

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: P920690

Luminaire Tested: DFN2DIP-TR2F0-050D020US935-RLFL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920690
REPORT IS A COMBINATION OF REPORTS P900228 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D020US935-RLLFLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

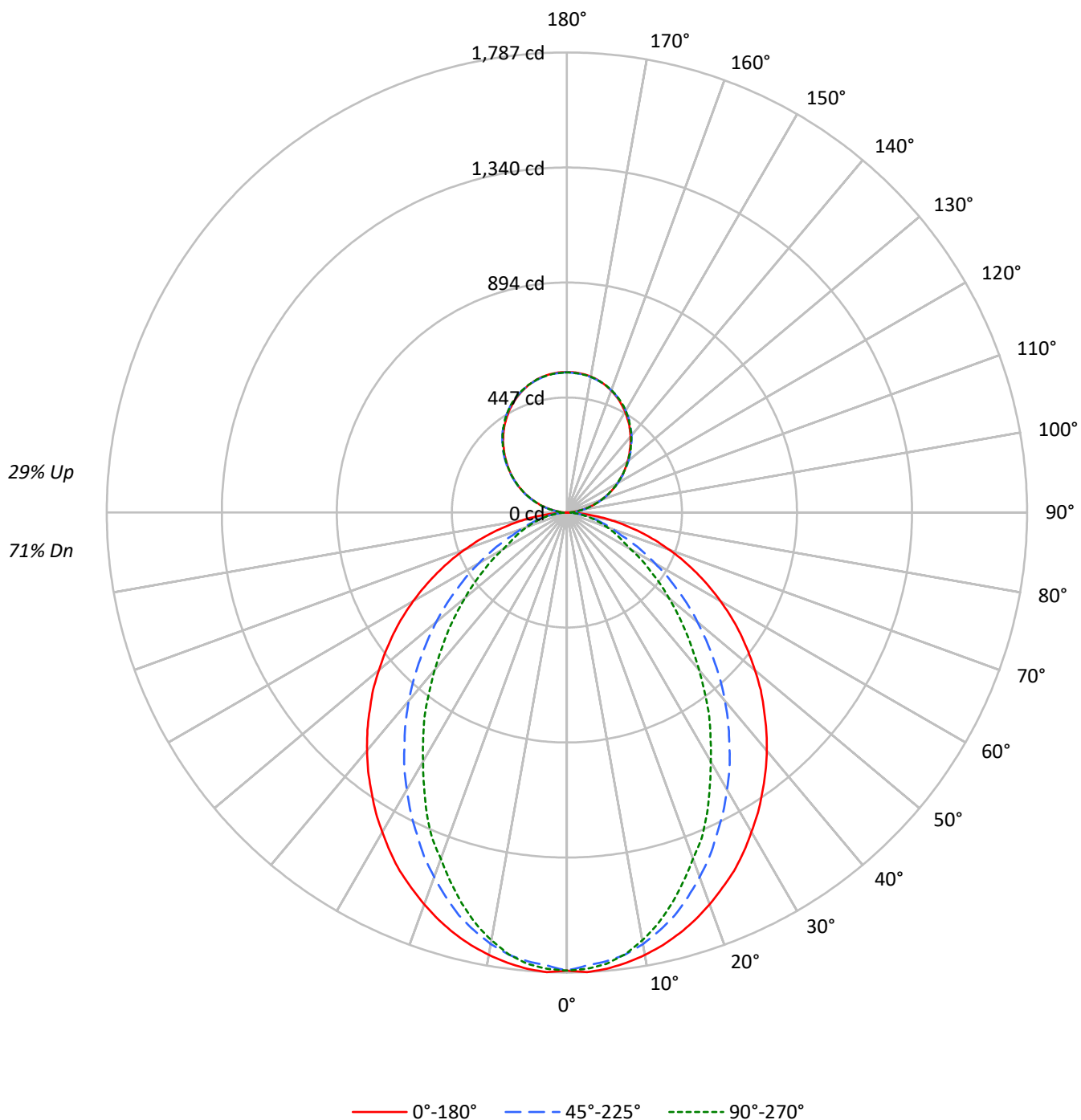
Lumens per Lamp: N/A
Luminaire Lumens: 5183.2 lumens
Efficiency: N/A
Efficacy: 82.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 62.8
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	30	10
RCR																	
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75
1	103	99	95	92	97	94	90	88	84	82	79	76	74	72	67	66	65
2	94	87	81	76	89	83	78	73	75	71	67	67	64	61	60	58	56
3	87	77	70	64	82	74	67	62	67	61	57	60	56	53	54	51	48
4	80	69	61	55	75	66	59	53	60	54	49	54	49	46	49	45	42
5	74	62	54	48	69	59	52	46	54	48	43	49	44	40	44	40	37
6	68	56	48	42	64	54	46	41	49	43	38	44	39	36	40	36	33
7	63	51	43	37	60	49	41	36	45	38	34	41	36	32	37	33	30
8	59	47	39	33	56	45	37	32	41	35	31	37	32	29	34	30	27
9	55	43	35	30	52	41	34	29	38	32	28	35	30	26	32	28	24
10	52	39	32	27	49	38	31	27	35	29	25	32	27	24	30	25	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3969	3969	3969
5°	3969	3897	3924
10°	3924	3811	3789
15°	3864	3677	3586
20°	3787	3495	3338
25°	3707	3293	3099
30°	3603	3086	2799
35°	3500	2865	2535
40°	3395	2637	2234
45°	3275	2386	1961
50°	3149	2132	1695
55°	3017	1863	1440
60°	2864	1582	1179
65°	2688	1299	1054
70°	2474	1035	944
75°	2205	894	845
80°	1818	726	713
85°	1193	451	502

