1441	1392	1372
40°	1399	1351	1325
45°	1358	1311	1278
50°	1313	1268	1223
55°	1267	1219	1174
60°	1215	1160	1118
65°	1160	1102	1052
70°	1089	1031	982
75°	991	949	926
80°	881	853	808
85°	716	683	614

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1358 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.0	3.7
10°-20°	194.1	10.4
20°-30°	285.3	15.3
30°-40°	331.4	17.8
40°-50°	330.9	17.7
50°-60°	288.6	15.5
60°-70°	213.3	11.4
70°-80°	120.7	6.5
80°-90°	31.9	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°	548.4	29.4
0°-40°	879.8	47.2
0°-60°	1499.3	80.4
0°-90°	1865.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1865.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	733	733	733	733	733	
5°	733	730	722	728	727	70
15°	698	694	684	687	684	197
25°	632	626	614	615	614	291
35°	545	538	527	522	519	340
45°	443	438	428	420	417	342
55°	336	331	323	314	311	300
65°	226	222	215	209	205	224
75°	118	117	113	109	111	126
85°	29	28	28	25	25	34
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	733.1	733.1	733.1	733.1	733.1
2.5°	737.3	733.8	726.0	733.1	731.7
5°	733.1	730.3	722.5	728.2	726.8
7.5°	728.2	723.9	716.2	721.9	720.4
10°	720.4	715.5	707.1	712.6	710.6
12.5°	709.8	705.7	697.2	700.7	699.2
15°	697.8	693.7	684.5	687.3	683.8
17.5°	683.0	678.9	669.7	673.2	669.7
20°	666.8	662.6	652.7	654.9	652.1
22.5°	650.6	644.3	635.1	635.1	633.7
25°	631.6	626.0	614.0	615.3	614.0
27.5°	610.4	605.5	596.4	594.3	590.7
30°	589.3	583.7	573.1	571.0	568.1
32.5°	566.7	562.6	551.3	547.0	544.2
35°	544.9	537.9	526.6	522.3	518.8
37.5°	520.3	513.9	502.6	497.7	494.1
40°	494.8	489.2	477.9	471.7	468.7
42.5°	470.2	464.5	453.3	446.2	442.0
45°	443.4	438.5	427.9	420.1	417.3
47.5°	417.3	412.4	401.1	393.3	389.1
50°	389.8	386.3	376.4	366.5	363.0
52.5°	363.0	358.1	348.9	341.2	336.3
55°	335.5	331.3	322.8	314.4	310.9
57.5°	308.0	304.5	295.3	286.9	284.0
60°	280.5	277.8	267.9	260.1	258.0
62.5°	253.8	248.8	241.8	234.7	231.9
65°	226.3	222.0	215.1	208.7	205.2
67.5°	198.1	194.5	188.2	183.3	180.5
70°	172.0	169.2	162.8	157.9	155.1
72.5°	145.3	142.4	138.9	134.0	131.9
75°	118.4	117.1	113.4	109.3	110.7
77.5°	94.5	91.7	90.1	88.1	86.0
80°	70.6	69.8	68.4	66.2	64.8
82.5°	47.9	47.9	47.3	44.5	44.5
85°	28.8	28.2	27.5	25.3	24.7
87.5°	12.7	11.3	9.9	7.8	7.1
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	12.89	14.50	13.25	14.81	15.13	12.44	14.06	12.81	14.37	14.68
	3H	14.64	16.09	15.02	16.42	16.78	14.15	15.60	14.52	15.93	16.29
	4H	15.28	16.65	15.68	17.00	17.38	14.79	16.16	15.19	16.51	16.88
	6H	15.75	17.02	16.17	17.39	17.78	15.25	16.52	15.66	16.89	17.28
	8H	15.90	17.11	16.32	17.50	17.90	15.39	16.61	15.82	16.99	17.39
	12H	15.99	17.15	16.42	17.53	17.96	15.48	16.64	15.91	17.02	17.45
4H	2H	13.45	14.82	13.85	15.17	15.54	13.10	14.47	13.50	14.81	15.19
	3H	15.42	16.57	15.83	16.97	17.37	15.02	16.16	15.43	16.56	16.96
	4H	16.20	17.24	16.63	17.65	18.09	15.78	16.81	16.21	17.23	17.66
	6H	16.80	17.70	17.25	18.14	18.60	16.37	17.27	16.82	17.71	18.17
	8H	16.99	17.83	17.45	18.28	18.74	16.55	17.40	17.01	17.84	18.30
	12H	17.12	17.88	17.60	18.35	18.82	16.67	17.43	17.15	17.90	18.37
8H	4H	16.47	17.32	16.94	17.76	18.23	16.10	16.95	16.56	17.39	17.85
	6H	17.19	17.89	17.68	18.38	18.86	16.81	17.51	17.30	18.00	18.47
	8H	17.45	18.08	17.96	18.59	19.07	17.06	17.69	17.57	18.19	18.68
	12H	17.65	18.21	18.15	18.70	19.26	17.24	17.79	17.74	18.28	18.84
12H	4H	16.50	17.26	16.98	17.74	18.21	16.14	16.90	16.62	17.37	17.84
	6H	17.23	17.87	17.74	18.37	18.86	16.87	17.50	17.37	18.00	18.49
	8H	17.55	18.11	18.06	18.60	19.16	17.17	17.73	17.68	18.22	18.78