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3275 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.8	3.2
10°-20°	457.8	8.8
20°-30°	642.7	12.4
30°-40°	700.6	13.5
40°-50°	643.9	12.4
50°-60°	505.7	9.8
60°-70°	329.2	6.4
70°-80°	169.5	3.3
80°-90°	44.8	0.9
90°-100°	33.7	0.7
100°-110°	107.1	2.1
110°-120°	183.2	3.5
120°-130°	241.0	4.6
130°-140°	270.5	5.2
140°-150°	265.3	5.1
150°-160°	222.5	4.3
160°-170°	147.6	2.8
170°-180°	51.6	1.0
0°-30°	1267.2	24.4
0°-40°	1967.8	38.0
0°-60°	3117.4	60.1
0°-90°	3660.8	70.6
90°-120°	324.0	6.3
90°-150°	1100.8	21.2
90°-180°	1522.0	29.4
0°-180°	5183.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1779	1779	1779	1779	1779	
5°	1779	1771	1750	1765	1760	169
15°	1692	1675	1620	1589	1573	477
25°	1536	1484	1378	1312	1288	706
35°	1324	1242	1100	998	963	828
45°	1082	974	805	691	652	836
55°	823	697	523	427	396	735
65°	556	425	280	226	221	551
75°	296	184	129	118	116	313
85°	69	35	31	31	31	79
90°	0	6	16	15	16	5
95°	24	29	29	29	29	27
105°	99	100	101	102	102	104
115°	184	186	186	185	184	182
125°	267	272	270	269	268	239
135°	346	351	352	352	350	267
145°	420	423	426	426	425	262
155°	480	482	483	485	484	221
165°	522	522	522	525	523	147
175°	544	542	541	545	542	52
180°	545	545	545	545	545	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1779.3	1779.3	1779.3	1779.3	1779.3
2.5°	1787.3	1779.3	1761.5	1777.7	1774.4
5°	1779.3	1771.2	1750.2	1764.7	1760.0
7.5°	1764.7	1755.1	1732.6	1739.0	1730.9
10°	1745.4	1734.1	1702.0	1697.1	1687.5
12.5°	1721.3	1706.8	1663.3	1653.7	1635.9
15°	1692.3	1674.6	1619.9	1589.3	1573.2
17.5°	1658.5	1632.7	1565.0	1529.6	1503.8
20°	1619.9	1587.6	1507.1	1467.0	1431.4
22.5°	1578.0	1540.9	1447.5	1392.8	1368.7
25°	1536.1	1484.5	1378.3	1312.3	1288.1
27.5°	1486.3	1431.4	1313.9	1238.2	1201.2
30°	1433.1	1371.8	1243.0	1161.0	1117.4
32.5°	1381.6	1307.4	1175.5	1078.8	1038.5
35°	1323.6	1241.5	1099.8	998.3	962.9
37.5°	1267.2	1178.6	1029.0	917.7	877.6
40°	1207.6	1111.1	954.8	840.5	798.7
42.5°	1146.5	1043.4	880.8	761.6	721.4
45°	1082.1	974.1	805.1	690.7	652.0
47.5°	1020.9	906.6	732.7	618.3	582.9
50°	953.3	839.0	661.8	550.6	516.9
52.5°	887.2	766.4	594.2	487.9	457.4
55°	822.8	697.1	523.2	426.7	396.1
57.5°	756.8	628.0	460.5	370.4	344.6
60°	689.1	560.3	394.4	312.5	286.6
62.5°	623.2	494.4	338.1	260.9	248.1
65°	555.5	425.1	280.2	225.5	220.6
67.5°	491.1	360.7	225.5	198.0	193.2
70°	423.5	297.9	186.8	170.6	164.2
72.5°	359.1	239.9	156.2	143.4	140.1
75°	296.3	183.5	128.8	117.5	116.0
77.5°	233.5	130.4	101.5	95.0	91.7
80°	175.5	93.4	77.2	70.9	70.9
82.5°	122.3	62.9	53.1	49.9	49.9
85°	69.2	35.4	30.6	30.6	30.6
87.5°	25.8	12.8	12.8	11.3	11.3
90°	0.5	5.9	16.1	15.1	15.6
92.5°	10.2	13.8	14.3	14.8	14.8
95°	23.9	28.6	29.4	29.4	28.6
97.5°	39.9	44.2	46.0	46.0	46.0
100°	58.3	62.1	63.4	63.4	62.9
102.5°	77.7	80.4	82.2	82.7	82.2
105°	98.8	100.1	101.2	101.9	101.9
107.5°	119.9	121.8	121.8	122.2	119.9
110°	140.3	142.8	142.8	142.8	141.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	162.2	165.0	164.5	163.2	162.2
115°	183.9	186.5	185.7	185.2	183.9
117.5°	205.4	209.1	206.7	205.4	204.1
120°	227.0	230.7	227.0	227.0	225.6
122.5°	246.8	251.3	249.1	247.8	246.8
125°	267.4	271.6	270.3	268.8	268.3
127.5°	287.7	292.7	290.9	289.0	287.7
130°	306.5	312.5	311.6	310.6	308.8
132.5°	327.7	332.3	332.6	330.4	329.0
135°	345.9	351.0	352.0	351.5	350.2
137.5°	366.3	370.4	371.3	370.9	368.9
140°	384.2	388.3	390.6	390.6	388.8
142.5°	402.6	406.6	408.0	408.5	406.6
145°	420.0	423.3	425.9	426.4	424.6
147.5°	435.6	439.7	441.7	442.5	440.7
150°	451.7	454.4	456.2	457.7	456.2
152.5°	466.0	468.7	471.1	472.9	471.1
155°	480.3	481.6	483.0	485.3	483.9
157.5°	492.6	493.5	494.4	497.7	495.3
160°	503.6	504.5	505.1	507.8	505.8
162.5°	513.8	513.8	514.2	517.4	515.0
165°	522.5	521.9	521.9	525.2	523.0
167.5°	530.3	528.8	528.8	532.1	529.9
170°	536.2	534.9	534.4	537.7	534.9
172.5°	540.4	539.0	538.6	541.8	539.0
175°	543.6	542.3	541.3	544.6	541.8
177.5°	545.4	544.2	543.1	545.9	543.1
180°	544.6	544.6	544.6	544.6	544.6

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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	13.55	14.58	14.31	15.36	16.31	9.53	10.56	10.30	11.34	12.29
	3H	15.22	16.14	16.00	16.93	17.91	10.72	11.64	11.50	12.43	13.41
	4H	15.82	16.69	16.62	17.49	18.48	11.17	12.04	11.96	12.84	13.83
	6H	16.23	17.03	17.04	17.84	18.84	11.48	12.29	12.29	13.10	14.10
	8H	16.35	17.12	17.17	17.94	18.95	11.57	12.34	12.39	13.16	14.17
	12H	16.41	17.14	17.24	17.96	18.99	11.62	12.34	12.44	13.16	14.19
4H	2H	13.59	14.46	14.39	15.26	16.25	10.14	11.01	10.94	11.81	12.80
	3H	15.41	16.13	16.22	16.97	17.97	11.49	12.21	12.30	13.04	14.05
	4H	16.09	16.75	16.91	17.58	18.61	12.03	12.69	12.85	13.52	14.55
	6H	16.59	17.16	17.44	18.02	19.05	12.44	13.01	13.28	13.87	14.90
	8H	16.76	17.29	17.60	18.14	19.19	12.57	13.09	13.41	13.95	15.00
	12H	16.85	17.33	17.71	18.20	19.25	12.63	13.11	13.50	13.98	15.03
8H	4H	16.07	16.60	16.91	17.45	18.50	12.31	12.84	13.16	13.69	14.74
	6H	16.62	17.05	17.49	17.95	19.00	12.81	13.25	13.69	14.15	15.20
	8H	16.82	17.21	17.70	18.10	19.16	12.99	13.38	13.88	14.27	15.34
	12H	16.95	17.29	17.83	18.17	19.29	13.11	13.45	13.99	14.33	15.45
12H	4H	16.03	16.50	16.89	17.38	18.43	12.32	12.80	13.18	13.67	14.72
	6H	16.59	16.98	17.47	17.87	18.94	12.86	13.25	13.74	14.14	15.20
	8H	16.80	17.15	17.69	18.03	19.15	13.06	13.40	13.95	14.28	15.41